

FUND MANAGEMENT, INTELLECTUAL CAPITAL, INTANGIBLES AND PRIVATE DISCLOSURE Paper for Alternative Perspectives on Finance Conference, University of Dundee, 23-25 July 2000.

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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 the limitations 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 FM case data reveals the nature of this private information agenda concerning intellectual capital and other qualitative non financial factors effecting value creation. FMs sought to identify links between these qualitative factors in a corporate value creation process. The paper 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, on the corporate governance role of financial institutions, and for the governance of the institutions.

**INTRODUCTION:**

In section 1, we explore how major UK fund managers (FMs) 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 the limitations of corporate disclosures and other public domain information sources. They were exacerbated by an increasing intellectual capital and intangibles component to share prices. In section 2, we see how fund manager directly contacted senior management teams to discuss concrete and intangible sources of value. We explore how the FMs identified the many qualitative components to the corporate value creation process. In section 3, we describe how the case FMs established conceptual and time based links between the many components of this model. This private information was combined with public sources to create a knowledge advantage within fund management teams. In section 4, we explore how the case FMs analysed the impact of external macro and competitive change on the qualitative factors in the corporate value creation process and hence on changes in expected value. This section provides some insight into the book value and market value gap and the special role of information on qualitative value creation factors such as intangibles and intellectual capital in valuing the company. In sections 5 and 6, we see how private information on intangibles provided a novel and unique information input into risk control decisions from the 'bottom up' during stock selection, and from the 'top down' during asset allocation decisions.

## RESEARCH METHOD:

Interviews were conducted with 40 fund managers in the period from October 1997 to January 2000. The case FMs constituted thirty five out of the thirty eight largest UK FMs (by managed and own funds) and included Life Insurance, Pension Fund, and independent fund managers. 25 of these fund managers had already been extensively interviewed by the author in the period June 1993 to March 1994 (see Holland and Doran 1998). The 1997-2000 and 1993-94 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 the subsequent role of this private information in fund management decisions and in FM influence over companies. The 1997-2000 cases included additional questions on the nature of fund management and the dynamic corporate governance role of FMs. The latter, were in part, derived from the grounded theory results of the 1993-94 case interviews. 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, and its role in fund management and corporate governance, 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
- The corporate value creation process.
- Dynamic links between intellectual capital variables.
- 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 FMs 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.

## 5. 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 a strong incentive to acquire private information directly from companies.

#### 5.1 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. The case FMs 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. 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. FMs checked the quality of analyst research, by looking at how different companies' analysts were rated by many FMs. 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 FMs 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 FMs 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 FMs when they wished to quickly acquire information on a little followed company. It was also useful as an aggregate data base to assess general market expectations for the period ahead.

#### 5.2 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). This announcement information was fully assimilated by the FMs before the (post announcement) private meetings with companies 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 was considered too complex, too large, and too cumbersome for many users. 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 performance output data and variables and did not provide qualitative data on important value creation 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.  
-only a select group of analysts could demonstrate special skills in company and industry specific analysis.  
-there was an abundance of analyst research on certain large FTSE 100 companies and this quasi public information was already 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 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.

#### The significance of public domain information:

The above problems with public domain information should not be used to underestimate the significance of these information sources. These were the primary sources of financial and quantitative information about corporate performance and focussed on well established financial output measures. Some qualitative and textual information was also available in the public domain. These public information sources were very useful for the case FMs in five main ways. Firstly and despite having little advantage in terms of buy and sell trading decisions, they did provide an important means to understand what was going on in the company. The financial reports were extensively analysed using conventional ratio analysis to identify deviations from trend or to signal any emerging problems. These public sources of information were also increasingly being used by FMs as part of value based measurement (VBM) systems such as EVA. For example, EVA is the original VBM system. It is a historic performance metric, similar to earnings but with adjustments made for the full cost of capital and known intangibles (public disclosure on R&D, goodwill writeoffs, exceptional items etc) (O'Hanlon Peasnell 1998). The second main use of the public domain sources lay in developing FMs first estimates of earnings and cash flows figures in their spreadsheet models and hence in their initial valuation of the company, prior to the private company meeting. The remaining information for valuation (and for asset allocation), was derived from private sources and this was used to adapt the initial estimates in FM spreadsheet models and to gain a competitive edge in company valuation. The case FMs argued that the proportional contribution of private (qualitative information on intangibles) was increasing as the economy became more knowledge intensive and public sources declined in terms of informativeness on intangibles (see next section below). The third use of the public sources was to identify important questions for the private meetings with company management and board members. Public sources were also used to make judgment about company and management track record. Finally, they were combined with private sources to create a knowledge advantage. Thus despite the limitations of public sources of information, they played a central role in fund management. This paper recognises these limitations and their role as the primary stimulus for private information collection. The paper focuses on the incremental information collected from private sources but recognises that this information is used within a larger public and private information context.

### 5.3 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) found that, in the US, over the twenty year period from 1977 to 1997, a decreasing share price informativeness of financial reporting numbers (for earnings, cash flow, and book value). 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).

### 5.4 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 covariance of company return to market return) to be estimated to the number of stocks in the portfolio. This much simplified the estimation and portfolio construction decision process.

As a result, Markowitz (1995) has 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) have not been stable and this has 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. Given these theoretical difficulties, none of the case fund managers felt they could construct a portfolio with the ideal risk/return tradeoff and diversification risk reduction benefits envisaged by theory. Finding a stable efficient frontier was problematic in the international context.

Despite these problems with modern portfolio theory, the existing theory provided the sole conceptual guide for fund managers in their difficult asset allocation and stock selection decisions. There was still considerable agreement on the need to for FMs to diversify risk, and to try to identify the dominant risk/return portfolio. They could then use these principles to construct a portfolio of risky equities, less risky bonds, and low risk cash, to provide the risk/return and liquidity trade off consistent with the (pension fund or saver) client's preferences. In particular, the empirical evidence shows that all securities in a domestic market tended to move together, but national markets and currencies did not. Thus the major factor in determining international portfolio performance is the choice of markets and currencies. Much empirical evidence suggests that asset allocation was the major contributor to performance rather than stock selection. This suggests that asset allocation decisions (or top down decisions) should dominate stock selection (or bottom up decisions).

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 2000 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. Fund managers faced with the continuing ignorance and uncertainty in international diversification appear to be using a (declining) home bias as a practical means to deal with these problems until they learn enough to slowly but surely relax this major FM constraint.

#### Variety in the FM sample:

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. The case fund managers divided 16:24 out of 40 in terms of quantitative (strong use of quantitative (QM) aspects of theory) versus qualitative preferences. Major factors here were FM judgments as to the credibility of the numbers used in the QM approach, the weight of

evidence for and against theoretical approaches, as well as personal decision style preferences. QM managers were more likely to be those FMs active in competing for pension fund mandates and thus facing strong pressures to explicitly explain their FM decisions relative to commonly accepted principles. US origin was also a factor in preferring the QM approach. Those that chose a QM approach were also more likely to use a top down approach as the dominant approach in FM, with stock selection or bottom up approaches seen as providing a supporting role.

For the quantitative case fund managers (16 FMs), public domain information on share prices provided the means to calculate historic average returns, variance, covariances and market weightings. Public domain sources such as financial reports, corporate disclosure and analysts forecasts were important means to adapt these historic figures to estimate future returns, variances, covariance and weightings. However, this public domain information was well known amongst informed FMs and it seemed an unlikely source of above benchmark performance to the quantitative case FMs. Its major role lay in making asset allocation decisions that reflected recent history and current public information. It was thus expected to avoid major performance failures arising from not taking advantage of the information already in historic numbers and current public domain information. However, it was also clear to the quantitative case FMs that data on the numbers alone (average returns, standard deviation, correlation coefficients) would never be fully adequate for the FMs task. They recognised that they would always face major problems of forecasting the future, of data quality problems, as well as problems of implementing theory.

In qualitative fund management (24 FMs), the view was taken that modern finance theory was too difficult to implement given information problems and time constraints. Portfolio theory and diversification benefits were accepted but constrained asset allocation optimisation techniques were not. Public domain information on sectors and major companies were combined with macro economic forecasts to arrive at asset allocation decisions within a more judgmental and intuitive collective decision process. These FMs also recognised that their judgmental skills were unlikely to produce above average performance on the basis of public domain information alone. The line between quantitative and qualitative FMs was difficult to draw in the case data given the common use of quantitative and qualitative data by both sets of FMs. The figures reflect the general tendency in the case.

Thus all of the case fund managers faced common problems with public information sources. They also shared common problems with the conceptual framework for fund management but responded in differing ways. Both sets of problems were a major stimulus for all of the case fund managers to pursue the following *common FM themes* irrespective of other FM variety such as internal/external, QM vs qualitative, top down dominant vs bottom up dominant,

- acquire a special information edge by directly collecting information in private from their investee companies. They sought to combine this private information with public information to create a knowledge advantage. This reduced the effects of ignorance based on limited public sources alone.

- create structured and cyclic fund management decision processes to maximise their means to collect and use many diverse sources of public and private information in FM. More specifically they developed structured estimation, valuation and risk control decision processes at stock and portfolio levels.

- make a choice as to the extent to which these structured decision processes were driven by numbers (return, variance, covariance, weightings plus) and the decision logic of MPT, or were driven by judgment and intuition and experience, or by a combination of these quantitative and qualitative approaches. Top down and QM approaches tended to be associated here.

- ensure that structured FM decision processes were responsive and adaptable to major external events such as a sudden stock market change or political event. Thus asset allocation, sector decisions, and stock selection were also designed to be compressed into a very short crisis period instead of a more normal monthly, weekly,

and daily cycle.

-use a home bias as a crude heuristic, based on perceptual, informational and cost barriers, as means to prevent major under performance.

All of the above approaches can be seen as common means for qualitative and quantitative FMs means to cope with the major uncertainty and ignorance they faced in their asset allocation, sector, and stock selection tasks. In all cases, they was a recognition that the FM problem could not be solved by numbers and MPT alone, especially when there was strong or sole reliance on public domain information. However, 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 MPT theory could be implemented according to FM preferences.

## 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. We explore how the FMs identified the many qualitative components to the corporate valuation process. A key part of the private agenda discussion involved the recent financial results and statements and a continuing dialogue about corporate governance and other accountability issues. However, the FMs were also very interested in qualitative, non financial factors, that played an important role in value creation. The case data revealed the nature of this private information agenda concerning intellectual capital and other qualitative matters. The FMs used the private meetings to identify the major qualitative factors effecting value creation and corporate valuation. These provided the conceptual base to explore how these factors interacted with each other over time and hence how the value creation process functioned in investee companies. It was not possible to measure these qualitative factors in a precise way, but identification of individual qualitative factors and their dynamic interaction was a major step forward in understanding the role of intangibles in value creation and hence in valuing the company. This understanding of private qualitative 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, and 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 level and portfolio level 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: public sources and private dialogue

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. 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. The financial reporting cycle created the opportunity for FMs 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. Thus published financial reports were an important part of the cyclic process and the private agenda. 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)). As a result, a key part (often initial) of the private meeting agenda, was the financial statement numbers (earnings, balance sheet, and cash flow figures). These were normally known by the market and core FMs. 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.

A new development, since the author conducted FM interviews in 1993-94 (Holland and Doran 1998), has been the use of value based management systems (VBM) such as EVA in extending the private agenda on formal performance measures. Public sources of information were increasingly being used by the case FM in value based measurement (VBM) systems such as EVA. These dealt with historic increments to shareholder value (and cumulative sums in the MVA measure) and provided a powerful diagnostic tool for fund managers and analysts. The existence of these commercial performance measurement systems had improved the case FMs ability to assess the extent to which value had been created or destroyed, and hence to articulate wealth creation questions in a clearer way. The fund managers used VBM systems such as EVA to ensure that their private agenda with managers focused on historic wealth creation, especially periods of major loss and gains in shareholder wealth.

The learning that arose from the wider private agenda on qualitative, non financial factors (intellectual capital in next section) was a further means to rethink how these historic earnings and EVA figures had been achieved and to re-estimate next period earnings, cash flow, EVA, and hence valuation. Thus discussions about financial results normally opened the private meeting, which then moved onto qualitative ( human and structural capital) issues. After the meeting, the FM was able to return to this explicit performance agenda and to revise their estimates and valuation using the qualitative information and new insights into the historic financial performance. The information collected from the cyclic reporting related meetings was stored on the case FM's financial data base and included textual analysis and adaptations to spreadsheet valuation model. The valuation model adaptations was normally based on analysis of existing public domain information such as analysts forecasts but the private information on qualitative factors was crucial to rethinking this information and valuation. The private information could be specific or fragmented, company, competitor, or industry based. The case FMs also contacted companies on an ad hoc basis, outside of the financial reporting cycle. In the adhoc 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.

## 2.2 Intellectual capital and the unique private agenda:

The unique private information agenda consisted of, in part, a very different information agenda to that employed for the public channels. In the previous section we have seen that a key part of the private agenda was a dialogue about public information sources, especially, quantitative financial information sources such as

the financial report. In contrast, the unique private agenda included information on qualitative, non financial 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. The categories of private information identified in the FM cases had many strong similarities to the ideas outlined by writers in the field of Intellectual Capital (IC). 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) have generally adopted 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 as the three main components of corporate IC. Human capital (HC) or employee competence is the 'thinking and doing' capital and 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 human capital 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 (SC) 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 corporate 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.

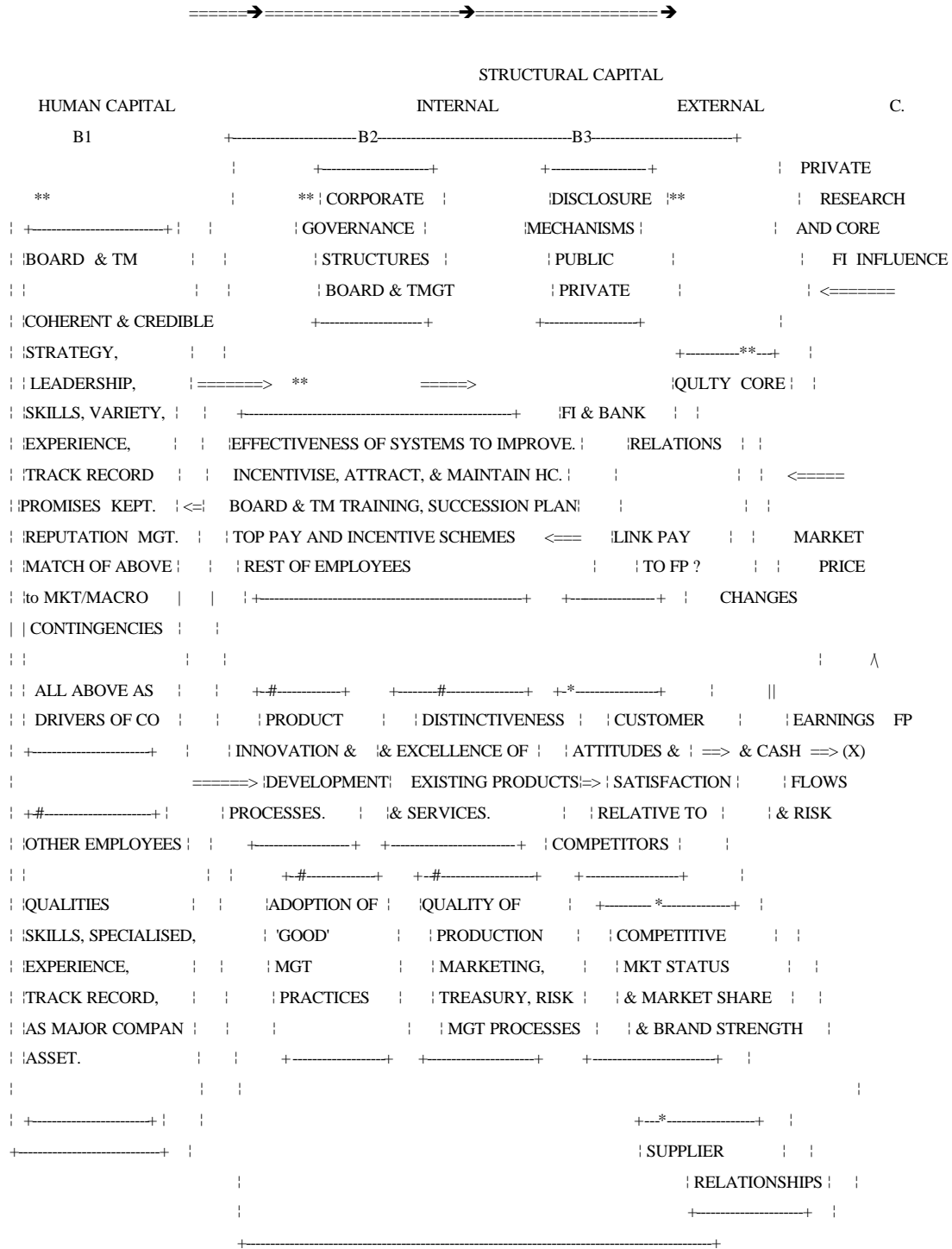
Brooking (1997), Edvinsson and Malone (1997), Stewart (1997), Sveiby, (1997), have adopted similar, somewhat overlapping frameworks for describing IC. There are differences in the general terms used and items within each major IC categories. This reflects the problem that there is no generally accepted 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 at an early stage of development. 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. Nevertheless, the above writers have identified Intellectual Capital as the primary generator of share price value in the modern knowledge based organisation, and especially as an important part of the share value excess over book value or the accounting valuation of tangible assets.

## 5.1 IC concepts and the private qualitative agenda derived from the FM cases:

The existing classificatory schemes for IC were useful guidelines for looking at the structure of the private qualitative agenda in the FM cases. The FM case categories of private information and the above writers ideas of Intellectual Capital were similar in many respects. However, the structure and content of the private agenda as induced from the 1993/94 and 1997/2000 FM case data had its own character derived from the grounded theory approach. These differences reveal the different perspective of the company manager who has to create value and the fund manager who has to assess value. For example, a major difference lay in the top management and board emphasis of FMs and the overall company emphasis of IC writers and researchers. The narrower FM focus arose from resource limitations and from the FM need to gain a broad, overall valuation picture, rather than a detailed 'how to manage' picture.

The following diagram summarises the main sets of qualitative, non financial information sought by the FMs during private meetings. The left hand side of the diagram illustrates various forms of human capital (HC) at the level of top management and the board, as well as aspects of human capital for other employees. In the case of FMs, the top management and board emphasis meant that coherence of strategy especially relative to the competition and 'management quality', were key components of the private discussion on the nature of human capital at the top of the company. Management quality was complex concept in its own right. It was combination of personality factors, trust/confidence/reputation factors, leadership, cohesiveness of management teams, successful track records and ability to deliver promises, and responsiveness to new situations (expected, unexpected, unexpectable). This is quite a shopping list and illustrates the contingent nature of the concept.

DIAGRAM 1 THE CORPORATE VALUE CREATION PROCESS



On the right hand side of the diagram, various forms of structural capital (SC) are illustrated, both internal and external to the company. The corporate value creation process and the disclosure process occurred from left to right in the diagram. In this section we see how the case FMs expended considerable resources to understand the value creation process. 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, the character of innovation and various management practices, all interacted with elements of human capital such as management quality, to contribute to good financial performance in different ways across companies and industries. They could also observe the collective effect of these variables on joint effect on financial performance and share prices. This provided the means for FMs to develop a knowledge advantage concerning these qualitative factors and variables and their price impact.

The stock market reaction to corporate performance arising from these HC and SC interactions, was a key stimulus for FMs corporate governance feedback to their investee firm. In addition, a specific group of these qualitative factors was the main influence point. Thus factors such as the quality of management, board and top management pay schemes, coherence and credibility of strategy, structure and functioning of the board, and the quality of public and private disclosure mechanisms, proved to be convenient points for private and direct corporate governance influence by FMs. These points of influence were also used to indirectly govern many of the other qualitative factors determining corporate financial performance. In particular, changing current management or influencing management succession was seen as a longer term and more indirect means to change risk management, product innovation and customer satisfaction. FMs did not necessarily seek or use all of the qualitative 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 private 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 during good corporate performance.

## HUMAN CAPITAL

### 5.2 Coherence of strategy as human capital:

The FMs used the private meetings to probe strategy in depth. They were interested in the board and top management's understanding of strategy, its coherence and credibility, the degree of commitment and consensus on strategy, and whether it made sense relative to the FMs view and the views of top rated sell side analysts and other external commentators. Informed probing in this way was based on many prior contacts with the company and was an important means to implicitly exercise influence. These probing questions concerned prior strategic promises and performance promises, recent strategic changes, benchmark comparison with competitors and the industry, corporate innovation, 'good' management practice, and problems with strategy.

### 5.3 Management skills and personality:

At board level this meant director skills, experience, expertise, as well as some variety in these characteristics across the board. At top and middle management level this meant management quality and personality expressed as leadership, strategic vision, credibility, and trust. Scheduled (reporting cycle) meetings were used as distinctive sources of cumulative information concerning the quality and personality of directors and top management and for understanding how these characteristics contributed to financial performance. This process relied heavily on the special abilities of FM staff to assimilate personality data and assess management qualities. Experience in the FM task and many years of contact with management teams were the basis for these skills.

Information on these matters affected FIs perception of the credibility 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 FIs 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. Track record and the personality characteristics of key managers, such as sense of purpose, honesty, integrity, reputation were very important in establishing FI trust, and confidence in the company. These personality characteristics were assessed at the level of individuals, and management teams.

#### 5.4 Track record, reputation, confidence and credibility links:

An important part of this management human capital for FMs was management's track record, previous strategic promises made and kept, and strategic objectives set and achieved. This was the basis for management reputation to grow or to falter. A good track record or 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. In addition FMs sought information on management attitudes to risk and return, and to shareholder wealth and rights. Information on consumption of perks, or of a 'get rich quick' attitude, was thought to be available only by direct observation. 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. The fund managers ideas of 'management quality' and credibility were recognised as transient and fragile reflecting the contingent nature of the concepts. 'Management are only as good as their last financial performance or broken promise' was a common sentiment in the cases. The fund managers recognised the fragility and contingent nature of the concept, but still argued that they needed some feel for 'management quality' in their investee companies as one means for them to assess value and expected performance and to influence the company.

#### 5.5 Human capital of the non management work force:

Recruitment, training and education of the whole work force were not of central interest to the fund managers unless it related to major expenditure decisions or to a capacity constraints 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 work force and industry and how this was being upgraded. The significance of this aspect of human capital was thought to vary 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 were they 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.

## STRUCTURAL CAPITAL

### 2.8 Internal structural capital:

Internal structural capital included,

6. effectiveness of systems to improve, attract, incentivise human capital, both top management, board and
7. other employees.
8. the quality of training plans for all staff and general human resource development in the company- effectiveness of innovation management processes, exploitation of R&D, and high quality marketing and production capabilities.
9. Good management practices in the company such as those espoused by writers such as Peters and Waterman (1982) and methods such as just-in-time production, lean production, closely linked supply chains, and high company commitment by management and other employees.
10. -the explicit nature and high quality of new product development -'good practice' in risk management, both financial and product market business risks.
11. Internal structural capital also included Cadbury style corporate governance structures.

#### 11.1 Corporate governance structures as internal structural capital:

A key focus for the case FMs concerning 'Internal structural capital', was on many corporate governance, board and top management issues. At board level this included a clear board structure, a board with real power over top management, and unified board showing unity of purpose and direction. This also included a high quality strategic review decision process which produced a coherent and rational strategy. At top management level the focus was on the stability of senior management, an agreed succession policy, and a clear organisation and divisional structure. In general FMs were interested in the effectiveness of systems to improve, incentivise, attract, and maintain human capital at top and middle management and at board level. Training systems for managers and (more recently) for board members were of considerable interest. This meant that the FMs were primarily interested in structural capital, its role in improving human capital at top and middle management levels, and its expected impact on wealth creation. Again, this was a much more limited and focussed agenda compared to that proposed in the IC literature.

In addition, Cadbury, Greenbury and Hampel style corporate governance issues were a key part of the private agenda concerning internal structural capital. 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 to assess how they might effect management quality and other human capital issues. The case FMs probed to see if relevant board committees existed and functioned correctly, whether the remuneration committee consisted of NEDs only, that there was an appropriate proportion of NEDs on the board, and that reappointment of directors (EDs and NEDs) was not automatic. They were also interested to know if the number of board meetings had increased to Cadbury recommended levels. This data therefore reveals that implementing Cadbury and Hampel were important means for the case FIs to influence corporate performance to reflect their shareholder interests and to create new influence options. Smith (1996) has studied the effect of shareholder activism on corporate governance and its impact on shareholder wealth. He focussed on one very large US FI, CalPERS, the Californian public employees pension fund. He found a significant stock price reaction for successful company targeting events by CalPERS and a significant negative reaction for unsuccessful events. This US evidence and the existence of an active UK influence process reveals the opportunities for the UK Hampel report in 1998 in encouraging FI influence in the interests of improved corporate governance and in boosting financial performance at the same time.

## 2.10 Disclosure mechanisms as external or boundary structural capital:

The Cadbury style corporate governance part of the private agenda was also concerned with the effective functioning of financial reporting and public announcement mechanisms, and the general quality of voluntary public disclosure by the portfolio companies. The case FIs recognised that the higher the quality of public disclosure then the higher quality of the private debate on this public information. The private discussions on strategy and the observation of management qualities were important means to understand how this reported financial performance had been achieved and how it had been subsequently measured in the financial statements and reported in the public domain. The Accounting Standards Board (ASB) recommended in July 1993 the production of an Operating and Financial Review (OFR) to supplement the annual report. This provided an explicit framework for the company executives and the institutions to discuss and analyse public domain information on strategy, corporate risk factors and other aspect of business performance. Thus part of the private agenda was based on the OFR and concerned the future looking, top down, dynamics of business and how the OFR explained the financial results and report. These public sources were expanded in private as the company interpreted and explained this public domain information. External corporate communication benchmarks have been developed in recent years by the Investor Relations Society, Investment Analysts Society and others. As a result, major listed companies were assessed and publicly ranked on the quality of their financial reporting and general City communications. This provided an important lever for the case FIs to argue for improvements in the financial report and its OFR section. A key connection identified by the case FIs was that the quality of corporate public disclosure acted as a benchmark and reference point for the private disclosure process. Thus, despite the perceived limitations of the published financial report, the case FIs identified a central role for the financial report in their research. The private sources of corporate information and the corporate report interacted and formed an effective FI information system.

## 2.11 External structural capital:

In contrast to the complexity of internal structural capital as seen by FMs, 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 perceived customer and supplier satisfaction. They wished to know how the company exploited customer loyalty, existing products and services, the strength of company brands, trademarks, distribution channels, advertising, reputation and image with customers. They wished to understand the relative quality and effectiveness of these external intangible assets. They were very interested in how these market based intangibles created a competitive position in the market place and how this was expected to boost market share and 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. Ability to communicate in a credible way to suppliers of equity and debt capital and to intermediaries such as corporate brokers was seen as an important corporate asset.

## Differences between the qualitative factors in terms of information access

If we look at diagram 1, we see that the whole set of qualitative factors differed in terms of direct FI access to information on these factors, and in terms of FI ability to influence these factors directly or indirectly. In the diagram, the symbols \*\*, \*, # have been used to distinguish each cluster of variables in terms of the quality of private information directly available to FMs and the degree of direct influence possible by FMs. In the more specific case of board and top management capital, these human capital factors were important in four ways.

Firstly, the board and top management were the primary contact or meeting point for institutional investors.

Secondly, the board and top management were the primary source of information about all of the other human capital and internal and external structural capital factors identified with a double asterisk (\*\*). The case FMs could therefore gain unique direct access to information on these clusters of variables. They could either directly ask questions about these factor or they could directly observe the variables in action.

Thirdly, this direct contact meant that the FI also chose these variables as the first point at which they sought to influence the company. Thus a specific group (\*\*) of these qualitative factors, such as the quality of management, board and top management pay schemes, coherence and credibility of strategy, structure and functioning of the board, and the quality of public and private disclosure mechanisms, proved to be convenient points for private and direct corporate governance influence by FMs. The choice of which of these factors or issues to influence depended on unique corporate circumstances and macro conditions. Thus pay was ignored by FMs when FP was good but could be a dominant issues when FP faltered.

Fourthly, the private meetings were one means to acquire information on the other qualitative factors marked with a single star (\*) or hash (#) sign. However, in the case of external structural factors marked with an asterisk (\*), FMs relied more on analysts as their first source of public or private information on these external structural capital variables. The sell side analysts had a strong focus on earnings related variable such customer attitudes, brand strength, and competitive position. The \* variables were closer in impact to immediate earnings changes and a small group of high quality sell side analysts often had specialist expertise here. However, the FMs used this analyst information as the basis to probe these areas in greater depth during their private meetings with companies.

In contrast the FMs could generate good quality qualitative information on other external structural capital factors (\*\*) such as relationships with core FMs and the effectiveness of company disclosure mechanisms. Their direct and repeated experience of these factors proved a useful sources of information. In the case of human capital (company wide) and internal structural capital factors marked with a hash sign (#), the FMs faced difficulties in acquiring inside information on these factors. They often used proxies or surrogates for these variables eg good foreign exchange risk management as a proxy for overall risk management, or the arrival of new senior executive or board member with strong brand management skills was expected to improve this area in the company. The poorer quality information and access to these external structural capital (\*) factors and internal structural capital (#) factors affected their ability to influence such factors. As a result, the qualitative and direct points of influence (\*\*) were also used to indirectly govern many of the other qualitative factors (\* and # factors) determining corporate financial performance. In particular, changing current management or influencing management succession was seen as a longer term and more indirect means to change risk management, product innovation and customer satisfaction. Again, the particular target for change varied with circumstances.

The significance of the above qualitative value creation factors varied with,

5. unique corporate circumstance such as the sudden loss of key executive.
6. the nature of the industry with R&D and product innovation more important in pharmaceuticals than in the packaging industry.
7. the perceived stage in the economic cycle with management track record in dealing with previous booms or recession becoming very important.

As a result, the case FMs laid different emphasis on parts of the IC and SC agenda to unique corporate circumstance, industry and stage in the economic cycle. They also varied their view of what were the important linkages through the above value creation process. Thus in some companies, the perceived causal links between factors such as product innovation, its impact on customer satisfaction and hence earnings and value,

were central valuation issues. In other companies the important causal links in value creation were perceived differently. These differences in information sources and points of influence created strong incentives for the case FMs to understand how human and structural capital factors interacted in the value creation process. This understanding, in turn, created the capability to exercise influence over many connected human capital and internal and external structural capital factors. In all of the cases above, the case FIs used some form of historic or competitor benchmark as reference point to assess the significance of the qualitative information from the private meetings. This benchmarking was relatively straightforward for the financial performance for the company and its sector. Benchmarking was also possible using corporate governance standards and good practice for voluntary disclosure. The FIs also had formal records of previous meetings with the companies on how the qualitative factors had played a role in producing this performance. They also had a record of previous promises made and the extent to which they were kept. As a result this cumulative learning proved to be a useful benchmark for areas such as management quality, coherence of strategy, and track record. Thus some form of 'measurement' of these qualitative factors was being conducted over time and the FIs were not faced with a vague discussion of intangibles in which they had to start at the beginning at every meeting.

### 3.CONCEPTUAL AND DYNAMIC LINKS WITHIN THE PRIVATE AGENDA:

Diagram 1, in section 2 has illustrated how the case FMs identified the primary qualitative factors and variables in the corporate value creation process. These were further classified using an IC conceptual framework. In this section, we describe how the case FMs established conceptual links between the many components of this model.

In particular the FMs used this base to explore,

- a process based understanding of how value was created - understanding how interactions between HC and SC variables created value. Thus the FMs sought to develop conceptual links between real variables such as strategy and management quality (human capital), and between these and innovation and new product development (structural capital), and their combined impact on financial performance.

- the cumulative effect (left to right process) of HC and SC interactions on value creation

- An important interaction between HC and SC involved key managers, profit drivers and pay schemes. Thus they wished to know whether the above value addition or profit drivers were recognised and understood by the board and top management, and whether their incentive and pay schemes (a form of SC) were aligned to positive increases or improvements in these other HC and SC value creation factors and processes and hence with fundamental improvement in share prices or were merely moving up with the stock market. Thus for example, were improvements in HC and SC targeted? and who were the key individuals here? was a 'score' kept (as in score card approach) in terms of incremental improvements in HC and SC and their interactions, and subsequent improvements in the share price, and were pay schemes linked to both types of improvement? Thus we see a further interaction here between one form of SC, the pay and incentive systems, and the rest of the HC and SC interactions. Most pay and incentive schemes were targeted on share price improvements above the sector and market average. The fund managers wished to know if these schemes were being implemented with those key managers (HC) who were improving or able to improve brand strength, R&D effectiveness, product innovation etc (SC) and hence value.

- how feedback from market price changes and from the core FIs was used to signal the appropriate combination of IC and SC in the company

- how conceptual links between variables such as credibility of management, confidence in management, were derived from an understanding of, and experience of the above variables over time.

-how a time based understanding of the value creation process was developed - how value was, and is created, and likely to be created in the future.

### 3.1 Learning about dynamic causal links between qualitative variables and using this for influence

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 and to influence companies. Two kinds of causal relationships were identified between the qualitative factors. Firstly the two way interactions between human and structural capital factors. Secondly, the broader causal relationship arising from the effects on human capital on structural capital, and their joint effect on financial performance and share price, followed by feedback effects from core FMs and the stock market back to HC and SC factors. In the first case, the FMs were interested in historic and expected relationships between human and structural capital. This is similar to the concerns expressed by companies as 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, a coherent strategy especially relative to the competition, individual and collective competence and knowledge of board members, and top and middle 'management quality', 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 novel management practices, and planned management succession, a stable senior management group, a clear organisation and divisional structure, an explicit and well managed innovation process and a new product development process. The FMs also wished to know how the above human capital could be turned into external structural capital such as a formal ability to manage brands, good supplier and customer relations, and high customer satisfaction and market share. The FMs also probed how internal structural capital in the form of a structured strategy review process, 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'.

In the second form of causal relationships, the FMs were also strongly interested in how connected clusters of certain IC variables changed cash flows, earnings, risk and hence value. This stimulated feedback from the FMs and completed the interactions. The broader causal relationships between IC factors, company performance, and market feedback, were often summarised in simple cause and effect relationships. In Case X, 'If we ensure that top quality executives are appointed or succeed at significant phases in the life of a company, if we align executive pay schemes with shareholder interests, and if we ensure that the company has a credible winning strategy, then we have won half the battle. Our influence, in these respects, will hopefully ensure that areas such as R&D, innovation and product development will be well managed. This will lead to improved market share, positive customer attitudes and higher earnings. All this will boost value. If we think we have encouraged the right management, pay systems and strategy, then we leave management alone to manage the company and we do not interfere in their R&D, production, new product development and marketing decisions. We are of course very interested in what they have to say about these decisions' In this quote we see the effect of FM feedback or influence on many corporate human capital and structural capital states. Management (human and structural capital components) were seen as the key to changing employees human capital and

other structural capital states in the appropriate direction, and hence improving share value in the right direction. 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 a feedback corporate governance process was possible.

### 3.2 Conceptual frameworks, EVA and iterative learning about value creation dynamics

Conceptual frameworks such as Porters '5 forces' analysis, and VBM systems such as EVA allowed the case FMs to understand more about the strengths and weaknesses in the corporate value creation process. FMs therefore used these conceptual frameworks and EVA style measurement systems in their regular meetings with company management to repeatedly probe shareholder wealth creation issues. They used their inside position to assess where the changes in qualitative factors had occurred and thus where the main value creation gains and losses had been made. At any one meeting they focussed SWM questions on a subset of the IC and HC private agenda. Their decision was probably related to current events or to obvious corporate problems with this area. For example, brands could have been the focus. EVA or other VBM systems were used to ask questions about how intangible or difficult to measure assets such as brands created wealth in excess of the cost of debt and the benchmark return on equity capital for that industry or brand category. Frameworks such as the Porter '5 forces' provided a common language to discuss the qualitative factors. Over a stream of meetings over several years, the shareholder wealth focussed questioning was extended out to other related intangibles such as product quality, suppliers relations, quality of marketing management, and then out to the wider IC and HC agenda. In this way, the FM iterated across the wider agenda and developed a broader understanding of how these intangibles (profit drivers, competitive advantages) were connected and contributed to shareholder wealth, if at all. In general, understanding HC of top management was critical to such an analysis and to pressure exerted by FMs. However, very little attempt was made to probe HC at employee level unless these employees were thought to make a major contribution to shareholder wealth, eg major design engineers or drug scientists.

This iterative process through time improved FM understanding of the private IC and HC agenda and the dynamics of wealth creation. This was very important given the difficulties of measuring many of these intangibles. Both earnings measures and VBM measures depended on high quality public measures of some of better known intangibles such as R&D, goodwill writeoffs, and exceptional items. (O'Hanlon, Peasnell 1998). Thus the private meetings provided the means to extend the FMs information set on these known intangibles and investigate less well known intangibles such as management quality. The FMs view was that this combined public and private information on intangibles, their role in value creation, and their implications for value, were likely to be much superior to public information alone and to provide more insights into value creation than public performance measurement systems alone.

### 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 Time based understanding: The value creation process over time

The case FMs used the above set of information to gain 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 FMs 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.

### 3.5 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: Probing the value creation process and how it change over time were important ways to understand how private agenda variables were linked in creating value. However, the qualitative variables were not measured in an exact manner and linkages between them were not identified in a comprehensive manner. Many gaps of understanding existed surrounding the nature of the corporate SC and HC variables and concerning their interactions.

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. 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 years 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. In this way the case FMs sought to gain some control over private meetings 'stage managed' by companies and their brokers.

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 FM's 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. 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.

#### 4. STOCK ESTIMATION AND VALUATION:

Sections 2, and 3 have revealed the special role of private information (such as IC) in boosting the case FMs understanding of their investee companies value creation processes. Once the case FMs acquired a knowledge advantage concerning the corporate value creation process, they were in a position to analyse macro and competitive changes in the company's environment, and to assess their effect on the company and the likely corporate response. This in turn, provided the means to estimate corporate returns, their riskiness and corporate

value. 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 four stages involving, analysis of external change, prior framing, estimation, and valuation. These played a role throughout the short decision process consisting of the pre meeting diagnosis, the meeting dialogue, and the post meeting analysis and decision.

#### 4.1 Analysis of macro and competitive changes and the corporate value creation process: impact and responsiveness:

Once the case FMs acquired a knowledge advantage concerning the corporate value creation process, they were in a position to analyse macro and competitive changes in the company's environment, and to assess their effect on the company and the likely corporate response. This in turn, provided the means to estimate corporate returns, their riskiness and corporate value. As a result the case FM posed five main questions of their investee companies, concerning external threats, exposure, risk, corporate responsiveness, and impact on value. These questions were,

5. What are the external sources of risk and threats to the companies? In order to pose this question the FMs developed or purchased new macro economy information on forecast changes in macro variables such as GDP, interest rates, inflation rates and exchange rates. This information was primarily generated for asset allocation decisions but was also used extensively at stock selection level. They also analysed expected changes in product markets and competitive positions (eg via a Porter 5 forces conceptual structure). Most of this information was available from analysts and other external sources. The late 1990's change to a low inflation, low growth economy, and its impact on the relative competitive position of UK companies, was a major concern of the case FMs. The growth of IT and Internet stocks and the threat of major revolution in communications and selling, were major concerns.
6. What corporate assets are exposed these risks and threats? These questions focussed on both tangible and intangible assets and exposures and changes in these in the value creation process. In sections 2 and 3, we have seen how the FMs sought private information on company specific human and structural capital, and their role in the corporate wealth creation process. Most of this information on the vulnerability of exposed intangible assets was only available by direct contact, dialogue and observation in the company. The FMs tried to assess if intangibles such as brands or R&D were restricted to one or two dominant areas and subject to rapid change. Similar concerns were expressed about conservative management in changing markets, and risk taking management in volatile environments.
7. What is the likely impact of changes in macro/competition conditions and other events in the risky environment on the company, especially its tangible and intangible asset (IC) exposures? In particular, how are these external changes likely to impinge on the corporate value creation process and the risk and return generation process? Hence what kind of risks are expected to occur at the level of the company? More specifically, how do these change systematic and unsystematic risks? and how do these create major downside risks?
8. How can the company and its management (ie the SC and HC elements in the value creation process) deal with the forecast macro conditions, and expected competition? More specifically, how can formal techniques of risk control (internal structural capital such as the quality of foreign exchange risk management or the internal control system) interact with informal controls such as a responsive and capable management team (quality of human capital, attitudes to risk and shareholder value) when dealing with these external sources of risk? How can structural capital (such as good practice in the areas of

brand management, in R&D and innovation) interact with human capital (such as 'management track record' in these areas, corporate culture and management attitudes to risk and shareholder wealth) to deal with the competitive and technological changes and to create or maintain value?

9. How are these external threats, internal exposures and risks, and internal corporate responses likely to effect expected corporate cash flows, earnings and their risk and hence the value of the company? How sensitive are expected levels of corporate cash flows and earnings and their risks, to external threats, and how can these sensitivities be managed and exploited by the company to create or maintain value?

There have been major developments in improving public disclosure on these questions. 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. 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. The OFR in the UK (in the US the MADC, with the IASC promoting an international version) has, as result of ASB promptings, provided some public domain textual data on the first and third questions above. 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. The ICAEW in 1999 published a study (Disclose or Perish) on how companies could improve the financial reporting of a wide range of business and financial risks. They used the Arthur Andersen, 'Business Risk model', as the basis for recommending that improved risk disclosure would allow companies to differentiate themselves and secure a competitive advantage in capital markets. Despite these attempts to improve public domain disclosure of risk, the case FMs argued that they had to acquire private company information to understand corporate attitudes to financial risk and to broader company risk management, and to 'complete the picture' and assess how individual companies and sectors were likely to respond to these macro risks and competitive conditions. The FMs were particularly interested in the dynamic, future oriented aspects of risk and how external change was expected to interact with corporate exposures over time to create changing risk conditions. The use of wide categories of risk as employed in the OFR and AA model were of interest, but their emphasis on the history of risk was a major drawback.

Information on questions 1 to 4 were important in 'framing' fund managers perceptions of riskiness of company plans, potential corporate outcomes especially major losses, their relative financial gains and losses, and hence the eventual basis for valuation. The above set of questions and analysis is similar in principle to that proposed by Oxelheim and Wihlborg (1997). However, these authors focus primarily on macro economic variables, their changes, and the impact on tangible assets and cash flows. This more concrete form of analysis was very important to the case FMs. However, the case FMs were also very interested in risks associated with competitive changes. They were also concerned about the impact of the combined macro and competitive changes on the combined human and structural capital of investee companies and the role of these intangible assets in responding to and exploiting these sources of risk.

#### The match of company human and structural capital with macro and competitive contingencies:

The FMs wished to know the contingency match of these managerial and board HC qualities (especially strategy and management quality) to the changes in forecast macro and competitive conditions. 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. In the private meetings, they listened to

company analyses of macro and competitive conditions. They observed company reactions to FM macro forecasts and analysis of competitive changes and used these reactions to identify and clarify risks in specific sectors and the whole portfolio. They tried to probe if management understood the macro and competitive risks or if they had unique insights into these. They wished to understand how management saw the impact of this risky environment on corporate exposures. The latter included tangible assets and the associated home and foreign currency cash flows, as well as intangible assets and cash flows. In the latter case, the FMs were assessing if the human capital (coherent strategy, management skills and track record in managing risk) and structural capital (effective strategy review process, good financial risk management techniques, effective internal controls), at company and industry level, and the way in which they interacted, were sufficient to deal with the expected macro and competitive conditions. They wished to identify which management teams had the human and structural capital relevant to these conditions and were likely to combine them in an effective way to exploit these conditions. Whilst management teams were not expected to exercise control over macro economic changes they were expected to exhibit different levels of responsiveness to these conditions. They were expected to exercise some control over, or mount a vigorous response to, competitive threats.

The case FMs recognised that important qualitative factors such as 'management quality' were likely to vary by broad macro economic conditions (recession vs boom, low inflation & low growth vs high inflation and low growth), by market conditions (competitive vs uncompetitive markets, where in the latter 'bad' managers could still expect to perform well), by industry (competitive structure, complexity, time horizon etc), by unique corporate circumstances (recent loss of key managers), and by culture (only promote from within). Different types of managerial qualities were likely to be brought into play depending on whether the risks and opportunities arose at macro economy, industry or corporate levels. As a result, the ability of a set of 'management qualities' to generate good financial performance was expected to vary across these circumstances. It was the contingent nature of the idea that led the fund managers to seek to 'look into the whites of the eyes' of company managers. It was only at this point that they could assess whether there was a sensible match between what they perceived as management qualities (eg responsiveness to uncertainty) and the circumstances (eg rapidly changing markets) surrounding that firm. It was only then that they could assess whether management quality plus corporate circumstances would lead to the desired performance and value increments. This understanding was often the basis to back or to unseat management. For example, fund managers were prepared to back loss making companies trading in difficult circumstances if they felt that the management team were the best bet to turn the company around. In contrast, good performing companies could lose institutional support because they could not articulate their strategy or succession policy.

Both macro and competitive responsiveness of management teams were expected to be distinguishing features of winners over losers. The FMs expected to use this direct contact to learn if the expected macro conditions were actually risky and to identify which specific companies and sectors were likely to be winners and losers in these conditions. At the level of individual companies the information played a key role in valuation and stock selection. This analysis was repeated with many investee companies, across many sectors, in the period (say monthly) between formal asset allocation decisions. This more aggregate sector and economy level information then played a role in asset allocation and portfolio wide risk control.

#### 4.2 Framing of perceptions about gains and losses:

Framing focussed on interactions between the corporate value creation process and changes in the macro and competitive environment. It therefore emphasised questions 3 and 4 above. The fund managers sought to understand how these company level IC factors (amongst other company factors) interacted with expected changes in macro economic conditions and competitive conditions. This information on external impact and internal responsiveness 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, the potential for major losses, and hence to alter their views of corporate valuation. The above constituted a prior FM framing of corporate gains and losses that was similar, in some respects, to Tversky 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 sections 2 and 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, before, during and after the private company meetings. 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 specialist 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.

#### 4.3 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. In Tversky and Kahneman's terms, corporate financial gains and losses for various outcomes were identified relative to the expected central tendency of financial outcomes as a neutral benchmark. 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 to adapt these public forecasts using unique information. The contribution of public and private sources of information to valuation changed over time and depended on many factors. However, the case FMs crudely estimated that private information could contribute anywhere between 25 and 50% of the information used in the final valuation of company before a decision to hold, buy or sell was made. This reveals the significance of private information for adapting spreadsheet forecasts of earnings and cash flows based on public information alone.

Thus qualitative data on human and structural capital were combined with publicly derived 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. This involved rethinking the impact of macro changes on the perceived causal relationships in the value creation process linking factors such as management quality, product quality, and price power. If these value creation factors were considered appropriate and effective in the expected macro and competitive conditions then the FM would increase their estimates of variables such as prices and sales levels and hence increase cash flows and earnings estimates. In a similar fashion, if structural capital (such as a board with good governance practices, and exercising explicit control over risk management procedures), combined effectively with human capital (such as managers with good record in managing risk), in these macro and

competitive conditions, then this also favourably altered FM perceptions of the riskiness of cash flow and earnings forecasts. 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 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 horizon. 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 on the effectiveness of the value creation process, acted as proxies for formal estimates and forecasts beyond this horizon. This was used to translate into rough terminal number estimates of earnings and cash flows for the 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. Stable and high quality human and structural capital were long term organisational responses to uncertainty and ignorance for both company and fund managers. The FMs were effectively predicting or betting that the human and structural capital that had created value in the past would continue to exist, and to continue to create value 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.

#### 4.4 Valuation:

In the third stage, there was a fund management valuation of the company and its prospects based on an assessment of subjective likelihood of financial outcomes. This was repeated with major investee companies in a sector and the companies with prospects with highest expected financial outcomes were selected as the stocks to buy or hold. This stock selection and valuation 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 external 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, track record, R&D and brand management skills, into number estimates for 'fundamentals' such as forecastable earnings and cash flows, into

valuation fudges beyond the forecastable horizon, and into unique insights into corporate risks. These models for 'translating' qualitative IC based information into numbers and risk assessments were essentially based on their collective experience of IC variables in their investee companies and their experience of how these companies used these advantages to react to and exploit macro and competitive conditions. The translation models were the basis to make rational adjustments to their existing spreadsheet models and estimates which were based on public data. 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 'translation' models were not necessarily explicit and they could be seen as tacit knowledge (FM human capital) 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 decision processes (FM internal structural capital). They expected to use their information advantage with both their translation and their valuation models to check whether their information was different to that of the market, and to use this to identify 'cheap' and 'expensive' shares.

In cases where time was very short, the FMs used their understanding of IC variables to make quick adaptations to simple valuation models such as market or sector relative P:E ratios. They therefore bypassed the judgmental processes (first and second stage using translation models) concerning how IC was likely to effect real variables such as prices, costs and volumes, and the subsequent impact on cash flows and earnings. Instead they went straight to the valuation issue and made immediate changes to P:E ratios or share prices to reflect perceived changes in IC variables, and the value creation process.

Ernst and Young (1999) in their innovative study 'Measures that matter', identify a similar (to this study) set of qualitative factors effecting value. Their study focussed on the key qualitative factors and the impact of unit changes in these non financial factors on changes in valuation. The latter were expressed in terms of fund managers perceptions of changes in share price or P:E ratios caused by changes in factors such as quality of management. Their study bypassed the FM learning and knowledge acquisition process outlined in this paper. The study did not make explicit how the changes in one or two qualitative factors worked their way through changes in other human and structural capital factors to bring about change in earnings, cash flows, and risk, and hence in valuation. Despite these limitations, the Ernst and Young (1999) study, using US data, provides support to many of the findings in this UK based paper, especially in terms of the key qualitative factors considered relevant by FMs to valuation.

#### 5.1 Checking to see if the FM has an information advantage:

The case FMs argued that, if they had secured unique information, their company valuation was likely to be superior to that prevailing in the market place. This belief was not based on some idea of market inefficiency. The case fund managers recognised that the stock market was broadly semi strong efficient and thus fully reflected public domain information. They understood that some well known anomalies (size, month, low P:E, low P:BV, low P:sales ratios) could be exploited through the use of public domain information. However, except for one major case FM exception, they did not attempt to exploit these public domain information anomalies. In contrast, the case FMs did not believe that the market was full form or strong form efficient. They argued that the information gap between semi strong form and strong form was significant and that this provided a major incentive for a huge and active market for information. They therefore tried to gain two advantages. The first was to gain access to private company information. The second was to develop unique skills in processing both private and public sources of information. Keane (Stock Market Efficiency) (1983) refers to these as information and processing advantages.

However, the FM could not be sure that they did have these advantages until they carried out a few simple

tests. First of all, they carefully checked that their information was different to that of the market. This process was conducted with some discretion and secrecy to protect their perceived information advantage. The case FMs probed the market expectations of their investee companies in a variety of ways. In the bulk of case FMs this involved the use of the company broker, or of equity salesmen, broker analysts, and other advisers, to assess if the company or sector specific information was already in the price. The FMs purchased consensus analysts forecasts of earnings and financial results. They phoned around brokers analysts to identify recent changes in each key analyst's forecast. In all cases explicit attempts were being made to attempt to discover the short to medium market expectations likely to be behind the existing stock price. Market expectations were also probed by observing other FI shareholder movements. Traders and brokers were asked for their interpretation of why other institutional investors were trading in this way. The case FMs also periodically surveyed (monthly, quarterly) brokers salesmen and analyst to see how they viewed the company. The FMs were trying to find out from them the overall sentiment in the market to the sector as well as their views on the company.

Secondly, they used various combinations of private and public information, plus an array of valuation models to see if their valuation was different and based on an information edge. They used a combination of public domain information and valuation models used by the market to check that they arrived at the same company valuation as the market. They argued that they were therefore able to confirm what was public information by this test. They also used their private company information sources and possibly valuation models used by company management to understand how the company management valued the company. This was the means to explain new company decisions and to explore some of the qualitative information acquired in the private meetings. If possible, share trading by directors and management was observed. All of this evidence was used to assess the quality of information from management. Fragmented public sources were also used to confirm these private sources. Finally, the FMs used a combination of private and public domain information on the company plus their own range of preferred valuation models to check if their FM information set and valuation was different to that of the market and of senior management. Major valuation 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.

## 5.2 Use of valuation:

As long as this information had been acquired by legitimate FM access to the company and mosaic FM processing skills and it did not constitute price sensitive information, then the FMs were free to use this in their buy and sell decisions and to exploit their timing and trading advantages over less well informed investors. 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 portfolio 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.

## 5. BOTTOM UP and TOP DOWN RISK CONTROL IN FUND MANAGEMENT

Sections 2 and 3 have outlined the FM learning and knowledge acquisition process. These sections revealed the special role of private information (such as IC) in boosting the case FMs understanding of investee companies value creation processes. In section 4 above, we saw how private company level information, on qualitative elements of the value creation process, was used to estimate the riskiness of financial returns arising in investee companies. This learning process created the means for FMs to 'frame' their perceptions of corporate financial risk and return, prior to using this information in estimation and valuation decisions at stock level.

However, posing the five questions (on threats, exposure, risk, response, value changes) and the framing process outlined in section 4 also provided the means for FMs to gain many more insights into corporate risk. This included understanding the systematic and unsystematic components to a company's riskiness. The case FMs were particularly interested in how a company was expected to perform in step or out of step with prevailing economic conditions such as a recession. The fund managers were also very 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. This risk analysis and information collection process (as outlined in section 4) was repeated across all major investee companies and provided a novel and unique information input into risk control decisions from the 'bottom up' during stock selection, and from the 'top down' during asset allocation decisions. Section 5 reveals the special role that private information on financial risk, especially information derived from the qualitative aspects of the value creation process (Intellectual capital components), 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.

#### 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 different information sources, 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. 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 and risk 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 risk and 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 risk and 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 of managements ability to handle and exploit the risk. Hence, this understanding and error reduction was a critical FM response to their fundamental problems of ignorance and uncertainty.

### 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,p29) 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, p46). 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, p50). 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 for asset allocation, and this usage was only likely with the minority of quantitative FMs.

#### 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.

#### 5.5 -Use of private information in top down risk control

In the majority of FM cases mean-variance and optimisation approaches, were 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.

It was difficult for the case fund managers to gain an information edge by only processing public domain information on the macro economy, industry sectors, or by 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.

In section 4 we have seen how (in stage 1) the FIs used the private meetings for 'framing' of potential corporate financial gains and losses. As a result the case FM posed five main questions of their investee companies. As a result of the above probing, 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, equity 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 (eg more gilts less equity), sectors considered very risky at certain points in the economic cycle (eg 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.

## 6. 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 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 and the dynamic connections between these variables in the value creation process. 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, the corporate governance role of financial institutions, and for the governance 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?. Thirdly, should the informed FMs be asked to pursue wider governance aims in the interests of many savers, stakeholders and citizens? Finally, who governs the governors ? 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 their knowledge and power in the interest of their favoured groups of savers and shareholders.

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