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FUND MANAGEMENT, INTELLECTUAL CAPITAL, INTANGIBLES AND PRIVATE DISCLOSURE

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ABSTRACT

Interviews conducted with major UK fund managers (FMs) revealed that they all faced problems of ignorance and uncertainty in stock selection and in asset allocation decisions. The problems were due, in part, to the limitations of finance theory and of corporate disclosures and other public domain information sources. They were exacerbated by an increasing intellectual capital and intangibles component to share prices. These problems increased fund manager incentives to directly contact senior management teams to discuss these sources of value and to observe management qualities and understanding of these issues. The case data reveals the nature of this private information agenda concerning intellectual capital and other matters, and explores how this information was used by fund managers to acquire a knowledge advantage. The learning and knowledge advantages played a central role in framing FM perceptions of corporate gains and losses and risks and this information was crucial to subsequent stock valuation and stock selection decisions. Private information, the knowledge advantage and prior framing were also key inputs to ‘bottom up’ and ‘top down’ portfolio risk control and asset allocation by fund managers. This activity of fund managers has important implications for regulatory policy issues on insider information, on corporate disclosure, and on the corporate governance role of financial institutions.
INTRODUCTION

In section 1, we explore how the case fund managers faced problems of ignorance and uncertainty in stock selection and in asset allocation decisions. These problems were due, in part, to the limitations of corporate disclosures and of other public domain information sources. They were exacerbated by an increasing intellectual capital and intangibles component to share prices. Associated problems also arose for the case fund managers because of major difficulties in implementing modern portfolio theory and other aspects of finance theory in fund management decisions. These problems with public information sources and with the conceptual framework for fund management were a major stimulus for creating structured fund management decision processes to cope with uncertainty and ignorance and to acquire new sources of information.

In section 2, we see how the problems of limited public information increased fund manager incentives to directly contact senior management teams to discuss both concrete and intangible sources of value. The FMs used private meetings to observe management qualities and management understands of how value arose through intangibles and other assets. The case data reveals the nature of this private information agenda concerning intellectual capital (and other matters). The private agenda was based on public information, on accountability issues, and also included a unique private agenda. The latter was composed of many intellectual capital components, with a strong focus on the human capital of the board and senior management, and on structural capital in markets for products and inputs, as well as in financial markets. The latter included company and fund manager relations as a shared structural capital asset, and this provided the means for exchange of information and performance promises between the parties. The top management and board orientation of this private agenda on intellectual capital reflected the valuation focus of the case FMs. The accountability agenda and the extended private discussion of public information also reflected this valuation focus of FMs. FMs view of intellectual capital therefore differs somewhat from that of the company manager who has to understand this area in depth and to manage it to produce value.

In section 3 we explore how the above private information was combined with public sources to create a knowledge advantage within fund management teams. The FMs achieved this by establishing conceptual and time-based links between the many components of the private agenda.

In section 4, we consider how the private learning and knowledge advantages played a central role in framing FM perceptions of corporate gains and losses and risks and how this information was crucial to subsequent stock estimation, valuation and selection decisions. This section provides some insight into the book value and market value gap and the special role of information on intangibles and intellectual capital in valuing the company. In particular, the fund managers used these information sources to establish how intangibles such as management track record, promises, quality, brand and risk management skills were expected to play a role in creating value within a forecastable horizon and beyond.

In sections 5 and 6, we explore how private information, the knowledge advantage and prior framing were also used as key inputs to 'bottom up' and 'top down' portfolio risk control and asset allocation by fund managers. In particular, these information sources were used as a 'bottom up' means to remove 'black holes' or very poor corporate performers from the portfolio. They were also used to understand which companies and sectors were likely to be winners and losers under forecast macro conditions and to control risk in a 'top down' manner. Both bottom up and top down risk controls were expected to boost fund performance.

The use of private and public sources of information, and the knowledge advantage, within structured stock selection and asset allocation decision processes, were the means for fund managers to be highly informed relative to other capital market participants, and to be responsive to change and adaptable to uncertainty. Private information on corporate human capital and structural capital were central to this FM knowledge advantage. Thus whilst finance academics continue to seek to improve theory and valuation estimation processes, fund managers have responded to continuing problems of ignorance, uncertainty, and theory limitations by connecting private learning processes with cyclic and structured stock selection, and with asset allocation decision processes designed to capture and fully exploit all such non public domain information.
This Fund management behaviour has important implications for regulatory policy issues on insider information, on corporate disclosure, and on the corporate governance role of financial institutions.
RESEARCH METHOD

Interviews were conducted with 27 fund managers in the period June 1993 to March 1994 and 35 fund managers in the period to October 1997 to October 1998. The case FMs constituted thirty-two out of the thirty five largest UK FMs (by managed and own funds) and included Life Insurance, Pension Fund, and independent fund managers. The research questions focused on the broad nature of links between financial institutions and companies, as well as the flow of information through these links and associated influence processes. Each FM case participant had the interview questions for at least a month before the interview. The participants were asked to talk freely about the questions and to discuss them from their own experiences. Their commentary was not disrupted. The case study method was adopted because of the limited prior research and because this research method allows rich insight into new research fields (Scapens, 1990). The interview case data revealed many different themes concerning financial institution information collection from their investee companies and its significance for fund management. These themes have been identified through a Glaser and Strauss (1967), ‘grounded theory’, approach to the case data. A seven stage approach was adopted to sifting through and processing the large volumes of case data (Easterby-Smith et al, 1991). These stages included case familiarisation, reflection on the contents, conceptualisation, cataloguing of concepts, recoding, linking, and re-evaluation. The same FM information collection was viewed in many financial institution settings. Financial institution executives (fund director or fund manager) at similar hierarchical levels were interviewed. Their views of the information collection and private agenda process, as conducted through close corporate relationships, formed the case data. The interview case data formed the basis for identifying common patterns and themes across the cases. Generalisations have been restricted to the cases studied. Despite the coverage of major UK FMs the article does not claim to be a representative study of all UK FMs and does not attempt to cover FM's relationships with overseas companies. The resulting case themes included the:

- Nature of the private information agenda including intellectual capital
- Mosaic approach to constructing the FM knowledge advantage.
- Role of private information on intellectual capital in stock valuation.
- Role of private information on intellectual capital in risk control and
- Asset allocation decisions.

The themes linked the FM case data in a coherent form and provided a simplified overview of much detailed and complex case data. They provided a reference point for each FM's individual practice. They also emphasised the purposeful, dynamic nature of this aspect of financial institution decision making and illustrated how the case institutions actively sought to exploit unique private sources of information on corporate intellectual capital in their fund management decisions.

1. Public information sources for fund managers: company and sector level

In this section, we explore how the case fund managers faced problems of ignorance and uncertainty in stock selection and in asset allocation decisions. These problems were due, in part, to the limitations of corporate disclosures and of other public domain information sources. They were exacerbated by an increasing intellectual capital and intangibles component to share prices. Associated problems also arose for the case fund managers because of major difficulties in implementing modern portfolio theory and other aspects of finance theory in fund management decisions. These problems with public information sources and with the conceptual framework for fund management were a major stimulus for creating structured fund management decision processes to cope with uncertainty and ignorance and strong incentive to acquire private information from companies.

1.1 Public sources of information

Each case FM sought to exploit public domain sources of information, in stock selection and asset allocation decisions, by developing its own high quality internal research capability with respect to certain firms, industries, regions.

Major sources of FM information were the brokers through which the FM bought and sold shares. The broker's sell side analysts, market makers, and their sales desks, were major information sources. The main broker houses were
BZW, Kleinwort Benson, NatWest Securities, Merrill Lynch (which took over Smith New Court in 1995), S.G. Warburg and Winterflood Securities (which specialises in smaller companies).

FM's checked the quality of analyst research, by looking at how different companies' analysts were rated by many FM's. For example, Extel Financial Information published an annual survey which ranked the analysts of 230 broker firms in the UK, covering 97 sectors. Institutional Investor published an annual survey of broker analysts. This type of information allowed FM's to rank sell side analysts and select a small group to provide research, and weekly reports on companies and sectors. This information was often verbally communicated to the FM's on a priority basis. An important public source was the monthly Estimate Directory, which provided aggregate earnings and forecasts for about 1,300 UK companies covering the FTSE All-Share Index and the Alternative Investment Market. Such a data source was useful for FM's when they wished to quickly acquire information on a little followed company. It was also useful as an aggregate database to assess general market expectations for the period ahead.

Computers were also used to process such public data in the hope that novel patterns and information might emerge. Barclays Global Investors (BGI) is an example of a FM who sought to identify those analysts considered more influential than others. On a daily basis they collected every stock market analyst's comments about every company and identified those analysts with the most accurate forecasts and those whose buy and sell recommendations moved share prices. They attached more weight to the recommendations of these influential analysts and used this to isolate shares they believed were under or overvalued or likely to be moved by new comments by the analysts. BGI's computer systems calculated data on 1,500 UK stocks and 4,000 US stocks every day.

The case FM's acquired much useful information from a purposeful search in the public domain. This information could be company specific, industry or economy wide. Public sources of information included company announcements and financial results as well as government announcements. The public information was useful to case FM staff in enhancing their understanding of the firm and its markets and it was an input to their identification of 'cheap' and 'expensive' shares.

Security market reactions to corporate public announcements were of strong interest to FM fund managers and in-house analysts as they used these price changes as a barometer of corporate performance. Unusual price reactions for a company, or similar companies relative to the market could stimulate a public or private FM search for the specific corporate information involved and could stimulate direct intervention in a company. Sell side market makers were used as continuous sources of information on corporate share performance and for market explanations of price movements. This consisted of a daily commentary and, an on-line service re-routed around the entire FM.

This search of the public domain was supported by the professional information providers. The largest company here was the UK based Reuters, followed by US based Bridge (now owned Dow Jones Telerate) and Bloomberg, as well as many smaller market specialists offering niche services. The companies provided a range of up to information on stock, bond, and foreign exchange prices. Many added value products were available such as price and financial report history on UK listed companies, comparative international corporate reporting data, electronic equity research service based on material supplied by world wide brokers, and detailed analysis of fixed-income securities. Other services provided detailed historical data covering UK and international indices, commodities and fundamental economic indicators. The information suppliers also provided important analytical models to interpret the historic data and they brought together information from different markets on the same screen and thus enhanced comparisons and arbitrage possibilities.

1.2 Limitations of public information: Company and sector level

Fund managers faced a major problems in that all of the major information and data suppliers provided historic, mainly public domain information. They also provided software to analyse this data and establish summary statistics. However very little in the way of unknown value was expected to be discovered by processing public domain information alone.
The fundamental problem with these public sources was that the information was perceived as already being in the price, with the price change not necessarily indicating the nature of the event or information. In addition, public sources such as financial reports and analyst reports were considered to be limited in specific ways.

In particular, the case FMs perceived a wide range of limitations of statutory financial statements and with the interim announcements which had a structure based on the framework of published financial reports. (Similar views were expressed by companies in Holland (1997, 1998). Surprises could occur with the earnings announcements but investee companies experienced considerable FM pressure to ensure this did not occur. This announcement information was also fully assimilated by the FMs before the (post announcement) private meetings took place. As a result, the contents of the financial statements were generally well known by the FMs before the annual or semi annual private company meetings and publication. In addition, the financial report had become too complex, too large, and too cumbersome for many users. The report was considered to be a source of information overload for unsophisticated users, with some fund managers reacting against the sheer scale and complexity of financial reports. The financial report was also tightly constrained by ASB principles and by increasingly rigid GAAP. It had evolved to serve multiple users and purposes and this created problems for investee companies when they wished to tailor the financial report to the perceived needs of institutional and other more specialised users. Finally, the financial report was dominated by financial data and variables and did not provide qualitative data on important areas such as management quality. As a result, it was not an effective mechanism for disclosing information on intangibles such as corporate knowledge assets and innovatory skills. Similar problems were identified with other public disclosure mechanisms such as AGMs and public announcements.

The case FMs also identified problems with the quality of sell side analyst information,

- unless this research material was available to FMs on a confidential 'first call' basis and was not immediately published then there was little possibility that it had any value implications.
- the FMs perceived the analysts as having a bias towards sells or buys. Their broker parent received commission from stock sales and the FMs argued that many analysts 'put a spin' on their research to encourage share transactions.
- only a select group of analysts could demonstrate special skills in company and industry specific analysis. The vast bulk of them did not have a high reputation with FMs. This was the reason for ranking and selective use of a few analysts for each major sector.
- if there was an abundance of analyst research on certain large FTSE 100 companies and this was circulated around many FMs then much of the public and quasi public information would already be in the market price.

Given these limitations, the collection and processing of public information, by itself, was not expected to be useful in identifying cheap or expensive shares and hence in boosting fund management performance. Public information was too diffuse and not focussed enough for the FMs to use it in valuation or the influence of corporate strategy and other corporate governance matters. The near zero value benefits and limited quality of public information were recognised as major constraints on the case FMs ability to act in informed fund management roles and in influential corporate governance roles.

The case FMs argued that they needed a special information edge for fund management roles and this was unlikely to be found with financial reports, public announcements, public domain analyst reports on companies and other public sources. As a result, the limitations of public sources provided the FMs with strong incentives to develop private corporate sources of information.

1.3 The growth of intangibles and the book value and market value gap

Stopford (1997) argues that the fusion of the information age with traditional industries has been a primary driver of innovation. This has increased the ability of companies to change the rules of competition and increased the chance of corporate failure. As intangibles such as knowledge and innovation have become an increasingly important part of corporate value then this has exacerbated the problem of how to disclose the value of these assets on the balance sheet and how to explain how profits arise from such intangibles. These problems of
financial reporting of intangibles have increased the information asymmetry between users and suppliers of equity risk capital. Lev and Zarowin (1998) demonstrate that ratios of market equity to book equity have doubled in the period 1973 to 1992. They attribute this to a decline in the value relevance of traditional accounting measures as well as radical change in the process of economic value creation. More specifically, Lev and Zarowin (1998) investigated the usefulness of financial report based information by analysing the association between on the one hand, stock prices and returns, and on the other hand, financial report based information such as earnings, cash flows and book values. They found that, in the US, this association decreased over the twenty year period from 1977 to 1997, indicating the decreasing share price informativeness of the numbers (for earnings, cash flow, and book value) in the financial reports. This decline was at its most sharpest in those companies that had increased their R&D intensity over this period. They argued that this was because company financial reports had not captured the changes in business over this period, especially the increasing role of intellectual capital in innovation and added value.

The changes in innovation and in product markets have also coincided with changes in financial markets. The postwar concentration of share ownership in the hands of UK financial institutions has created a more concentrated form of institutional influence and control over UK companies (Holland 1995). This has reached the point in 1996 where up to 75% of major UK companies shares are held by institutions, with UK institutions owning about 60% of shares in UK companies (Gaved 1997). In 1996 half of the UK equities in the UK stock market were owned by fifty financial institutions, the top twenty owned about a third of the market, the top ten about a quarter, with the largest, Mercury Asset Management owning 4% in 1996 Gaved (1997). The top fifty institutions dominated the shareholder bases of the case companies and constituted the bulk of their core institutions. This has concentrated company and institutional minds on each other and increased the significance of their direct relationships and other forms of contact. This has also created a much clearer target for corporate communications and for private FM research.

The significance of such private corporate disclosure and fund management research channels has been recognised by UK policy makers. The Myners Report was commissioned by the UK government in 1995 (Feb 1995, Department of Trade and Industry (DTI)), and advocated that private company and institutional meetings be improved in the interest of national competitiveness. Other studies have revealed the importance of corporate sources of information for financial institutions. Moizer and Arnold (1984) and Chugh and Meador (1984). Holland (1995) explored how large UK financial institutions played an active 'behind the scenes' corporate governance role in their investee companies. Holland and Doran (1998) revealed how fund managers used direct contact with companies to acquire information for fund management purposes.

The changing nature of innovation, the concentration of institutional ownership, the perceived limitations of financial reporting, and the interests of politicians and regulators have all combined to increase the importance of private corporate disclosure channels (Holland 1998) and encouraged a more sophisticated approach to private research by FMs based on private dialogue with UK companies (Holland and Doran 1998).

1.4 Problems of implementing finance theory

The case fund managers faced major problems in implementing finance theory, especially with MPT and CAPM when estimating stock returns, and when using optimisation routines to find the efficient frontier and the optimum risk, return portfolio. The problems arose, in part, because of the limitations of public domain data and because of the uncertainty implicit in forecasting stock risk and return characteristics. These problems also arose because of the many controversies and fundamental problems facing finance theorists.

Markowitz (1952) laid the foundations of modern portfolio theory. He stated that investors seek a risk/return trade off by seeking to maximise returns for a given level of risk or to minimise risk for a given level of return. He argued that a portfolio manager needed to know the weighting of for each of N stocks, N estimates of expected return and of variance of return, and N(N-1)/2 estimates of covariance of return between each pair of stocks in the portfolio. This information could be used to generate a large number of feasible portfolios which were dominated by a smaller number of efficient risk/return portfolios lying on the efficient frontier. Risk averse, rational portfolio managers could choose one of these portfolios to reflect their or their clients risk/return preferences (utility). Given the above input data the portfolio selection problem could be solved to find the optimal solution using a quadratic programming approach. This approach was further simplified by the
development of the Capital Asset pricing model by Sharpe and Lintner in the 1960s. They identified a single factor, linear model, in which a company’s Beta measured the stock’s return volatility relative to that of the market overall. This model reduced the number of covariances (now company to market return) to be estimated to the number of stocks in the portfolio. This much simplified the estimation and portfolio construction decision process.

Markowitz (1995) argued that finance theory tells us what is to be estimated in the form of future risk and return and how estimates for specific shares are to be combined to form estimates for the portfolio as a whole. However, theory does not tell us how to make the estimates of return, variance and covariance. These parameters are not known with certainty and some form of estimation bias is inevitable, given that some combination of historic data and/or forward looking subjective or expectancy data has to be used. Markowitz also pointed out there is controversy as to which measure of risk to employ. In particular there has been a major academic dispute concerning the empirical validity of the Capital Asset Pricing Model and of betas in determining security returns and prices (see Fama and French 1992).

The optimum portfolio solution found by such methods is very sensitive to small changes in model parameters. Parameters such as expected return, variance, and co-variance (at stock, sector and national level) were not stable and this created major parameter estimation problems for the (minority of quantitative) case fund managers when implementing this theory, especially in major change periods such as 1987/88, 1991/92 and 1998. If there were major over or under estimation errors in this input data then this would alter the optimal solution. For example stocks with over estimated returns or under estimated variances, would be over represented in the solution, leading to selection bias.

These estimation and selection problems have been long recognised in the literature (see Bawa et al 1979). Alternative ways have been developed to avoid using historical data as the sole input to the Markowitz model. Selection bias can also be reduced by placing constraints on the solutions to the model. However no reliable sources exist for acquiring accurate expectation data and hence for developing continuously reliable future oriented estimates of return, variance and covariance. Thus the reliance on historic, mainly public, data remains high for fund managers and these problems remain.

For example Fowler (1995), as a practitioner argued, ‘Internal research encourages respect for the limitations of historic measures of return variance and covariance as predictors of the future. It points up to the unsuitability of solutions like optimisation which require precise values for parameters where realistically they can only be approximated.’

In addition, Michaud (1989) pointed out that these estimation and selection bias problems meant that the composition of the portfolio on the efficient frontier was very sensitive to small changes in forecast returns. Akdeniz and Dechert (1997) found that the efficient frontier moved up and down during the business cycle and that the static CAPM was not mean-variance efficient under such conditions.

In the international context the international risk-return trade-off itself varied over time and was rather unpredictable (Gorman and Jorgensen 1996). The international efficient frontier was calculated on the assumption that expected returns were the historical means of the inflation-adjusted stock returns and their volatility was the historical standard deviation of these returns. Unfortunately, exchange rates, and stock returns were highly variable and re-estimating expected returns, variances and covariance over a different time period gave quite different efficient frontiers and efficient portfolio results. Gorman and Jorgensen (1996) suggested the international efficient frontier has been extremely poorly estimated and it was difficult for a fund manager to know whether a chosen portfolio, was actually on this efficient risk return trade-off curve.

Finally, we should note that Fama and French (1992) have queried the significance of CAPM and Beta. Fama and French found that returns on small firms were higher than for large firms with the same beta, and that firms with low market to book ratios had higher returns than their Betas would justify. The significance of these non theoretical asset pricing factors raised serious questions about the empirical validity of Beta in determining stock returns. They therefore raised questions about using CAPM in portfolio management.

Regardless of these problems with modern portfolio theory, the existing theory provides the sole conceptual guide for fund managers in their difficult asset allocation and stock selection decisions. In addition, there is still
considerable agreement on the need to diversify risk and to make a risk/return trade off consistent with the fund manager's or client's preferences.

Given these theoretical difficulties, none of the (minority of quantitative) case fund managers could construct a portfolio with the ideal risk/return tradeoff and diversification risk reduction benefits envisaged by theory. Finding a stable efficient frontier and the dominant risk/return portfolio was problematic. However, the FMs could attempt to exploit available diversification benefits subject to these constraints.

In particular, the empirical evidence shows that all securities in a domestic market tend to move together, but national markets and currencies do not. Thus the major factor in determining international portfolio performance is the choice of markets and currencies. Much empirical evidence suggests that asset allocation is the major contributor to performance rather than stock selection. This suggests that asset allocation decisions should dominate stock selection.

However, perceptual, informational and cost barriers to fully exploiting international diversification still seem to exist amongst fund managers. For example, French and Poterba (1991) found that US investors held less than 5 per cent of their wealth in the equity of companies in Japan and in the UK. They found this phenomenon was not unique to the US. Residents in Germany, Japan, the UK, France, and Canada all demonstrated a similar 'home bias' towards domestic stocks as well. Thus despite the apparent attractiveness of foreign investments, domestic investors held a much smaller share of their portfolio wealth in foreign assets than investment theory would predict. In the case of the UK based FMs, between 20 and 30% of their portfolios were in non-UK overseas equities, with the emphasis being on European stocks, some Pacific Rim, and a small amount of US stocks. The slow but sure incremental increase in overseas stocks was expected to continue. However, in 1999 these perceptual barriers and home bias remain and these placed a major constraint on fully exploiting international diversification benefits and moving towards an optimal international asset allocation.

One conclusion one can derive from the above is that whilst theorists and empiricists continue to improve and test the theoretical framework, the best practitioners can do is to recognise these theory limitations and to draw on the best insights of theory to guide their decisions. In practice the case FMs also sought to improve their information sources and to develop structured estimation, valuation and risk control decision processes at stock and portfolio levels. This reduced the effect of ignorance based on limited public sources. It created a responsive capability relative to uncertainty. The structured stock selection and asset allocation decision processes made full use of all available information and also provided a working base from which the insights of theory could be implemented.

2. Acquiring information directly from companies

In this section, we see how these problems of limited public information increased fund manager incentives to directly contact senior management teams to discuss concrete and intangible sources of value and to observe management qualities and their understanding of these value creation issues.

The case data reveals the nature of this private information agenda concerning intellectual capital (and other matters) and how private information was combined with public sources to create a knowledge advantage within fund management teams.

The latter 'mosaic' process involved using public and private sources to build a knowledge advantage concerning individual portfolio companies, sectors, and the wider portfolio.

This bottom up database on company valuation and strategy, prospects for sectors and economies, was integrated with the top down data base on share prices, financial statements, and macro variables. Creation of the knowledge advantage created a flexible asset that was usable at all times during stock and portfolio decisions and allowed FMs to interpret events and process stock and portfolio level information in an informed way before uniformed competitors.
2.1 How FMs acquired information directly from companies

In Holland and Doran (1998), in UK case FMs, the overall portfolio management process was driven by a continuous need for high quality, new information on individual companies, sectors and whole economies. It is therefore not surprising to discover that the case FMs made considerable efforts to create multiple sources of information, including private ‘relationship’ (direct corporate contact) information, as input to their stock valuation, selection, and asset allocation decisions.

Fortunately for the FMs, the financial reporting cycle created the opportunity to set up an equivalent cycle of private 1:1 meetings between companies and financial institutions and to therefore acquire private information through this means. The corporate reporting cycle was the normal stimulus for arranging meetings on a regular annual or half yearly basis. The information collected from the meetings was stored on the case FM’s financial database and included textual analysis and a spreadsheet valuation model. This information could be specific or fragmented, company, competitor, or industry based. Scheduled meetings were used as distinctive sources of cumulative information concerning the quality and personality of management as well as a means to boost FM confidence, and trust in the company. This process relied heavily on the special abilities of FM staff to assimilate personality data and assess management qualities. These company sources were continuously ‘live’ and involved the systematic build up of the information and knowledge advantage until a periodic (normally reporting period) revaluation or until new events stimulated a rethink on value. Published Financial reports were an important part of the cyclic process. The private meetings and the financial report combined to form complementary FM research channels and a joint information content which was unavailable from either source alone. For example, the private meetings created an informed context in which to interpret new financial reports or to await new financial reports with confidence. The financial report also formed an important source for standardised corporate disclosure and as a basis for initial probing of the company during private meetings. The positive and symbiotic nature of these private and public disclosure interactions was central to FM research behaviour (see Holland (1997).

The case FMs also contacted companies on an ad hoc basis. In the ad hoc process, the case FMs were continuously monitoring company and industry specific events to assess their impact on company share prices. As expected events (earnings announcements and financial report publication) or unexpected events (new company announcements) occurred the case FMs exploited their relationship company access to ask the company what they thought the events meant. The latter ranged from highly specific to fragmented company, competitor, industry or economy wide events. At the company level, the case FMs sought new information on proposed changes, inter alia, on company sales and wages, R&D expenses, investment plans, strategy, corporate succession and management style. Industry leaders or very large companies were used to interpret industry and economy wide events. New events were the stimulus to both exploit company access in this way, to recheck other sources and to reconsider the value of the company.

2.2 What was the private agenda information content?

In this section we illustrate a static or categorised view of the information content. Thus the private information agenda is classified by information type, time horizon, and decision purpose

The private agenda consisted of three major elements,

- Based on existing public agenda: The history of FP and value creation:
- Based on (public) Cadbury agenda: Protecting value and owners rights:
- Unique private agenda: How value was created and potential for value added:

In the following table 1, the private information, based on public, corporate governance (CG) and unique private sources, has been further reclassified on a varying time basis. This also reveals that subsets of this information were used for variety of decisions. The current and future oriented information was primarily used for FM valuation and investment decisions. Although historic information was also relevant to investment decisions. The expanded table also shows that historic and current information played a central role in accountability decisions.
Table 1. A broad picture of the private agenda as a basis for the FM knowledge advantage

<table>
<thead>
<tr>
<th>Private Agenda Classified</th>
<th>By Information Types</th>
<th>History Focus</th>
<th>Current Focus</th>
<th>Future Oriented</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Based on Public Information</td>
<td>XXX</td>
<td>Current results and strategic changes. How achieved.</td>
<td>Private discussions of company vision, risks, accounting changes etc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Historic FP results, risk management, accounting practice.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Based on Cadbury Public</td>
<td>X</td>
<td>Current CG changes and options for future FM influence.</td>
<td>Promised CG changes Board, committees, pay, succession</td>
</tr>
<tr>
<td></td>
<td>Information &amp; Agenda</td>
<td>Past CG, FR issues and performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unique private information</td>
<td>XX</td>
<td>XXX</td>
<td>XXX</td>
</tr>
<tr>
<td></td>
<td>consisting of many</td>
<td>Historic human (Board TM, MM) capital and int/ext structural capital.</td>
<td>Current HC and IC</td>
<td>Future of HC and IC</td>
</tr>
<tr>
<td></td>
<td>intangibles and IC component</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. The Xs indicates the areas of use and frequency of use of each information type by FMs.

Safeguarding ownership rights
Minimising risk
Boosting returns

Accountability Decisions
Make informed investment decisions Valuation of company

In the following table 2 these unique private information sources have been developed in more detail. These two tables should be seen as a wide ‘smorgasbord’ of the private information potentially available from private meetings with companies. FMs did not necessarily seek or use all of this information accessible from private meetings. Their primary focus was on valuation and the investment decision and this determined many of their information demands in private. Each FM went into the company meetings with their own tailored list of questions. These covered a subset of the above agenda as the FM sought to explore its specific concerns on a company’s share value and to understand which current issues were impinging on the company’s share price value. Corporate governance and accountability issues were secondary to the valuation and investment issues unless governance issues effected share value and investment decisions in some way.
Table 2. Unique private agenda

<table>
<thead>
<tr>
<th>Historic Focus</th>
<th>Current Focus</th>
<th>Future Oriented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Historic Human</td>
<td>Current Human Capital</td>
<td>Fugure HC and SC</td>
</tr>
<tr>
<td>Management track record based on historic FP, historic A &amp;B C, D, E, F, G, and H and promises kept and objectives met.</td>
<td>A. Values, ethics &amp; philosophy of management. Attitudes to and focus on creating shareholder wealth.</td>
<td>E. Detailed analysis of risks and challenges facing company and hence threats/opps to strategy.</td>
</tr>
<tr>
<td>Focus on TM and MM history of 'management quality', management practices, management succession management attitudes.</td>
<td>B. Management succession and development plans. Good Management practices.</td>
<td>F. Match of management quality to expected market contingencies.</td>
</tr>
<tr>
<td></td>
<td>C. Communication and presentation skills.</td>
<td>Pro-active management relative to expected contingencies and not reactive or blind to them.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>G. Promises for future made today/now that make sense relative to FM and market expectations.</td>
</tr>
<tr>
<td>STRUCTURAL CAPITAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Int. &amp; Ext.</td>
<td></td>
<td>I. Blue skies speculation about innovation, brands, reorganisation etc.</td>
</tr>
</tbody>
</table>

2.21 Private agenda based on Public information:

The financial statement numbers (earnings, balance sheet, and cash flow figures) were normally known by the market and core FMIs. After the earnings announcements they were extensively discussed in public and in the semi private analyst and institutional networks. Thus the report numbers were not central to the private meetings. However an important part of the private discussions revolved around how and why the results were achieved and further explanations of the mechanics of (new) accounting methods. The flexibility of reporting such numbers was thought to have diminished since the implementation of stricter GAAP by the ASB in 1990s. In contrast, the private meetings were a means to expand on and to interpret this public domain data outside of normal accounting conventions. 2.22 Private agenda based on Cadbury and Hampel reports:

Cadbury style corporate governance issues were a key part of the private agenda. This included issues such as the separation of Chairman and Chief Executive roles, the number and quality of NEDs, and the contracts of executive directors. Succession plans for CE, Chairman, FD and other key managers and directors were discussed. The remuneration schemes and pay levels for these individuals were also discussed with a particular focus on the performance elements of pay. The degree of focus and emphasis on these issues depended on corporate performance, departure from good practice, and the state of company and FM relations.
2.23  Unique private information agenda consisting of many intangibles and IC components:

The unique private information agenda (informal component) consisted of, in part, a very different information agenda to that employed for the public channels. It included information on qualitative company variables such as ‘quality of management’, strategy and its coherence, investment and financing plans, recent changes in these and in corporate succession and management style. Information on competitors and the structure of competition was very important. Other information sources here included a supportive company climate for innovation and long term investment in productive and human assets, R&D expenditure, flexibility of company to technological change, and the role of internal financial resources in the above. Customer and suppliers relations were important external intangibles. Management attitudes to these variables, to profitability, and to return to shareholders, were also central to this part of the agenda.

These FM case categories of private information and ideas proposed by writers in the field of Intellectual Capital had many similarities. They were similar means to understand how value arose within a company and to assess what potential there was for added value. Both focused on difficult to value, and difficult to measure intangible assets.

IC writers such as Brooking (1997), Edvinsson and Malone (1997), Stewart (1997), Sveiby, (1997) generally adopt a three part framework for understanding IC. These include ideas of human capital, organisational capital or internal structural capital, and customer or external structural capital. Human capital or employee competence: This ‘thinking and doing’ capital is the main source of corporate responsiveness to new events, of problem solving, as well as of innovation and invention of intangible and tangible assets. It also includes leadership, entrepreneurial and managerial skills possessed by individual employees. This leaves the firm at the end of the working day and cannot be owned by the company. The combined innovativeness, responsiveness, leadership, knowledge and skills of individuals constitutes one side of this asset, the other side includes the company’s values, and culture, all expressed through individuals.

Organisational capital or internal structural capital includes hardware, software, databases, technologies, concepts, inventions, patents, data, publications, strategy, structures and systems, communication systems, procedures, manual and administrative systems, which are owned by the company, are in existence 24 hours a day, and can be reproduced and shared. Customer capital or external structural capital includes the value of its relations with customers expressed through their loyalty, and the power of company brands, trademarks, distribution channels, advertising, reputation and image with customers. The company can own the brands but not customer loyalty. These market based intangibles create a competitive position in the market place and this create potential for shareholder value.

Brooking (1997), Edvinsson and Malone (1997), Stewart (1997), Sveiby, (1997), adopt similar, somewhat overlapping frameworks for describing IC. There are differences in the general terms used and items within each major. This reflects the problem that there is no generally accepted theory or classification scheme for IC. These frameworks are ad hoc and current empirical work on the nature of IC and its contribution to value is still somewhat limited (except for examples in Brussels).

However, these writers share a common concern to try to portray the nature of IC and its impact on value creation. They look beyond the conventional cash flow and share price valuation perspective of orthodox finance to a more complex picture of the people, and structural elements of corporate life and their impact on ‘value’ as perceived by managers, employees, customers as well as investors.

IC concepts and the private agenda:

The existing classificatory schemes for IC were useful guidelines for looking at the structure of the private qualitative agenda in the FM cases. However, the structure induced from that data had its own character derived from the grounded theory approach and this speaks for itself and is not consumed by these limited IC frameworks.
The FM case categories of private information and the above writers ideas of Intellectual Capital were similar in many respects. The major difference lay in the top management and board emphasis of FMs and the overall company emphasis of IC writers and researchers. The FM narrower focus arose from resource limitations and from the need to gain a broad, overall valuation picture, rather than a detailed 'how to manage' picture.

The above writers have identified Intellectual Capital as the primary generator of share price value in the modern knowledge based organisation, especially the share value excess over book value or the accounting valuation of tangible assets. Human Capital consists of employee knowledge and competence. In the case of FMs, the top management and board emphasis meant that 'management quality', management practices, management succession were key components of the private discussion on the nature of human capital at the top of the company. Recruitment, training and education of the whole work force were not of central interest to the fund managers unless it related to major expenditure decision or to a capacity constraint caused by a lack of skilled personnel. However the FMs were interested in the broad way that human capital was being developed throughout the company. Thus they probed top management's vision of human capital in their workforce and industry and how this was being upgraded. This varied across companies and industries, and so the FMs wish to know who were the critical staff in the company, R&D or brand managers, and how they were retained, trained, and exploited to create shareholder value.

This limited view of human capital reflected the fund managers specific focus on corporate changes or characteristics that were expected to create changes in the immediate share price.

In the case of FMs the 'Internal structural capital' focus was on issues such as the coherence of strategy especially relative to the competition, the stability of senior management, organisation and divisional structure, 'good practice' in risk management, and the explicit nature of innovation processes. This meant that the FMs were primarily interested in structural capital both at top and middle management levels. Again, this was a much more limited and focussed agenda compared to that proposed in the IC literature.

In contrast, the FMs interest in 'external structural capital' was very similar to that proposed in the IC literature. The fund managers were very interested in how the companies managed their relations with customers and suppliers, and how they exploited customer loyalty, company brands, trademarks, distribution channels, advertising, reputation and image with customers. They were very interested in how these market based intangibles created a competitive position in the market place and how this was expected to contribute to shareholder value. In addition, relationships with core fund managers and banks, were an important indicator of corporate reputation and credibility in financial markets.

3. Conceptual & dynamic links within the private agenda, learning & the knowledge advantage

The case FMs used the broad smorgasbord of information in tables 1 and 2 to learn about investee companies and to acquire a knowledge advantage. There were three main ways of doing this.

- Acquiring a time based understanding as indicated in the tables 1 and 2.
- Developing conceptual links between real variables such as strategy, management quality, and innovation and their impact on financial performance. Such variables had a high IC component.
- Developing conceptual links between variables such as credibility of management, confidence in management. These were derived from an understanding of, and experience of the above variables over time.

Thus the case FMs sought a more dynamic view arising from the private information agenda. In the private information agenda we find that the FMs established more explicit conceptual and dynamic (time based) links between the information categories as they sought to understand how value arose in the investee companies and thus how to value the companies.

3.1 Time based understanding:

As indicated in the tables 1 and 2, the case FMs sought a more balanced picture of a company based on the past (past financial performance, financial policy, accounting changes, corporate governance history,
management experience and track record), the present (current results, strategic changes, communication skills), and the future (management vision and promises, perceptions of risks and challenges, match between management quality and contingencies). The FM's aim was to use the balanced picture based on private information to understand how the company could continue to improve shareholder wealth and to assess the implications of renewed and developed intellectual capital for the share price. The information was also used for accountability purposes by FMs.

This FM approach is similar to that employed by Skandia. Skandia sought to identify the larger picture arising out of their information set on intellectual capital and intangibles. Their 'Navigator' provided a more balanced picture of operations based on different time periods, including the past (financial focus), the present (customer focus, process focus and human focus), and the future (renewal and development focus). Skandia's aim was to develop gauges to ensure that the company could move in the right direction rather than in finding the total value implications of renewed and developed intellectual capital. In contrast, the latter was the primary aim of the case FMs.

3.2 Creating and leveraging HC and SC sources of value:

In the private meetings, the case FMs focussed on information collection in the areas of the accountability agenda (historic financial performance, public disclosure, and corporate governance), human capital agenda (management qualities and skills and effectiveness of the board) and structural capital agenda (structure of board, stable management teams and organisational structure).

The case FMs linked information in these three areas to their understanding of historic and expected financial performance. The case FMs were then able to make informed judgments on these ingredients of business performance and to implicitly influence such linkages through probing questioning.

The regular contact with many portfolio companies meant that the case FMs were in a unique position to learn how elements of structural capital such as strategy and board structure, interacted with elements of human capital such as management quality, to contribute to good financial performance in different ways across companies and industries. This provided FMs with a strong basis to ask informed questions about these elements of intellectual capital in each investee company and thus to make strategic comparisons with competitors.

The FMs were interested in historic and expected relationships between human and structural capital. More specifically, in the FM cases a strong interest lay in how human capital had been and could be turned into internal and external structural capital, how structural capital had been and could exploit human capital, and how all forms of intellectual capital had and could contribute to improved financial performance both in terms of increased profits and a growing excess of share price over book assets (valuation of tangible assets). This is similar to the concerns expressed by companies and identified in the IC literature (see Skandia company case as a key example).

Thus the case FMs wished to understand how elements of human capital such as, individual and collective competence and knowledge of board members, top and middle 'management quality', novel management practices, and planned management succession, had been, and could be turned into internal structural or organisational capital and how this was to be propagated throughout the company. The internal structural capital included ingredients such as a coherent strategy especially relative to the competition, a stable senior management group, a clear organisation and divisional structure, an explicit and well managed innovation process, and a formal ability to manage brands.

The FMs also wished to understand how internal structural capital in the form of strategy, a stable senior management team and clear organisation structure, good practice in foreign exchange and interest rate risk management, the innovation process had, and could continue to lever or fully exploit boardroom skills and top and middle 'management quality'. The FMs also wished to understand how external structural capital in the form of brand names, existing market share and competitive position, supplier and customer relations had, and could continue to lever or fully exploit board skills and 'management quality'.
Finally, the FMs wished to know how such HC and IC would be effected by expected macro forecasts and the analysis of expected competitive conditions. They used their private knowledge to assess how the company could use its HC and SC to respond to and exploit these expected conditions. Thus they sought to understand whether the quality of the management team, the current strategy and many other HC and IC components were likely to create value in these new macro economic and competitive conditions.

The ultimate aim of the exercise for FMs was to understand how all forms of intellectual capital could make a contribution to improved financial performance both in terms of increased profits and growing excess of share price over book assets (valuation of tangible assets). Once this was understood and observed, then there was a feedback process. Thus the eventual financial performance was the means whereby private FM influence was used to secure new promises about B and C.

3.3 Human capital, confidence and credibility conceptual links:

Management quality and personality factors were a major area of interest of FMs. Interpersonal interactions in meetings were seen as central to understanding how management personalities and management qualities had contributed to historic financial performance. This track record played a role in enhancing corporate credibility concerning management views on how to handle the future. It also improved the case FMs understanding of how management team qualities could cope with various new contingencies implied by macro forecasts and competitive conditions and how they could generate continued good financial performance under the expected economic conditions. Information on these matters affected FMs perception of the reliability or quality of private strategic and financial information, and its usefulness in understanding financial performance and in valuing the company. Information on personalities of management also helped the case FMs assess whether they could influence the management teams through a creative dialogue or whether they would have to wait until the company needed help before significant influence was possible. Thus the dominance of individuals and cohesiveness of management teams were observed and assessed. The personality characteristics of key managers, such as sense of purpose, honesty, integrity, reputation were very important in establishing FM trust, and confidence. These were assessed at the level of individuals, and management teams.

Thus a proven ability to generate growth, to innovate, and to manage growth were essential as was the clarity of strategy and the ability of management to articulate it. Managerial development plans and succession policies were important to see how ‘management quality’ might change over time. Information on consumption of perks, or of a ‘get rich quick’ attitude, was thought to be available only by direct observation.

3.4 Creating a mosaic of understanding from private and public sources and constructing the knowledge advantage. Building a bottom up data base on companies, sectors and economies:

The use of conceptual and time based linkages was an important way to understand how private agenda variables were linked in creating value. However, the variables and linkages were not comprehensive and many gaps of understanding existed around the variables and between their linkages. The fund managers dealt with this in two ways,

-the fund management team sought to understand the company ‘story’ or narrative. This larger context and connecting logic was understood through key word, phrases, metaphors, and visual employed by investee companies in the private meeting.

-they sought to build up a 'jigsaw', mosaic or picture of corporate economic life, using a mix of private and public sources. The company narrative and models connecting key economic variables to value, were jointly exploited in this systematic and explicit 'picture building' process.

These were two important internal means for continuous learning and for developing the knowledge advantage.

Developing a holistic view of the private agenda:

The FMs collected copies of slides and made notes on the private narrative and dialogue and these were checked and analysed after the meeting by the FM and internal analysts team involved in the private meeting. Informal
impressions of management, and the way they explained the slides were important parts of the post company meeting agenda amongst the FM teams.

The narrative, metaphors, and visuals employed by companies, were all recognised as key means for company managers to communicate how they intended to create the company future. They provided the context to the specific items on the qualitative agenda (mainly intellectual capital) such as management succession, management of innovative processes, and further fleshed out details of strategy. The story, visuals and metaphors were required to 'fill in the gaps' between these variables or specific item agendas. The latter were often linked through explicit models (such as Strategy -> Management quality -> innovation -> value). The specific agenda items discussed and observed were based on these more concrete variables. The visuals and story were combined with information on these variables and their connections in a 'mosaic' approach (see below). This provided the means to acquire the larger picture to see how value was created and maintained. Company executives wished to communicate in this way and FMs wished to see all of these elements and larger picture combined.

A credible story, a coherent narrative, clear visuals or slides, all contributed to a 'confidence' context for FMs to accept and believe the set of promises companies made to FMs about how they expected to produce performance and what that performance was expected to be. Management qualities and personalities also contributed to this confidence context (see previous section). If the FM accepted these promises after the dialogue, they became part of the historic record of company promises and formed the basis for future dialogues and perhaps disputes. This subjective, qualitative track record was as important as the more objective profitability and share price track record of the company. Thus last year's slides were often used by FMs as the basis for an initial dialogue in new meetings. Last years' promises were introduced into the dialogue. Last year's impressions of management's story and their competence were built into the meetings and observations in the current year.

**Mosaic or picture building approach:**

The above 'picture building' or mosaic approach was formally and systematically conducted within post meeting discussions, stock selection and asset allocation decisions.

Loomis (1972, p24), described the mosaic approach as 'The (US SEC) Commission's idea of highly specific information is a single concrete event or determination or fact, as opposed to a mosaic of general information, some of which is public some of which isn't.' This mosaic may be constructed from many fragmented data sources including regular contacts with management. However Loomis (p83) warns that a successful attempt to confirm this new (event specific) information (such as new earnings forecast) with management would constitute a receipt of material inside information. Such direct contact is only allowed if the information is not thought to be 'material' or 'price sensitive'.

The mosaic approach was evident in the FM cases studied and was one of the primary means by which the FMs knowledge advantage was constructed. Pooling of qualitative and quantitative information amongst the FMs fund management and analyst team, during post company meeting analyses and during regular internal FM stock selection and asset allocation meetings, was central to the mosaic approach. These were matched by the case FM's access to an external network of multiple relations with investee companies and to other networks involving suppliers and customers of these companies, as well as the network of external (sell side) broker based analysts, each providing small portions of new information. These pieces of information, when placed in the context of other fragments of information from other investee companies, from external analysts, and from financial reports, were used to produce a new company (or competitor) picture or insight. This in turn was employed in structured valuation, stock selection, and asset allocation decision. The picture was then checked against the company story in subsequent meetings.

In FM case E: In general in the meetings we try to avoid specific information and takes in lots of little bits of information and builds up a picture of the company and the competition and the industry. This is a sharp contrast to the brokers analysts who focus on a narrow or little part of the business and do not develop and broad and coherent view of the company. We therefore seek to understand the whole business.
and in FM Case N: The long term links that we establish with companies lead to much more experience of the company and more detailed knowledge of the company. Our Fund Manager and our own Internal Analyst team form an internal 'database' that we draw over a regular basis over a long period of time. They have stable, long term knowledge of the company and of the set of companies in our portfolio which we consider to be a considerable asset. They therefore have a unique set of hooks and eyes which allow them to connect events in unique ways and to assess the impact of the events on the market in a unique way that we do not think anyone else can do. This is really the source of value for us.

Such mosaic information was then fed into a process to estimate the values of key variables such as next period earnings. These estimates were then used in a valuation process using an in-house valuation model. This process will be investigated in section 4.

The knowledge outcome:

The case FMs investment in private and public sources of information created a valuable asset. This asset consisted of knowledge of the company and its industry, as well as influence when problems occurred and access when new events required additional information. Knowledge here refers the FMs comprehension or understanding of the company. This was seen as a stable long lived resource for the case FMs. Specifically, it referred to the FMs understanding of the company's management team and its human capital, including the qualities of the managerial team, and leading personalities in the company. It also included a detailed understanding of structural capital such as company strategy, product range, its competitiveness in markets, its cost structure and profitability, its unique business and financial risks, its financial exposures and expected earnings and cash flows. It existed formally in case FM files and information systems and informally in the experience of FM fund directors, managers and analysts. The case FMs also had similar comprehension and understanding at the level of an industry and economy. This knowledge was constantly refreshed (during company contacts) by new information on investee companies and their industries and had a host of uses in informing buy, hold, sell decisions and in advising fund clients. This knowledge was a crucial ingredient for the case FMs when translating information on say strategy or management quality into fundamental information on expected earnings, cash flows and expected financial performance.

Constraint on learning process:

Improving FM knowledge was not seen as bound by the 1989 EU insider dealing directive, or the 1994 UK law and 1994 Stock Exchange regulations and guidance on insider dealing and price sensitive information. The FMs knowledge advantage, appeared from the case data to develop slowly through many corporate-institutional interactions. It also developed through cumulative analysis of many non corporate sources. Thus a institution would not necessarily trade in the company shares immediately after a company meeting. To do so would invite accusations of insider trading. In this sense the quasi insider FM was in a similar position to an insider director. The director could not trade in the two month period before results announcements and could not trade when they have received new inside information.

4. Stock estimation and valuation:

In section 4, we consider stock selection decisions and explore how private and public information were jointly used in estimating future corporate performance variables and hence in valuing the company. This section provides some insight into the book value and market value gap and the special role of information on intangibles and intellectual capital in valuing the company.

The daily corporate reporting cycle was a primary driver and stimulus of the stock level end of the fund management decision process. It was within this daily cycle that the private meetings were arranged and the estimation and valuation processes, and stock selection decisions were conducted. The case FMs used the private meetings with companies, to investigate both risk and return, at the level of the investee company and its competitors. The fund management team, normally comprising several experienced fund managers and internal analysts, analysed the company before the private meeting, probed the company during the meeting, and then came to some risk and return assessment, and hence valuation decision after the meeting. This collective pooling of
risk, return and valuation information, occurred over many periods as the fund management team sought a competitive advantage in a stream of cyclic stock selection and asset allocation decisions and company meetings.

This prior search for information on risk and return before its use in FM decisions is similar to Tversky and Kahneman's (1992) idea of 'prospect theory'. In this theory, the decision process is broken down into two stages. In the first stage the range or 'menu' of available choices is 'framed' and edited in line with the prior perceptions of the decision maker. Gains and losses for various outcomes are identified relative to a neutral benchmark. In the second stage corporate prospects, are evaluated relative to the managers subjective assessment of their likelihood of occurrence and the prospects with highest expected financial outcome are chosen.

In the fund management context, there were three stages which played a role throughout the short decision process consisting of the pre meeting diagnosis, the meeting dialogue, and the post meeting analysis and decision. The stages involved prior framing, estimation, and valuation.

4.1 Framing of perceptions about gains and losses:

In the first stage, the mosaic approach and the knowledge advantage formed the larger context in which framing took place. Three levels of framing occurred in this first stage,

Firstly, framing at the level of macro forecasts for economies and sectors, and at the level of competitive analysis of company markets (eg via Porter 5 forces. Most of the information for this framing was available from analysts and other external sources.

Secondly, framing at the level of the company. This involved information on company specific human and structural capital and most of this information was only available by direct contact, dialogue and observation in the company. Thus intellectual capital factors were important in this first stage framing. Structural capital, such as the existence of good practice in the areas of brand management, innovation, and financial risk management, were important contextual factors. Human capital in the form of 'management track record' in generating returns and managing risk, corporate culture and management attitudes to risk and shareholder wealth, were important. Many proxy sources of information were sought on these including consumption and remuneration behaviour of management, as well as the use of foreign exchange and interest risk management practices as proxies for general risk management attitudes. Track record was based on the last (and previous) period corporate performance and private meeting promises. These provided another important historic 'frame' or informed reference point for the current period meeting. These were all important in framing fund managers perceptions of riskiness of company plans, potential corporate outcomes especially major losses, their relative gains and losses, and hence the eventual basis for valuation.

Thirdly, framing focussed on interactions between the two contexts above. The fund managers sought to understand how these company level IC factors (amongst other company factors) interacted with expected macro conditions and competitive conditions. FMs wished to answer the following questions. What is the impact of macro/competition conditions on the company, especially its IC components? How can the company (IC and HC elements) deal with the forecast macro conditions, and expected competition? This information was only available by combining private and public sources within the mosaic process. New information here led the FMs to alter their perceptions of the riskiness of corporate plans, the up and downside range of financial returns, and the potential for major losses, and hence valuation.

The above constituted a prior framing of gains and losses that was similar, in some respects, to Twersky and Kahneman's (1992) model. However, it was a much more formal, explicit, and systematic prior framing than envisaged by these authors. It occurred as part of the learning and knowledge creation processes discussed in section 3. In addition the FM process probably involved less individual bias in estimating gains or losses or probabilities. This was because the case FMs sought to exploit the collective mind of a group of internal FMs and buy side analysts. Thus the prior framing of available choices occurred in dynamic manner over many periods and was informed by collective fund manager memory, experience, and keeping of corporate promises over time. FMs were specialists assessors of risk and return, and this explains their more sophisticated and dynamic approach to framing of prior perceptions of gains and losses, compared to Tversky and Kahneman's (1992) model for individual decision makers.
4.2 Estimation of valuation variables:

This dynamic 'framing' and the new information acquired in the meeting provided the basis for the second stage where the FMs formally estimated risk and return at the level of individual companies.

This was conducted in two steps

- In the first step, the prior framing and knowledge advantage, based on the mosaic of private and public information, was used to estimate numbers for important valuation variables. The included earnings and cash flows and hence expected values (and their risks or 'sensitivities') that were considered to be forecastable within a limited and defined horizon of say 2 to 4 years. Such forecasts were available from analysts and consensus forecast data also normally existed for at least the next period ahead. Thus the FMs had spreadsheet models with forecast earnings and cash flow, both derived from public domain sources. The function of the private information was adapt these public forecasts using unique information.

 Thus qualitative data on human and structural capital were combined with public and internal sources of quantitative data to create a new basis for adapting and re-estimating numbers such as the size of valuation variables, their likely changes and the sensitivities of such estimates. Promises by the top management, their explanation of strategy, and their analysts of the competition were combined with external analysts forecasts and reports and internal research, to arrive at new estimates for expected cash flows, earnings and other key valuation variables. Human capital such as management skills and track record were combined with macro forecasts to assess if the management team had the appropriate skills for the market contingencies they were likely to face. If the match was thought to be good then the FM would increase their estimates of variable such as prices and sales levels and hence increase cash flows and earnings estimates. Structural capital such as a board with good governance practices, and exercising explicit control over risk management procedures, were combined with human capital such as managers with good record in managing risk, to alter FM perceptions of the riskiness of cash flow and earnings forecasts. In this case their likely view would be that risk would be reduced. Finally, corporate and management performance history and keeping of strategic promises played a key role in establishing FM confidence in these estimates of risk and return.

In cases where time was very short, the FMs used their understanding of IC variables to make quick adaptions to simple valuation models such as P:E ratios. They therefore bypassed the judgmental process concerning how IC was likely to effect real variables such as prices, costs and volumes, and the subsequent impact on cash flows and earning. Instead they went straight to the valuation issue and made immediate changes to P:E ratios to reflect perceived changes in IC variables.

The FMs were not measuring the human and structural capital variables in a formal sense. They were not looking for measurable IC indicators. Instead they constructed a language or set of terms to describe the various dimensions of IC. They assessed how these elements of IC were connected and how they effected performance. This understanding and language were developed over many years of experience and were codified and transferred amongst members of the FM team. This itself constituted a form of human capital within the FM. Once established, it gave the FMs the means to ask many informed questions about company IC during the private meetings. It also gave them an agenda to observe management. The language and questions, and observations, were not the means to precisely measure corporate IC and their precise performance impact. The FMs recognised this as crude but robust means to get a 'hook' or 'handle' on a difficult to measure area. It allowed them to assess how these IC variables were changing in a company and how they impacted the competitive advantages of the company. This is turned, created the means for the FMs to make judgments about the broad direction of change in earnings, cash flows and their riskiness, arising from the changes in individual IC variables and combinations of them. This was a rational approach for the FMs given that they already had sophisticated earnings and cash flow spreadsheet models (based on public data), and the task was to adapt these using novel information. The FMs referred to the above estimation and adaption process as a 'black art' or pure intuition, but in many ways it was a rational way to process and use the available data on intangibles.

In the second step, and looking beyond this forecastable horizon, the knowledge advantage was the basis for an 'act of faith' FM judgment concerning future value arising in the company beyond this period. In those periods and circumstances where it was difficult to estimate numbers for conventional valuation models, the FMs used
their inside position on Intellectual Capital factors such as management quality, innovatory skills and R&D expenditure, to assess whether the company had the means to continue creating value beyond the forecastable horizon.

Thus, at the level of unforeseeable futures, the FMs had to rely on variables such as ‘management quality’ or privately derived expectations about R&D expenditure as a basis for a ‘leap of faith’ concerning the corporate creation of value beyond the forecastable horizon. Management quality and other qualitative information acted as proxies for formal estimates and forecasts beyond this horizon.

This was used to translate into rough terminal number estimates of earnings etc uncertain period beyond foreseeable horizon (beyond 2 to 3 years). This was the basis to make crude estimates of potential increments to value arising beyond the forecastable horizon. Fund managers therefore estimated the value they thought a management team would continue to create beyond the forecastable horizon. The FMs were effectively predicting or betting that the human and structural capital that had created value in the past would continue to do so in the future. This 'fudge' was added to their more formal estimate of value created within the forecastable period to arrive at a fair value for the company. The fund managers were also clear that this was much more a 'black art' than a science.

4.3 Valuation

In the third stage, there was a fund management valuation of the company based on an assessment of subjective likelihood of financial outcomes. This was a collective decision, exploiting information and experiences from a larger fund manager and internal analysts decision group. It was unlikely to involve explicit estimation of subjective probabilities for each financial outcome for a company. Time constraints were severe and stock valuation rarely involved the use of elaborate quantitative techniques.

More specifically, the explicit number estimates (first stage) and 'fudges' (second stage) were used in a valuation process using an in-house valuation model. Normally, an array of valuation models was used to explore the implications of the information for valuation. A range of values were computed for varying circumstances.

Thus the private information on intangibles or intellectual capital played a central role in FMs estimation of the numbers for valuation purposes, in effecting FM confidence in these numbers, and in FMs making an educated guess or 'leap in the dark' concerning the uncertain element to company value. Given the perceived current significance of intangibles or intellectual capital in share prices (and as a component of the excess over book value), private information on these areas was likely to be a significant contributor to the valuation process. Private FM use of intellectual capital information was therefore likely to be a significant contributor to the market value and book value difference identified by many observers.

The case FMs argued that their relationship knowledge and wide experience of companies in the same industry and economy, provided them with the means to develop superior 'translation' models to process information on intermediate intellectual capital variables, such as management quality and track record, into number estimates for forecastable earnings and cash flows, into valuation fudges beyond the forecastable horizon, and into unique insights into corporate risks. The 'translation' models were essentially their existing spreadsheet models plus their collective experience of IC variables in companies and how companies use these advantages to react to and exploit macro and competitive conditions. These inside knowledge advantages were also expected to give FMs the means to exploit the range of valuation models in use by market participants. The larger translation models were not necessarily explicit and they could be seen as tacit knowledge embodied in FM information collection processes, learning processes and the systematic way FMs exploited this knowledge within highly structured and regular stock selection and asset allocation decisions. They expected to use their information advantage with these translation and valuation models to check whether their information was different to that of the market, and to use this to identify 'cheap' and 'expensive' shares.

4.4 Use of valuation

The informed valuation of the company was compared with the market price. Major differences were the basis for case FMs to assess whether they needed more private or public information to understand why the difference
existed, or for the FMs to influence the company to further exploit or correct the reasons for the valuation difference. This information was then directly employed in share trading decisions, especially timing and scale of sale or purchase decisions. This occurred between asset allocation decision periods and the net effect of this across many companies (within this period of say a month) was to marginally adapt sector and portfolio allocations. This valuation also provided the basis for influence when companies were thought to be straying from a well understood and agreed strategy.

Arnold and Moizer (1984) have provided some insight into how UK analysts arrived at a share valuation in this way.

5. Bottom up risk control - a micro process at the level of individual companies:

Section 3 has outlined the FM learning and knowledge acquisition process and the special role of private information (such as IC) in creating a FM knowledge advantage. In section 4, we have seen how this learning process created the means for FMs to 'frame' their perceptions of corporate risk and return, prior to using this information in estimation and valuation decisions at stock level.

In this section 5, and section 6, we explore how the same learning and framing process provided the means for FMs to acquire novel risk information relevant to stock selection and asset allocation. Thus in these sections we explore how joint private and public information on risk was used in stock selection asset allocation. This section reveals the special role that private information, especially the intellectual capital component, played in bottom up and top down risk controls over the whole portfolio of shares. The FMs considered such risk controls to be central to fund financial performance.

The fund managers were particularly interested in the range of downside outcomes and the possibility of any outcomes with very large losses. Information on this upside and downside risk context and more specifically on 'black hole' outcomes was central to stock selection and portfolio wide fund management decisions.

5.1 Collecting information on corporate attitudes to risk:

A variety of methods were employed to identify very risky companies (black holes) and to control their effects on portfolio performance. This included the use of proxies to identify risky companies, exploiting the error reduction properties of this different information source, and explicitly taking action to get rid of black holes. Similar risk averse behaviour was observable at asset allocation level.

The case FMs sought information on management attitudes to risk and management capabilities to handle risk. This was quite difficult to acquire in a direct manner and so the FMs used public information on corporate foreign exchange and interest rate risk management as proxies for overall risk capability and attitudes of management teams. This was a form of corporate structural capital in that it revealed the internal structures, formal processes and practices that had developed over time. They also used ideas of human capital such as management's track record in dealing with risk over time as an important source of information on risk management capabilities. Both forms of structural and human capital revealed much about corporate attitude to risk, as well as corporate responsiveness to financial risks and business risk and hence corporate vulnerability.

In 1996, the ASB recommended that companies disclose more numerical and narrative information on their corporate financial risks and their risk management policies. The Association of Corporate Treasurers (1997) endorsed this policy and provided guidelines for its members on how to do this. Much of this disclosure change was precipitated by the Allied-Lyons, Shell Japan, and other foreign exchange risk management problem cases in UK companies in the 1990s. However, Thompson (1996) reviewed OFRs for 60 FTSE100 companies and concluded that there was insufficient public disclosure of such risk information for institutional investors decision making. This created incentives for the case FMs to get close to companies to understand their attitudes to financial risk and risk management.
The case FMs ‘insured’ against high risk management teams by preferring to invest in companies that adopted good financial risk management practices. They preferred good financial risk practice companies because they perceived that the information asymmetry they faced on company financial risk and risk management was extensive. They perceived that this imperfection invalidated the idea that they could diversify away variation in financial risk and risk management techniques across their investee companies. They therefore hoped to get rid of the risk at source by investing in companies that managed foreign exchange and interest rate risk well. If the companies concerned provided full disclosure on this then the FMs could deal with the residual foreign exchange and interest rate risk by hedging their portfolio. In case of real business risk, good financial risk practices and board and top management understanding of these practices, were used as a general proxy for management ability to handle many financial market and real business risks. They were also the means to identify and avoid management teams who were unnecessary risk takers in financial areas and in the main business areas.

5.2 Private relationship sources of information: means to reduce estimation error in public sources and improve understanding of risk and return:

As we have seen, relationship sources of information were likely to be somewhat different to publicly available sources of data. They provided information that was more timely and closer to (the corporate part of) the return generating process than current public domain data. They provided novel insights into many intangibles concerning corporate risk, including management attitudes to risk, and management capability to manage risk. They also provided new information on risk that was not generally available. The private information appeared to be different in character to publicly available information in that it emphasised qualitative, difficult to observe, aspects of the return generating process and the risk management process. This included information on intellectual capital factors such as the qualities of the management team, their understanding of strategy, their impact on the return generating process, their attitudes to risk, and track record in handling risk. These features meant that relationship information made a complementary and novel input to a stock value estimation process that also exploited public domain analysis, analysts’ first call services and other data sources. Certainly the case FIs behaved as if the private company contacts provided novel types of risk and return information as well as new information on publicly known events.

These private sources of information on intellectual capital and intangibles were important because of their role in generating new information and in reducing error associated with public sources. The former role normally arose when private information was combined with multiple public sources of data (in the mosaic approach) to produce new information and insights. The latter role arose when the private sources of information revealed the limitations or mistakes in publicly available sources. The different nature of the public and private data sources also meant that their error functions were likely to be uncorrelated over time. The combined private and public sources thus formed a means to reduce estimation error arising by using public or private sources alone. This did not alter company risk but it did improve FMs understanding of this risk and management ability to handle and exploit the risk.

5.3 Bottom up risk avoidance, ‘black holes’ and surprise management: a micro process

This private insight into risk, risk management and risk attitudes was used to manage risk in a ‘bottom up’ manner as well as the ‘top down’ manner expounded by conventional portfolio theory. More specifically, fund managers used direct contact with relationship companies to identify high risk, low return companies and to drop them out of their portfolios. They also questioned and probed their key investee companies in an interrogative and informed way in order to persuade management to avoid getting involved in operational and strategic risk areas outside of their competence.

A major concern of the fund managers was to avoid ‘black holes’ or major corporate losses. Close contact and influence with relationship investee companies was one means to do this. The fund manager’s prior ‘framing’ of corporate financial outcomes was based on regular relationship contact and was the means to identify and to avoid such black holes. The bulk of the fund managers were quasi-indexed and thus held portfolios of 200 or more shares. This also reduced black hole risk. A 2% or less stake loss was also easier to bear and to justify than a 5% stake loss, especially when it concerned a large and valuable FTSE100 company.
Clarkson (1993, p.29) points out there is a need for a measure of risk which reflects this 'black hole' concern 'when clearly some downside measure relating to the adverse consequences of unexpectedly bad outcomes was required'. Shackle's (1970) concepts of 'potential surprise' and his 'crude decision rule' provide an alternative view of risk which appears to match this case FM behaviour. In Shackle's terms, 'potential surprise' is an anticipatory measure of how surprised a decision maker imagines he would be if a possible outcome did, in fact, occur (Stephen, 1986, p.46). Similar concepts seemed to be informing the fund managers in their attempts to influence their investee companies not to surprise them, and to create knowledge or awareness conditions within the FM such that they are not easily surprised by events. In Shackle's 'crude decision rule' an investment in a company project (or security) is unacceptable if, regardless of the potential gain to be made the potential loss is too great a burden to bear (Stephen, 1986, p.50). In a similar vein the case fund managers employed safety first rules and sought to avoid investing in companies with a possibility of large losses despite this being an unlikely event. Information on corporate intellectual capital (poor track record in managing risk) and structural capital (poor risk management systems) were the means to understand corporate economic performances. Shared structural capital in the form of the company and fund manager relationship was the means to exchange expectations on surprise and to disclose information to reduce the likelihood of surprises. The FMs used this information, from companies or their competitors, to rule out investments with unacceptable downside possibilities despite the upside possibilities being very attractive. The only exceptions to this were special portfolios such as 'recovery stocks' or where say 5% of the portfolio was allocated to very risky stocks. Otherwise, relationship contacts with companies were seen as a vital means to identify and avoid 'black holes' before they occurred.

The large majority of the fund managers (those who were either quantitative and qualitative at portfolio level) adopted a qualitative rather than quantitative approach to bottom up risk control. The case FM decision makers did not explicitly use conventional probability concepts and decision theory such as expected value, variance, and normal distributions. The time pressure in stock valuation were severe, and there was little time for such analysis. Mean variance data was more likely to be used with optimisation techniques at asset allocation and portfolio optimisation, and this usage was only likely with the minority of quantitative FMs.

The FMs practical model of risk management at bottom up (and top down) levels appeared to combine elements of Shackle's anticipatory measure of least surprise and a dynamic bayesian analysis. They used all sources of information both private and public to revise or confirm their prior (normally implicit) probabilities of corporate states of nature and their associated valuation of a company. This was repeated across their portfolio of companies. They matched this with a strong aversion to negative surprises. They also used company relationships to reduce corporate supplied surprises, to create least FM surprise conditions, to avoid investment in possible 'black holes', and to influence corporate performance.

More specifically, the case FMs adopted a fundamental approach to the analysis of investee companies and to the exercise of influence on these company's risk and return behaviour. The immediate target for information acquisition and influence was a set of intermediate corporate variables and states such as management quality, risk management methods and attitudes, and the coherence of plans for succession and for corporate strategy. Changes in these company based human capital (top and middle management) and structural capital variables (real market and financial markets) were expected to have a direct impact on the company earnings, cash flows and risk. The FM focus on intermediate corporate variables and states was necessary because the London stock exchange guidelines and UK insider dealing law created barriers to direct access to information on fundamentals (such as next period earnings) which would probably be price sensitive. In the case of the influence process, it was difficult to overtly influence management without threatening the relationship. However, it was possible to covertly influence those intermediate corporate intellectual capital variables or states so that this eventually led to desirable changes in financial fundamentals such as earnings, cash flows and risk. It was only in adverse and unusual corporate circumstances that the FMs would openly seek to change the fundamentals. This could occur by FMs displacing management's role and taking decisions which produced the desired earnings, cash flow, risk and performance changes.

The above active influence role of FMs implies that the FMs had a more pro-active decision model than Shackle's proposal as they sought to manage uncertainty as well as rationally reacting to it in a (Shackle style) 'black hole' avoidance mode. The role of relationships or shared structural capital and FM specific IC were central in managing company and portfolio risk. Managing the risk profile of each company and portfolio
construction was a more dynamic, pro-active operation than implied by finance theory. Rather than taking each company’s risk and return as given and from these inputs choose an optimum portfolio, FMs could exploit their knowledge and structured decision process advantages to choose and/or influence the risk profile of individual ‘relationship’ companies they invested in. Finance theory assumes that investors require an ex ante reward for risk. It is recognised that investors may not realise this reward, ex post, because the essence of risk is that unexpected outcomes occur. However, the case FMs were in a unique position compared to other investors such as indexers or small investors. They could exploit their own IC and the shared structural capital or relationship asset in a variety of ways. The regular flow of information from relationship companies allowed them to reassess company risk and returns on an informed basis and to alter their expectations accordingly. They were also in a unique position as quasi insiders to influence the company to meet their FM risk/return expectations. They were therefore in a position to argue continuously for the company to find ways of increasing return or reducing risk or to perhaps do both simultaneously. They steered corporate risk taking behaviour to where they believed the management team had the most appropriate skills. For example, higher risk could conceivably arise because the FM held a number of large, illiquid stakes. This higher risk would require some extra compensation. A closer relationship with the company could provide this in higher returns due to better information. It could also be the means to reduce risk, with this reduction coming from better information or from influencing the company to adopt a different risk profile. This illustrates that the information acquisition and influence processes were part of dynamic process in which FM risk/return expectations were continuously changing and being used to influence the company.

Finally, we can note that Tversky and Kahneman (1992) also argue that for decisions involving extreme outcomes or very high or low probabilities, the choices of decision makers will differ from those predicted by conventional expected utility theory. Tversky and Kahneman (1992) argue that in the realm of losses, behaviour will differ from utility theory. For example, individuals will gamble to have no loss rather than accept a sure loss. In the FM cases, fund managers were prepared to stay with loss making companies and accept near certain stock price reductions in the short to medium term, if they felt that the existing or new management team were the best group to improve performance. In contrast, they were prepared to sell out of good performing companies, if they were worried about a negative change in management capabilities. In both cases they were gambling on the likely impact of managerial human capital or qualities (such as track record, match of skills to corporate need etc) on future financial performance, but one situation involved a current loss and the other a current profit.

5.4 Fund management attitudes and perception of corporate risks

Fund manager attitudes to corporate risk played an important role in modifying the above behaviour. Factors such as fund management investment policy, fund performance, remuneration schemes, and reputation were important. Pro-active fund managers with a large proportion of their pay based on bonus schemes were particularly sensitive to individual corporate risks. Such fund managers were highly exposed to the performance of a few overweighted companies in their portfolio. ‘Black holes’ were more important to these fund managers as they sought to avoid the adverse effects on their fund performance, their pay and reputation. If they were poorly performing active fund managers, their incentives were even stronger. In contrast, indexer fund managers, with little in the way of bonus pay, were less sensitive to such companies. Their interest lay in identifying them and influencing them to improve their performance. Unless they were a ‘sampling’ indexer they had little choice but to hold the shares.

6 Use of private information in top down risk control

Modern portfolio theory derives the conditions for the efficient frontier and the dominant market portfolio. This leads to a series of clear cut asset allocation prescriptions for fund managers when managing a portfolio of stocks and bonds. However, we have seen in section 1 that there are major limitation with public sources of information and this is associated with problems in implementing theory. Despite these problems with modern portfolio theory, existing theory provides the sole conceptual guide for fund managers in their difficult asset allocation and stock selection decisions. In addition, there is still considerable agreement on the need to diversify risk and to make a risk/return trade off consistent with the fund manager’s or client’s preferences.
In the majority of FM cases mean-variance and optimisation approaches, were as not employed or were only used a supplementary source of information at the top down level. The bulk of these 'qualitative' fund managers argued that at various times, they found themselves too information constrained, or too ignorant, to find robust and stable optimal portfolio solutions for periods 3 to 12 months ahead. A small number argued that experience and intuition were much better guides than these quantitative models.

In the qualitative FM cases, top down, portfolio wide, risk control and asset allocation decisions, were primarily based on judgment, experience, and intuition, and all were informed by macro forecasts for their target investing economies. Each fund manager developed or purchased macro forecast data concerning these economies, including GDP data, inflation, exchange rates, and interest rates. The fund managers were particularly interested in how national stock markets were expected to change, and how stock markets in major world regions such as the EU, US and Canada, and Japan and the Pacific were likely to move together. This new forecast information on macro variables was used in monthly asset allocation meetings to make judgments about the spread of international equities, bonds, property and other assets. These fund managers sought to gain the best insights of history, new information, and their own special skills and intuition in top down risk control. In a minority of cases, a quantitative FM approach dominated, but was also adjusted by judgment, experience, and intuition, informed by macro forecasts.

However, it was difficult for fund managers to gain an information edge by only processing public domain information on the macro economy, industry sectors or competitive analysis of individual companies. Macro model uncertainty factors, the limitations of top down information and forecasts, and FM concentration of share ownership all played a role in encouraging fund managers to use direct contact with investee firms to collect additional information on macro and competitive conditions and corporate responses.

As a result, the case FMs used private company based information to assess how individual companies and sectors were likely to respond to macro risks and competitive conditions. For example, they used company reactions to their macro forecasts to identify risks in specific sectors and the whole portfolio. The FMs were effectively assessing if the human capital (management skills and track record in managing risk) and structural capital (good risk management techniques), at company and industry level, were sufficient to deal with the expected macro conditions. They wished to identify which management teams were likely to exploit these conditions. The FMs also expected to learn if the expected macro conditions were actually risky and which specific companies and sectors were likely to be winners and losers in these conditions. This was repeated with many investee companies, across many sectors, in the period (say monthly) between formal asset allocation decisions. As a result, the aggregate, bottom up data on the responses of investee companies, and sectors within economies provided an alternative perspective on the top down macro views. The micro information base and knowledge advantages for each portfolio company were also exploited across sectors and the portfolio as the fund managers sought to use information about company A or sector A to understand company B or sector B, and to understand economy wide events and developments. The aggregated micro private and public information base was employed in active portfolio sector and asset allocation decisions. For example, there was evidence in the cases of downside risk avoidance at all three major decision levels of asset allocation, portfolio construction and stock selection. The FMs removed perceived risk concentrations at all levels. The FMs used private (qualitative data on intangibles) and public data to avoid asset categories considered risky at the current time period (e.g. more gilts less equity), sectors considered very risky at certain points in the economic cycle (e.g. less manufacturing and more utilities at the start of recession), and companies with potentially disastrous financial outcomes (avoid black holes). Thus, a form of _top down risk control_ was based on qualitative _bottom up_ information.

This contrasts with the previous section where direct contact was used to identify high risk, low return companies and to drop them out of their portfolio. It was also used to influence companies to alter their risk and return characteristics in a desirable way. Thus risk was directly managed in a _bottom up_ manner and bottom up information was also used in _top down_ risk control. This form of risk control is in sharp contrast to the _top down_ approach recommended by conventional portfolio theory. The latter approach takes expected return, variance and covariance data and computes the efficiently diversified portfolio. The portfolio composition arises solely from this _top down_ decision logic and companies enter or leave the portfolio on the basis of their contribution to overall portfolio risk.
Despite the majority of the case fund managers not being able (or willing) to construct a portfolio with the ideal risk/return tradeoff and diversification risk reduction benefits envisaged by theory, a minority of the case fund managers tried to use theory in this way. Such ‘quantitative’ fund managers sought to gain major benefits of a formal top down approach by making best use of available model parameter information in top down asset allocation and portfolio sector decisions. They sought to gain the best insights of the history of security returns and their volatility in their asset allocation decisions. This small number of fund managers assumed portfolio and asset pricing theory held, and used private company information (especially on intangibles), in combination with public information sources, to estimate expected returns, the uncertainty of returns, the way and extent to which risk was made up of unique corporate systematic elements and economy systematic elements, and the way in which corporate returns varied with the economy and with those of other portfolio companies. This data set was input to an optimisation programme to identify the portfolio with the best risk/return tradeoff.

As noted above, private company information played an important role in the qualitative FM’s more subjective, judgmental process for determining asset allocations and in stock selection. Thus, relationship information was important whether the FM adopted a ‘quants’ approach or a more subjective (but structured) asset allocation and stock selection process.

Top down and bottom up risk control met in the middle at (weekly) sector allocation or portfolio construction decisions. This was the point of active debate between (monthly) top down asset allocation and (daily) bottom up stock selection decisions and their own distinct risk control approaches.

From the above, we can see that there are three different means for risk control in portfolio wide fund management. The first is bottom up, based on direct private information on both tangible and intangible corporate assets. The second is a form of top down control in which macro forecasts and competitive analyses are used with (bottom up) aggregate company and sector response data to arrive a portfolio composition. Information on intangibles is also used in this approach. The final method relies entirely on the use of top down Markowitz and optimisation style logic. However, the estimation of the return, variance and covariance numbers may involve the use of information on intangibles.

In the qualitative FM cases, bottom up risk control and top down risk control (based on macro information and bottom up information) were combined in the middle. In the quantitative FM cases, a top down mean variance approach dominated, but was also tempered by (bottom up) company specific information and by information on corporate responses to the macro economy.

The bulk of FM’s used bottom up risk control, and a top down approach which exploited the best of macro information and aggregate bottom up information. The top down process could be a Markowitz mean variance approach (the minority) or a judgmental approach (the majority). Whatever combination was used, the use of a top down and bottom up downside risk avoidance seemed an illogical combination relative to theory. However, in section 1, we have outlined the major limitations of the theoretical approach. To this can be added the major problems of using public sources of information alone. Under these conditions the use of a combination of information sources and top down and bottom up risk controls may be justified.

To some extent, the case fund managers can be seen as doubly insuring against risk by combining top down and bottom up risk controls. It is possible that they were introducing new risk into the portfolio by pitting bottom up risk controls against top down risk control and by using different risk avoidance aims (mean-variance versus downside risk) at each level. However, the case fund managers saw top down and bottom up risk controls as complementary rather than conflicting approaches. The discussion and debate at the (weekly) portfolio construction level were intended to deal with two way control of risk and its problems directly by acting as midway point between daily stock selection (bottom up risk control) and monthly asset allocation (top down risk control). Changes could result both in asset allocation and stock selection as a result of the portfolio construction debate. Thus aggregate company level information was fed back to the asset allocation process and changed this. For example, information was gleaned on how companies and sectors were reacting to, or expecting to react to macro changes and whether they had the capability to make the necessary changes. The fund managers were therefore recognising the uncertainty in an optimal (judgmental or model driven) top down approach based on historic risk/return data and attempting to compensate for this by using more up to date, future looking,
company specific information. There was an explicit trade-off here between top down (model and/or judgmental) uncertainty and the new risk control benefits and errors that could be brought into portfolio construction from the bottom up.

7. Conclusions:

This paper has explored how FMs dealt with major problems of ignorance and uncertainty in stock selection and in asset allocation decisions. These problems arose due to the limitations of public domain information sources, but they were exacerbated by an increasing intellectual capital and intangibles component to share prices. As a result, the case FMs used private meetings with company management to understand how value arose through intangibles as well as through tangible assets. The case data revealed the nature of this private information agenda concerning intellectual capital or intangibles. This private information was combined with public sources to create a knowledge advantage within case fund management teams.

The learning and knowledge advantages played a central role in framing FM perceptions of corporate gains and losses and risks. The knowledge advantage and prior framing were used by FMs to estimate future corporate performance variables and hence to value the company. The case data thus provided some insight into how the book value and market value gap arose and the special role of information on intangibles and intellectual capital in valuing the company.

Private information, the knowledge advantage and prior framing were also key inputs to 'bottom up' and 'top down' portfolio risk control and asset allocation by fund managers. The private information sources were used to remove 'black holes' or very poor performers from the portfolio. In addition, they were used to understand which companies and sectors were likely to be winners and losers under forecast macro conditions. Both bottom up and top down risk controls were expected to boost fund performance.

This fund management behaviour has important implications for regulatory policy issues on insider information, on corporate disclosure, and on the corporate governance role of financial institutions. In the case of insider information, the FMs were clearly acquiring an inside knowledge advantage through their regular direct contact with companies. The policy question is, should the market information benefits, arising from FMs being informed in this private way about intangibles, be restricted in the interest of 'fairness' to small investors in financial markets? Secondly, can the private disclosure process offer ideas on how to improve the public disclosure process? Finally, should the informed FMs be asked to pursue wider governance aims in the interests of many savers, stakeholders and citizens? These questions are likely to become more urgent in the 'knowledge' decades ahead as the information asymmetry based on intangibles becomes acute, and an increasingly concentrated and global FM industry continues to exploit this in the interest of their favoured groups of savers and shareholders.
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