Risks That Matter

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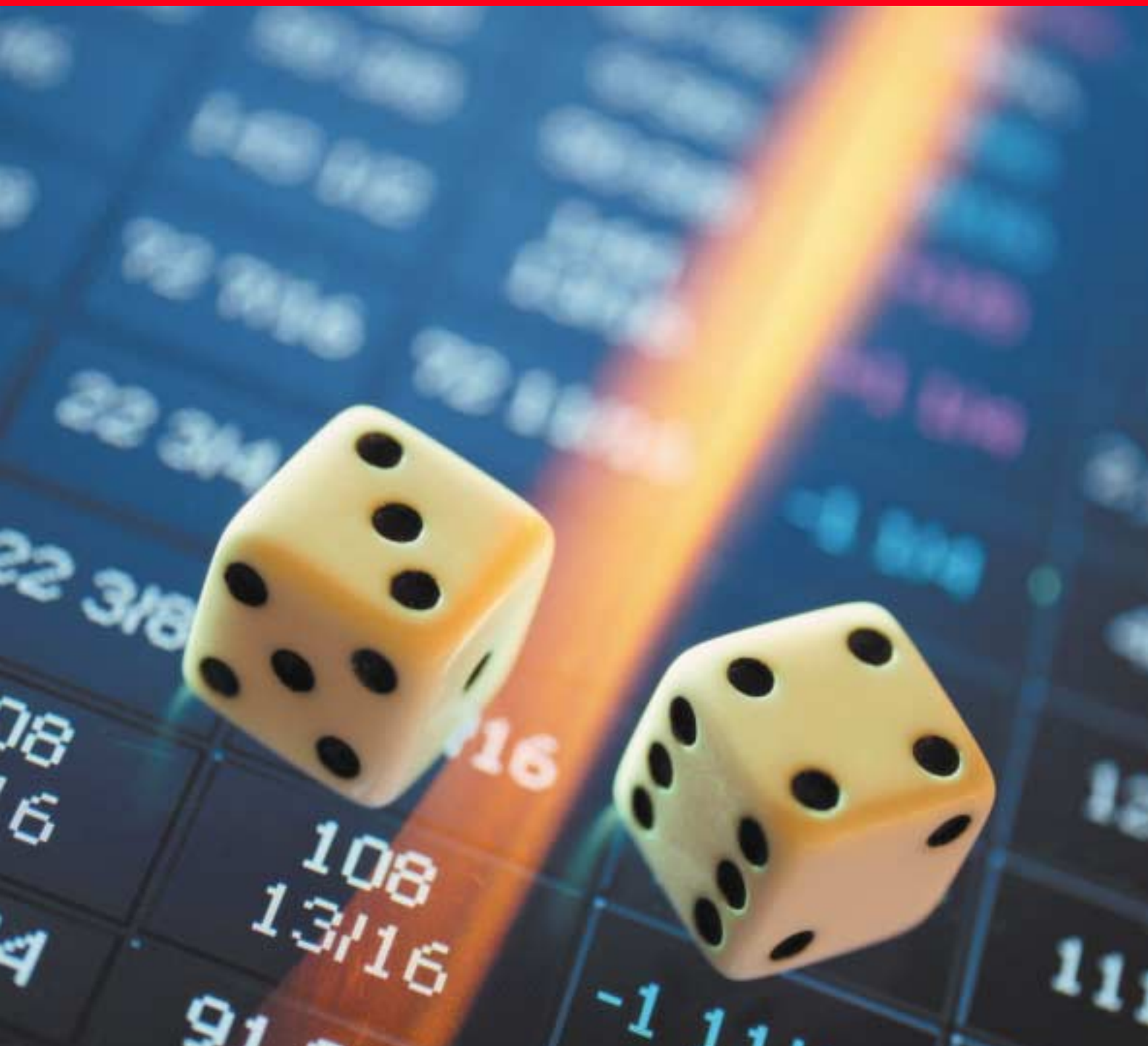
Risks That Matter™

Sudden increases and decreases in shareholder value and the implications for CEOs

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A report commissioned by Ernst & Young and jointly undertaken by Ernst & Young, Oxford Metrica and New World Research.


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Foreword

This report is the first in a new series of studies by Ernst and Young looking at the underlying causes of increases and decreases in shareholder value and the actions management can take to ensure successful execution of corporate strategies. Ernst and Young, with Oxford Metrica, has been able to develop an exciting and novel approach to identify, model and classify sudden major shifts in value and highlight the practical implications for Chief Executives.

We consider the research to be a milestone in the understanding of the drivers of shareholder value. Rather than seeking to understand the impact of specific events on shareholder value, we have examined in this study the significant positive and negative shifts in shareholder value across the largest 1000 companies globally over a five-year period through 2000, regardless of the root cause of the shift. The events underlying these value shifts were then identified and classified into a conceptual framework that provides a powerful taxonomy of the drivers of value and risk. Within this framework, we were able to develop some critical insights into the implications for CEOs and Boards from the exploitation and management of the causes of sudden value shifts.

We believe that the research results provide important insights into the causes and management of sudden and major shifts in shareholder value, and are of considerable significance for investors and senior corporate management.

Thomas Bussa
Global Director
Business Risk Services
Ernst & Young

Dr. Rory Knight
Chairman
Oxford Metrica


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Executive summary

This research report provides the results of an extensive analysis of sudden and major shifts in share price for an international portfolio of firms. We believe the results carry critical implications for CEOs and their Boards. The research responds to the following key questions:

1. How likely are firms to experience significant shifts in value?
2. What types of critical events prompt such sudden value shifts?
3. How does the overall level of corporate activity influence the value shift?
4. What actions should executives take to protect against major sudden downward shifts in value and increase the likelihood of sudden or sustainable increases in value?

The methodology underpinning the research combines both quantitative and qualitative dimensions. The portfolio of firms selected for analysis is the Global 1000; the largest 1000 quoted firms worldwide. The share prices of these firms are modelled over a five-year period to identify sudden and major movements. The largest 100 positive value shifts and the largest 100 negative shifts are selected for further analysis, and the events surrounding these movements are examined comprehensively.

Key Results

Most Chief Executives will experience at least one of these major shareholder value shifts during their tenure. The research results indicate that:

- There is a 75% chance of experiencing a positive shareholder value shift of over 30% (relative to the market) in a five-year period.
- There is a 40% chance of experiencing a negative shareholder value shift of over 30% (relative to the market) in a five-year period.
- There is no pattern for the timing of these shifts; for example, around annual reporting or the issue of quarterly results,

Moreover, these shifts in shareholder value tend to be sustained, and management of the underlying events emerge as "destiny-determining" for the firm, i.e., defining the likely future shareholder value performance and, therefore, reputation of the incumbent CEOs.

- For two-thirds of the value shifts—positive and negative—the underlying events are strategic in nature, rather than operational or financial. There is no associated engineering or financial instrument (insurance or derivatives, for example) to hedge these critical value events. Rather, it is up to senior management—the CEO in particular—to manage the strategic risks and opportunities actively. More specifically:

- The majority of sudden *positive* value shifts were driven by strategic alliances, mergers and acquisitions, confidence in the management's ability to execute core business processes and investment in research and innovation.
- The majority of sudden *negative* value shifts were driven by a failure to adapt to changes in the business environment, customer mismanagement and poor investor relations.

- In nearly 20% of all negative value shifts, an increased level of corporate activity had a significant impact on the size of the shareholder value shift. During periods of organizational change or financial restructuring, the impact on shareholder value of a secondary risk issue was especially severe.

Implications for CEOs and the Board

- ***Understand the drivers of value.*** The drivers of sudden and sustainable increases and decreases in value should be identified, including an evaluation of the financial and non-financial requirements of the stakeholders. There should be regular communication to stakeholders on performance against these expectations.
- ***Allocate appropriate resources.*** The strategic risks which need to be accepted, or could prevent growth or destroy shareholder value, should be identified and quantified, and appropriate resources put in place to exploit or manage these risks.
- ***Deliver stakeholder promises.*** The core business processes should be fully aligned to the key drivers of value, with a clear "tone from the top" setting out the expectations of management. Given the critical nature of these processes, there should be regular validation of the operation of the process, and that the appropriate capability is in place to deliver the expected value and manage the exposures.

- ***Successfully manage change.*** A comprehensive organizational framework should be in place to manage risks and opportunities, integrated into the business operations with appropriate monitoring and early warning indicators. In times of major change or uncertainty, CEOs must be especially vigilant and establish enhanced assurance mechanisms, and ensure appropriate business scenarios and response plans have been developed to enable rapid reaction to risk incidents or opportunities.

- ***Monitor progress in delivering value.*** Key business initiatives should be primarily measured on the delivery of value and business benefit, in addition to the normal measurement of time and cost. These measures should be agreed upfront for all initiatives and integrated into the management and assurance processes.

Overall, the CEO and the Board should take explicit ownership for the management of the drivers of value and associated strategic risks, and regularly review the performance of the overall risk management and control infrastructure. By doing so, they should be rewarded by sustained growth and protection of shareholder value


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1. Introduction

As Board members develop corporate governance and value frameworks, the management of risk and its implications for value creation or destruction have moved up the CEO agenda. A number of recent high profile cases—Enron, Global Crossing, Allied Irish Bank and WorldCom, for example—demonstrate vividly the negative value effects of inadequate governance and risk management procedures. Equally, evidence suggests that the sound management of risk can lead to enhanced shareholder value. The removal of balance sheet uncertainty associated with major liability risks, for example, can lead in some cases to major share price gains[1]. Purchase of specialist insurance by Hanson, Inso Corporation, BAE Systems and Saab each resulted in sudden positive value shifts.

Without a framework for analyzing such sudden and major shifts in value, or a body of empirical evidence to support or refute hypotheses, it is not possible to determine the extent to which the cases above are reflective of the general risk landscape. Indeed, the results indicate that these types of events are not the most common causes of value shifts. Shareholder value is an expectations-based measure. The firm's share price represents the market's best estimate of the firm's future cash flow performance. Therefore, any informational disclosure or event that is perceived by investors to improve or jeopardize these cash flows significantly will result in a sudden major price movement; up or down, respectively.

The broad aims of the research outlined in this report are to provide a framework for evaluating sudden and major shifts in shareholder value and to analyze comprehensively the events behind such price movements for the world's largest firms. The research results, therefore, relate to extreme events; the "tails" of the distribution of value shifts across firms. The research does not seek to confirm or contradict the existing finance literature, which concerns itself sensibly with systematic factors. The research in this report is a deliberate study of extreme effects.

Both positive and negative value impacts are analyzed. Also, it became possible to identify a number of risk management techniques which address the key causes behind extreme value shifts. The initial observations carry significant implications for CEOs wishing to "encourage the upside" and "mitigate the downside" in their risk management activities. The specific risk management issue of resource allocation in this context is an area ripe for further research.

In isolating the firm-specific patterns of value, beyond simply picking up broader market trends, the research posed some significant methodological challenges. These have been addressed and are discussed in the Methodology section of the Appendix. The contextual landscape of value shifts is described in the next section, after which a risk and value framework is applied to the data. Next, the value-critical events are analyzed comprehensively and the implication of the overall level of corporate activity specifically is evaluated. Finally, techniques for enhancing the upside and mitigating the downside value impacts are outlined.

1 *Pretty, D.J., (1998), The Value Discount for Off-Balance-Sheet Risk, Oxford Executive Research Briefing, sponsored by Marsh.*


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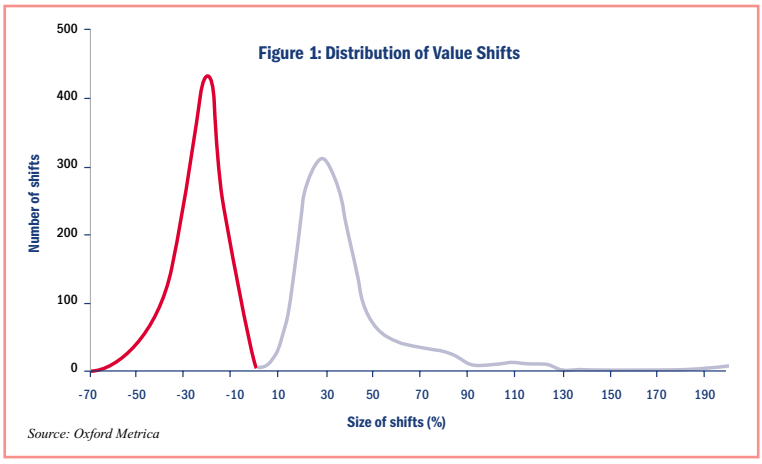
2. Describing the landscape of shareholder value shifts

This section presents selected characteristics of the positive and negative value shifts for the Global 1000 portfolio, followed by those for the two Top 100 sub portfolios. Full methodology and further graphical descriptions can be found at the end of the report. Throughout the report, positive shifts are presented in blue and those negative, in red.



Source: Oxford Metrica

Characteristics of the Global 1000 portfolio

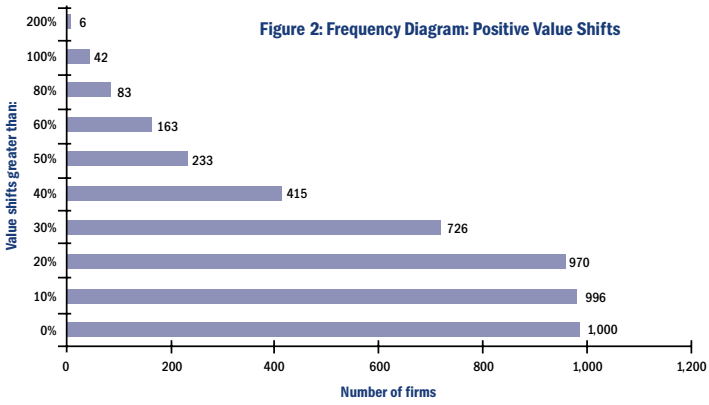
How are the value shifts distributed?

The Global 1000 value shifts represent the biggest positive monthly shift and the biggest negative monthly shift for each firm in the Global 1000 during the last five years[2]. Shown in Figure 1 are the distributions of value shifts across the Global 1000 portfolio[3]. The distributions across positive and negative value shifts are largely symmetric. As expected, however, the negatives are severely bounded by -100%; there is no such upper bound for the positives. Thus a firm cannot lose more than 100% of its value but can increase in value by more than 100%

%	Minimum	Maximum	Mean	Median	Standard deviation
Positives	4	327	45	36	29
Negatives	-2	-78	-29	-27	11

2 *The precise definition of "value shift" can be found in the Methodology section in the Appendix.*

3 *Pacific Central Cyberworks of Hong Kong is considered to be an outlier due to its rise of 3,608%, relative to the market, on 9 April 1999. The firm has been excluded, therefore, from the statistical analysis.*



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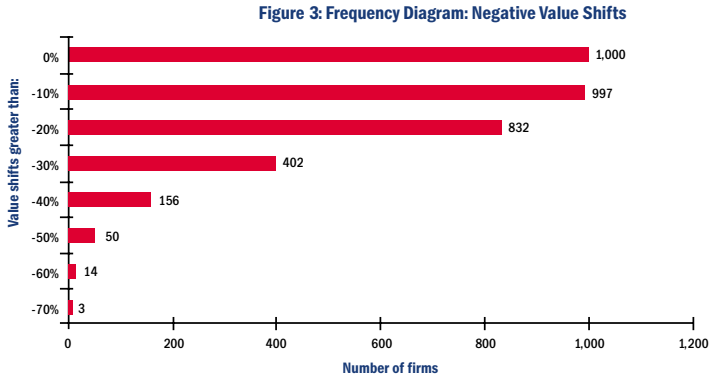

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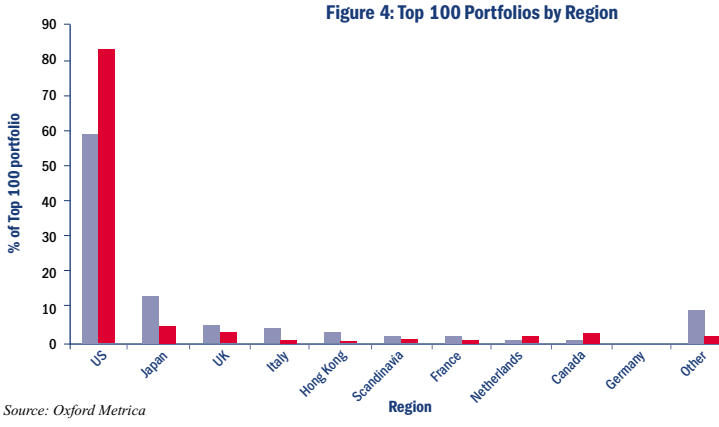


Source: Oxford Metrica

Figures 2 and 3 indicate the prevalence of sudden and major shifts in shareholder value across the Global 1000 over the last five years. The initial findings indicate:

- Almost three firms in four experienced rises in value of over 30% in their best month.
- One in four outperformed the index by over 50%.
- Two-fifths of firms in the global portfolio lost value of over 30% in their worst month.
- One in twenty underperformed the index by over 50%.

These sudden and major shifts in value, therefore, are not unusual. It is highly likely that the CEO of any major quoted firm will experience such rapid value creation or destruction at some point during his or her tenure.

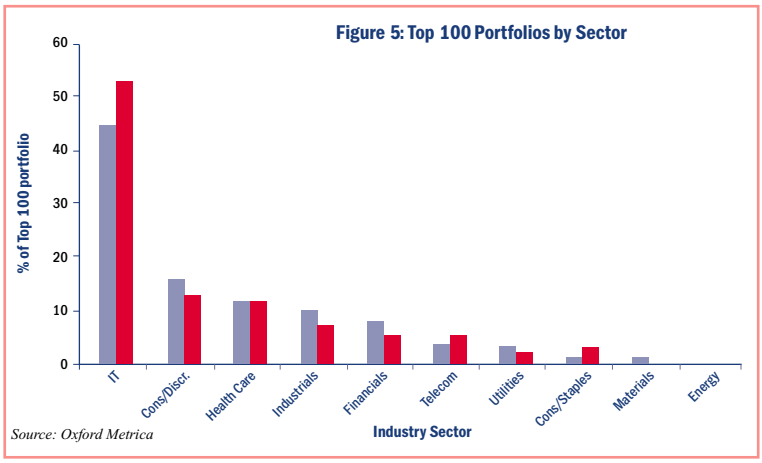
Characteristics of the Top 100 portfolios

How are the largest value shifts distributed by region and by sector?

The Top 100 portfolios were created by ranking the Global 1000 value shifts and taking the largest 100 positive value shifts and the largest 100 negative value shifts. Figures 4 and 5 show the geographical and industry[4] breakdowns, respectively, of the Top 100 positives (shown in blue) and the Top 100 negatives (shown in red).

American firms dominate the value shifts, especially those negative. Indeed, the U.S. is disproportionately represented in the positive and negative value shifts, compared to the country's representation in the Global 1000 portfolio. In contrast, French and German firms, for example, are significantly under-represented in both Top 100 portfolios. This result may reveal some dimension of the corporate governance structures prevalent in each region, and the efficiency of the respective

[4] *The industry classification is based on the Global Industry Classification Standard (GICS) as determined by Morgan Stanley Capital International and Standard & Poor's.*



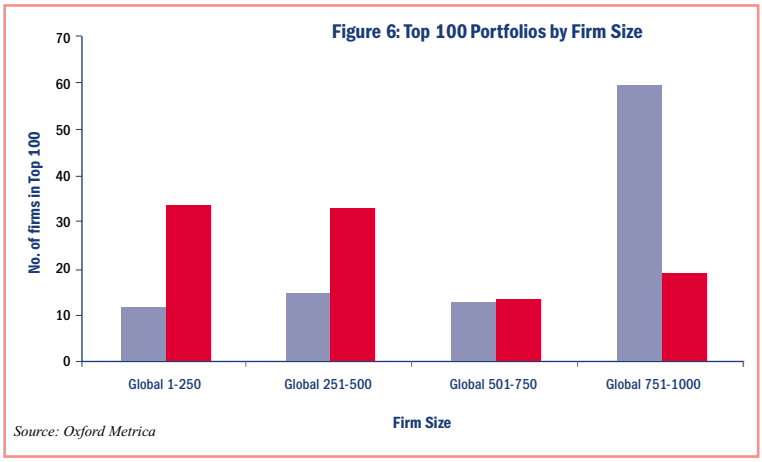
capital markets. It is possible that the extensive cross-shareholding structures common in France and Germany restrict the ability of the stock markets to respond in such a sudden and rapid way as witnessed frequently in the US.

Information Technology (IT) firms dominate the landscape of the largest value shifts. It is to be remembered that these value shifts have been measured relative to market movements. The IT firms represented, therefore, have experienced considerable swings in value over and above the market and are displaying significant firm-specific price volatility (as opposed to general market volatility). This is understandable as the IT industry, more than many sectors, reflects shortening product lifecycles and investment in a speculative future. This effectively reflects their management of intangible assets or future options, which may or may not be exercised. This makes it more difficult for analysts to evaluate the future cash flows of IT firms. Thus, there tends to be a greater subjective element in the pricing which can be eroded as rapidly as it is established, due to the "snowball" effect on the share price as the likelihood of these options being exercised increases or decreases with the changes in the share price. Contrary to popular commentary, these rapid corrections in valuation indicate a highly efficient market responding effectively to new information.

Consistent with this view, the materials and energy sectors are significantly under-represented in the Top 100 portfolios. Firms in these industries tend to be older and better established with longer track records upon which analysts can base their estimates of future performance. Moreover, the assets of these firms tend to be largely underground and less susceptible to rapidly changing public consumption patterns.

The prevalence of U.S. and IT firms in the Top 100 portfolios could have been smoothed away by research methods. But the research is seeking to capture the actual landscape of value shifts, rather than simulate an artificial universe. Had the regions and industry sectors been represented perfectly and deliberately, that process would in fact have introduced bias to the research results by artificially inflating some regions and sectors, and reducing others.

These issues become especially pertinent when considering the applicability of the research results across all regions and sectors. Of greater practical use than seeking to generalize all the results in this report, is the challenge to make the results more specific to a given company. This research provides an analytical framework, a value and risk classification scheme, consideration for times of increased corporate activity, an overall design framework to manage and exploit these events and the actual empirical landscape. Management's challenge in application is customization and ensuring that these recommendations can be integrated into everyday business operations.



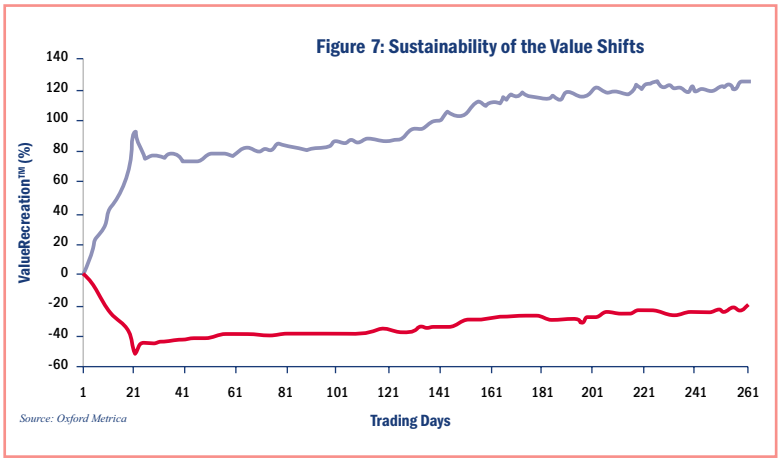
How are the largest value shifts distributed by firm size?

Figure 6 illustrates the Top 100 portfolios as classified by firm size, measured by market capitalization[5]. It is immediately apparent that firms of all sizes within the Global 1000 experience sudden and major shifts in value

The larger (Global 500) firms in the portfolio experienced two-thirds of the negative value shifts. Large firms, therefore, are in no way immune to sudden falls in value and appear to have even more to gain from effective risk management than the smaller firms.

Almost two-thirds of the positive value shifts originate from the smaller firms (Global 751-1000) in the portfolio. Clearly, it is easier for a firm to generate $1.2 billion in value (30% of $4 billion; at the smaller end of the portfolio) than it is to generate $120 billion (30% of $400 billion; at the larger end of the portfolio). Regrettably, for the larger firms, it appears much easier to lose substantial value.

[5] *Taken on 31 July 2001, the closing date of the study period.*



How sustainable are the value shifts?

In part, the choice of adopting trading periods of 20 days for this research was to minimize the possibility that only transitory movements in value were being captured. To analyze the sustainability of the value shifts, therefore, Oxford Metrica's ValueReaction™ model was applied to extend the analysis out from one month (20 trading days) to one calendar year for each firm[6]. It can be seen in Figure 7 that, on average, the initial sudden shifts in value were sustainable over the year and, therefore, were not simply transitory pricing adjustments.

One year later, the positive value shifts have, on average, further consolidated their position and their outperformance has risen from 80% to 120%. Firms with major negative value shifts continue to underperform investors' expectations by the end of the "post-event" year, though an element of market correction has reduced the average underperformance from -40% to -20%.

These results suggest that sudden and major shifts in value tend to be "destiny-determining" i.e., defining the likely future share value growth or destruction, for the firms and, more explicitly, for their Chief Executives. Previous research[7] illustrates a consistent pattern of share price recovery following corporate crises in which two distinct groups of firms emerge; recoverers and non-recoverers. Further, the research indicates that the ways in which CEOs manage the aftermath of corporate crises are significant determinants of share price recovery. Figure 7 demonstrates that these patterns of value recovery extend also to events not necessarily "catastrophic". Given the prevalence of these major value shifts, and the "destiny-determining" nature of the value recovery patterns, ongoing management of the underlying events and their consequences becomes a priority issue for CEOs and investors.

6 *With respect to those firms yet to experience a year's trading from the identified value shift, the average figures are adjusted accordingly.*

7 *Knight, R.F. & Pretty, D.J., (2001), Reputation and Value: the case of corporate catastrophes, Oxford Metrica.*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3. Applying a risk and value framework

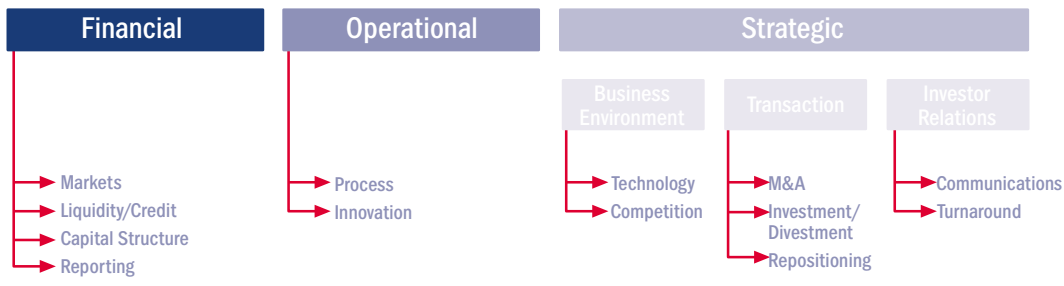
In this section, a value framework is applied to a risk classification scheme designed around the empirical research results.

There are several ways in which to classify risks and presented below is one possible scheme of many, which emerged from analysis of the primary causes of the events. It is strongly driven by the actual data evaluated, combined with the advantages of the existing RiskUniverse™ tool (See section 5) developed by Ernst & Young.

There are two broad classes of risk that appear in RiskUniverse™ but were found to be less applicable in this context; Governance and Information. While these remain highly appropriate classifications for corporate managers focusing on their individual risk landscape, this research context differs. Issues of governance policy and procedure dominate all the critical events underlying the major value shifts. In contrast, no operational issues relating to information technology were found prompting the critical events. This indicates that such operational IT issues are viewed by investors as current issues rather than those impacting expectations about firms' future performance.

Depicted in Figure 8 is the emergent risk classification scheme within which the Top 100 portfolios of positive and negative value shifts are analyzed. The scheme comprises three broad categories of risk—Financial, Operational and Strategic—each with a number of subcategories (described below in accordance with the RiskUniverse™ definitions).

Figure 8: Risk Classification Scheme



Financial	
Markets	—Buyer/seller network for the exchange of capital and credit such as the stock, commodities and foreign exchange markets. Includes derivatives strategies for commodities, currencies and interest rates.
Liquidity & Credit	—Liquidity; the marketability of an asset (the ability of an asset to be converted to cash). Credit; contractual agreement to receive money, goods or services without paying for them in the near term.
Capital Structure	—Financing of an organization represented by debt, preferred stock and net worth (capital, capital surplus and retained earnings). Includes debt and equity management strategies.
Reporting	—Process of capturing data in a meaningful format to provide information to stakeholders for decision-making purposes. Includes regulatory and compliance, accounting and tax issues.

Operational	
Process	—Combination of resources—people, skills, methods, equipment and materials—and the work environment that results in a desired output. Includes product and delivery, marketing and strategy, research and development, health and safety, human resources, supplier and customer management.
Innovation	—The modernization/ transformation of some aspect of the business that improves operating performance.

Strategic	
Business Environment	—Market structure/ business environment wherein buyers and sellers interact to buy or sell goods and services. Includes changes in supply and demand, competitive structure and introduction of new products/ technologies.
Transaction	—Execution of specific activities to initiate significant change in strategic direction. Includes asset reallocation via M&A, spin-offs, alliances, joint ventures.
Investor Relations	—Strategy for communicating with individuals/institutions who have invested in the business.

Placing Risk in a Value Context

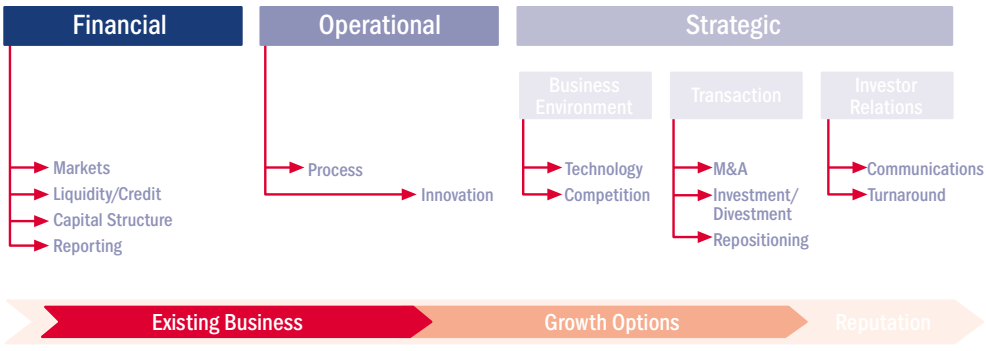
A firm's share price can be thought of as reflecting different sources of value[8]. Outlined below are the two main sources of value considered for this report.

These two main sources combine to produce the overall reputation or financial brand value of the company.

Figure 9 shows how the sources of value overlay the risk classification scheme. There are reputational implications of management decisions right across the full spectrum of risk, culminating in a "pure play" with investor relations.

Source of Value	Explanation
Existing Business	— The present value of the firm's expected future cash flows and from its existing business.
Growth Options	— The present value of the firm's expected future cash flows from realizing its growth options.

Figure 9: The Dynamics of Risk and Value



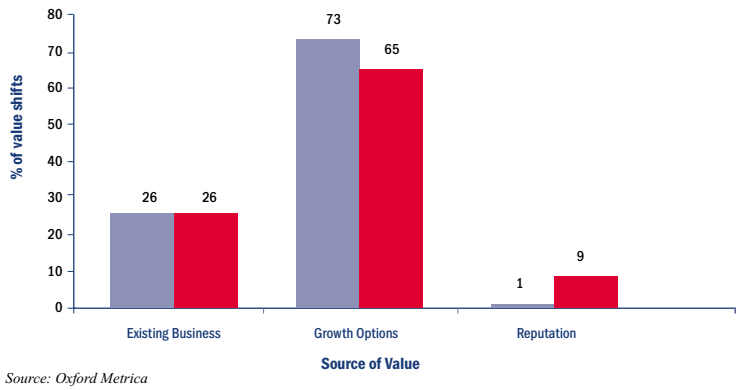
The four components of Financial risk and the process element of Operational risk all relate to the enhancement and protection of cash flows generated from a firm's ongoing business. The second element of Operational risk, innovation, together with the Strategic risk components, business environment and transaction, relate to the cash flows of future business the firm hopes to generate.

8 *Ernst & Young's Future Wealth Expectations™ (FWe™)*

How do the Top 100 portfolios compare by Value Source?

Figure 10 shows how the positive and negative value shifts are distributed by source of value, applied as above to the risk classification scheme. Clearly, "Reputation" encompasses all the shifts, so the third category is reflecting only those for which investor relations was the primary issue underlying the value shift.

Figure 10: An Overview of Value Source



Source: Oxford Metrica

It is clearly the present value of future growth options that is being created or destroyed most in sudden and major shifts in firms' share prices. This evidence supports the critical result (in the next section) that strategic risk management is of central importance to the management of shareholder value. This reality should be reflected in firms' resource allocation decisions and CEOs' managerial priorities.

Also clear is the potential for poor investor relations to impact negatively and significantly a firm's share price. Investors appear to penalize poor investor relations rather than reward positive investor relations. A "successful investor relations strategy" translates into "not making mistakes" in communication with investors and analysts.

Implications for Senior Management

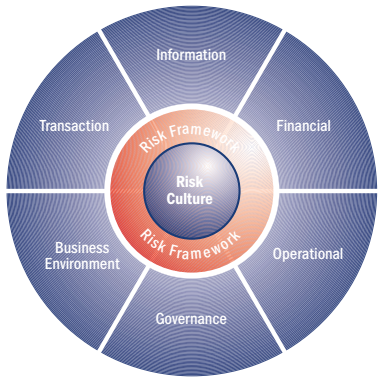
There is a clear need to define the potential sources of value that will drive growth in shareholder value, that reflect the growth from the current business model and the potential future options. Ernst & Young's Future Wealth Expectations (FWe™) is one such model:

Shareholder Value[8] **=** **Static Net Present Value of the Current Business Model** **+** **Value of Future Growth Options**

Secondly, organizations need to define an appropriate risk classification scheme to enable a consistent evaluation of the risks to the sources of value to be undertaken. The following framework developed by Ernst & Young based on previous research studies provides a simple classification system, which is consistent with the findings of this study.

By utilizing these two frameworks, management should be in a position to prepare a regular assessment of the sources of major increases and decreases in shareholder value, the risks of these events occurring and the status of the exploitation and mitigation techniques. This will enable the CEO and the Board to undertake a regular evaluation of the likely future shareholder value performance and allocate resources accordingly to improve or assure the outcome.

Figure 11: A Simple Risk Classification Scheme

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4. Analyzing the value-critical events

Classified and analyzed in this section are the value-critical events, which underlie the sudden and major shifts in shareholder value.

The underlying issues related to the shifts in value are evaluated within the risk classification scheme described in the previous section. A broad overview is provided first, followed by a discussion of the more specific value drivers. Many studies have already provided evidence to support the view that changes in shareholder value are due to a combination of factors including:

1. The general economic/competitive environment
2. The expectations of the investors
3. The future performance of the company
4. The communications made to investors

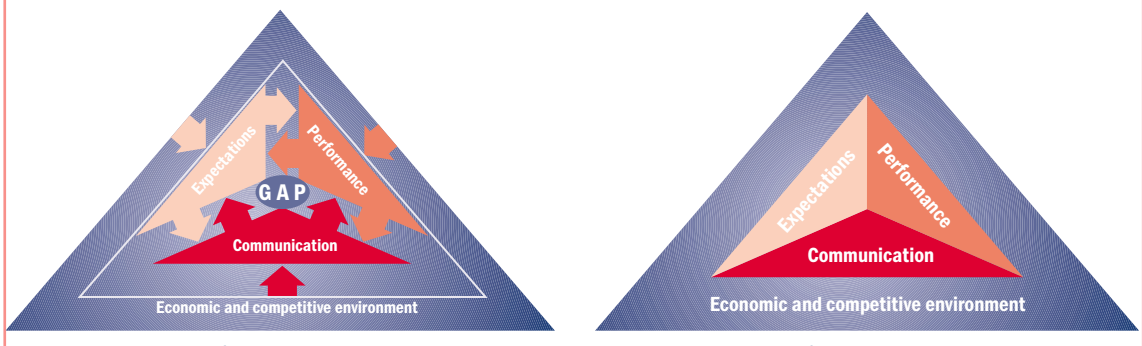
The first factor is the most difficult to manage, but critical for CEOs is to ensure the ongoing alignment of all these factors. The following graphic derived from previous Ernst & Young research[9] depicts these factors.

Through analysis of the sudden events associated with major increases and decreases in value, this study aims to provide CEOs and Boards with further insight on the primary events which cause these changes.

The Importance of Strategic Risk Management

As Figures 13 and 14 illustrate, the vast majority of value shifts — both positive and negative — originate in strategic issues, rather than those operational or directly financial. These results are consistent with previous research studies by Ernst & Young [8&10], which found that analysts place greater importance on the future growth options and also on the non-financial performance characteristics such as "execution of corporate strategy" and "quality of corporate strategy" rather than some of the other measures of value. The dominance of strategic risk in driving the negative value shifts particularly is not surprising. Strategic risk cannot be engineered away, nor can it be hedged or insured via an instrument for which a commercial market exists. Strategic risk, therefore, cannot be delegated easily by the CEO to the departments such as health and safety, insurance, or treasury and should remain the CEO and the Board's priority risk issue[11].

F igure 12: Shareholder Relationship Management Framework



Situation where significant value-critical events are unlikely

Situation where significant value-critical events are unlikely

9 *Ernst & Young, Shareholder Relationship Management Framework*

10 *Ernst & Young, (2001), Measures that Matter™: An outside-in perspective on shareholder value recognition*

11 *Knight, R.F., & Pretty, D.J., (2001), Philosophies of risk, shareholder value and the CEO, Oxford Metrica (published in 'Financial Times Mastering Risk Volume One: Concepts', Pearson Education Limited).*

Figure 13: Overview of the Positive Risk Events

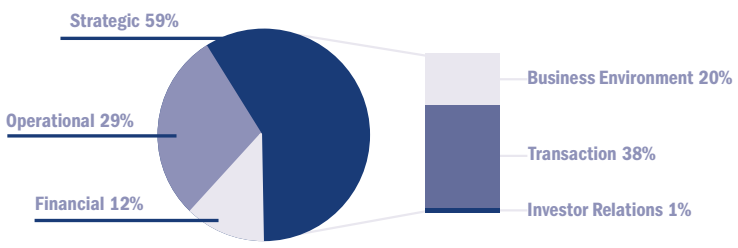
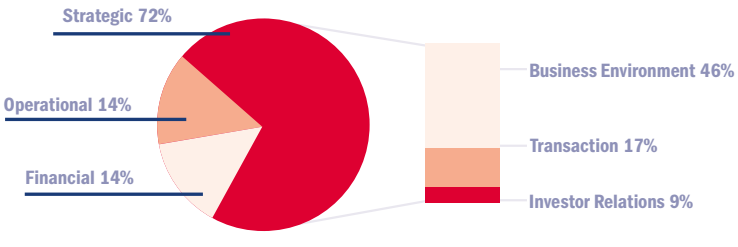


Figure 14: Overview of the Negative Risk Events



The strategic roots of the positive value shifts lie primarily in transactional events where managers attempt to take a step-wise jump in financial performance and reposition their firms strategically. This main strategic driver of positive value shifts is less important in producing sudden falls in value. Across the Top 100 portfolio of negative value shifts, the main strategic driver is the business environment; specifically, failure to anticipate rapid market changes such as those technological or competitive.

Identifying the Specific Value Drivers

From within the broad categories discussed above, the events underlying the Top 100 positive and negative value shifts were evaluated further. This provided the necessary empirical basis for determining the appropriate risk classification scheme. Figure 15 illustrates the relative prominence of each risk class.

Deeper analysis of the underlying events surrounding the value shifts revealed three primary value drivers behind the positive shifts and three primary drivers behind those negative. These are ranked below and discussed in more detail.

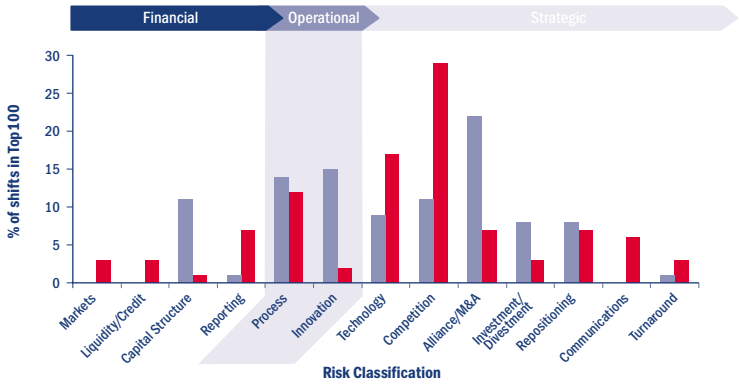
Value Drivers of Positive Shifts

1. Establishment of Strategic Alliances

The research indicates that strategic alliances, particularly those related to emerging technologies, are the most important driver of the positive value shifts. Alliances accounted for 12 of the 22 positive value shifts in the Transaction category. All were intimately connected with new technologies. Six of the alliances announced centered on new Internet ventures. The remaining 10 positive shifts could be attributed to mergers (three) and acquisitions (seven). Across the acquisitions, two were the purchase of strategic equity stakes (one to engage in cross-selling of financial products, another by an industrial firm to enter retailing).

The results provide preliminary evidence of the value-enhancing nature of strategic alliances.

Figure 15: Top 100 Value Shifts by Risk Class



Value Drivers of Positive Shifts

1. Establishment of strategic alliances, including mergers and acquisitions
2. Investment in research and development and innovation
3. Confidence in management's ability to execute core business processes

Value Drivers of Negative Shifts

1. Failure to adapt to the changing business environment
2. Customer mismanagement
3. Poor investor relations

2. Successful execution of core business processes

The research indicated that investors reacted positively to the operation of core business processes, given the increasing complexity of business and changing customer needs. Eighteen positive value shifts related to the successful management of customers and overall ability to respond to competition.

These results indicate a clear opportunity for management to demonstrate their capability by ensuring that core business processes are operating effectively and current stakeholder requirements are being met.

3. Investment in Research and Innovation

Fifteen positive value shifts related to specific Research and Development (R&D) success (eight) and business innovation (seven). R&D successes included, for example, successful drug trial results and the announcement of products using next-generation technologies. Business innovation included both that in distribution channels, particularly using the Internet as an additional sales channel (in recruitment, tax, and betting services, for example) and also being first-to-market with a new business model.

In an economy increasingly affected by technological change and rapid obsolescence, and where product cycles are shortening, managers who demonstrate evidence of original research and business innovation will improve significantly their firms growth options, with an associated reward from investors.

Value Drivers of Negative Shifts

1. Failure to adapt to the changing business environment

The single biggest source of sudden value destruction was the failure to anticipate changing patterns of supply and demand. Investors reacted strongly and negatively to unexpected predictions of market slowdown and falling customer demand. Typically, many of these value shifts occurred when it became evident that growth forecasts of earlier periods (in areas such as mobile phones and personal computers for example) were significantly over-optimistic.

2. Customer mismanagement

Firms that mismanaged their relationships with customers — for example, by missing customer deadlines on projects — were punished severely by the market. Failure to manage the customer relationship directly affects sales and revenues and makes a major statement about cash flow prospects. Conversely, the winning of a significant new contract, the reporting of a successful marketing campaign, or the success of a particular sales strategy in one product area would be clear signs of strengthening cash flow and an immediate reflection of sound business health.

3. Poor investor relations

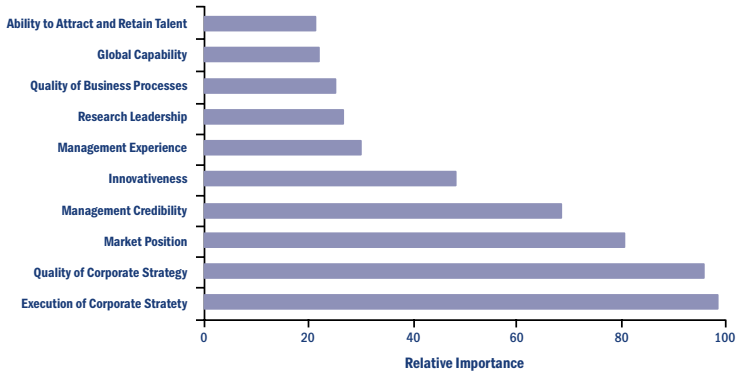
Underlying nine negative value shifts were cases where mis-communication to investors was the primary cause of the sudden and major fall in share price. It was the mis-communication itself, rather than any underlying risk event, which led investors to lose confidence in the ability of the firm's management to generate expected levels of future cash flow. Examples of such miscommunications include: the sudden cancellation of an appearance and presentation at an investor relations conference, and a large investment without warning, representing a reversal in strategy.

Investors can base their estimates of performance only on available information. When sudden and unexpected news emerges, this will inevitably affect the firm's share price. When this additional information was known by management but withheld, the impact on value is usually severe as confidence in the firm's management to disclose material information is suddenly eroded. The issues of asymmetric information across managers and shareholders, and material disclosure by management are under intense scrutiny as this report is being written.

The financial and non-financial aspects of the positive and negative shifts

As commented above, the majority of the value shifts, both positive and negative, originate in strategic issues. A key element of all the value shifts is the recognition by the investors of the non-financial characteristics of the business. As referred to previously, Ernst & Young's Measures That Matter™ research[10] provides further analysis of these characteristics, which is summarized below.

Figure 16: Ernst & Young's Measures That Matter™ Research Findings



Implications for Senior Management

Managing the positive and negative value critical events requires consideration of not only a company's financial value but also the non-financial value associated with the current business model and future growth options. A company needs to further develop its Risk and Value framework referred to in section 3, to reflect the critical positive and negative drivers of value.

Figure 17: Shareholder Value Model

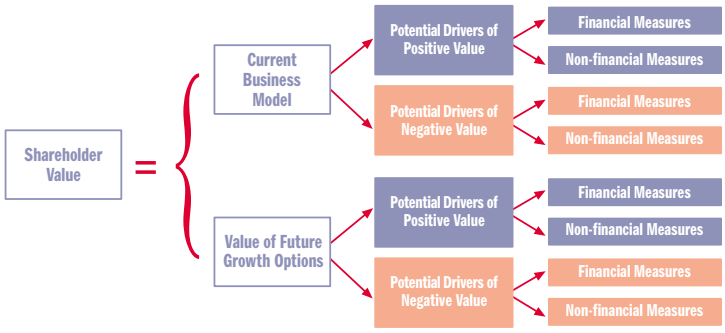
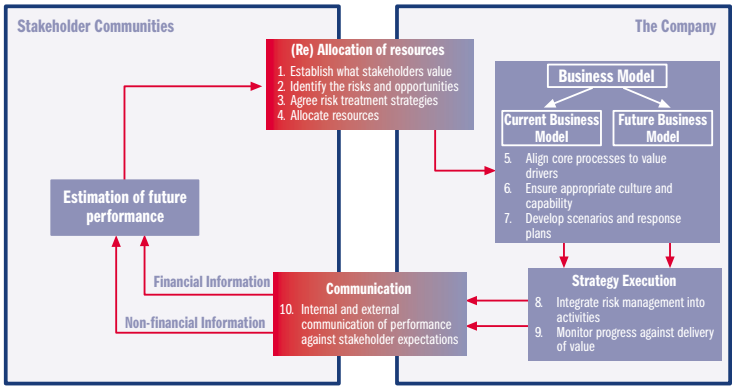


Figure 18: Stakeholder Feedback Loop



Secondly, the above evidence indicates the importance an organization should place on continuous assessment of the stakeholder expectations and regular communication of how these are being delivered.

The framework in Figure 18 provides an outline of the type of process organizations need to implement to ensure that value critical events are fully understood and are being appropriately managed.

Overall, management needs to ensure that they have fully identified the financial and non-financial drivers of value associated with both the current business model and future growth options, ensured that the events that can cause or prevent achievement are being appropriately managed, and appropriate resources are allocated to deliver these requirements.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5. Understanding the impact of overall corporate activity

The size of the shareholder value impact was significantly increased when several risks (apparently independent) impacted simultaneously. The overall level of corporate activity in which a risk event occurred played a significant role in framing investor reaction. Identified in this section are two specific aspects of corporate activity that have been found to exaggerate the value impact of risk events.

From an analytical perspective, the overall level of corporate activity is more pertinent for negative value shifts than positive. There appears to be much less information available surrounding sudden and major positive shifts in value, owing often to commercial sensitivities.

However, in approximately one-fifth of the negative value shifts, it seems that the level of corporate activity may have been important in framing investor reaction. This is inevitably a subjective judgment because it is extremely difficult to quantify the degree to which investors react to the overall level of corporate activity versus the degree to which they react to a specific event. However, two themes emerge as significant "multipliers" of value impact: organizational change and financial restructuring

.

Organizational Change

A number of firms were undergoing organizational change at the time of the negative value shift. These changes may have left the firms both more vulnerable to risk and more susceptible to negative investor reaction given that expectations of performance had been raised through, for example, a merger announcement. In one such case, a firm lost three major customers during a potential merger, affecting the firm's valuation and jeopardizing the merger itself. In another case, fraud was discovered during preparations for an acquisition, affecting the firm's valuation and damaging the acquisition prospect.

Financial Restructuring

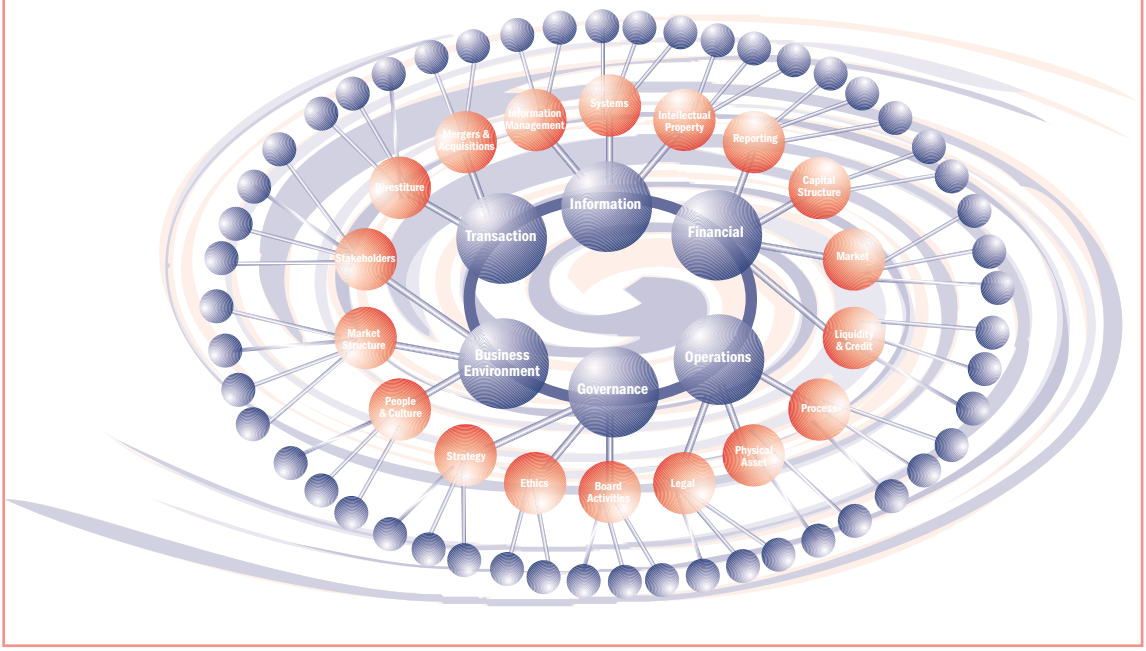
A second group of firms experiencing sudden negative falls in value were undergoing both a risk "event" and financial restructuring simultaneously. For one firm, a significant operating loss was announced while the firm was preparing for a rights issue. In another case, the firm was preparing for a rights issue when several competitors launched rival products, undermining the firm and the viability of the rights issue. In a third case, news of fraud came in a period where the firm's peer group was on the verge of bankruptcy owing to wider liquidity problems.

Implications for Senior Management

These results suggest that in situations of substantial corporate change (organizational or financial), CEOs must be extra vigilant in their financial policy making and risk management activities to safeguard value.

In a fast-moving environment, it is important for management to understand the complex relationship between risks and value and ensure that the interrelationships between risks are fully understood. The risk framework referred to previously may need to be further developed to ensure the complex relationships between risks are fully evaluated and appropriate mitigations in place for these different events.

Figure 19: Ernst & Young's Risk Classification Scheme



Secondly, any changes in financial policy (capital structure, dividend policy, etc.) must reflect the competitive situation and business maturity. High levels of corporate activity create additional risks and opportunities over and above the individual elements within the initiatives, which can further stretch scarce resources. During the transitional period from commencement of an initiative to completion, management needs to demonstrate that the business has the appropriate capability for the future by establishing mechanisms to deliver this change successfully.

Overall, management needs to ensure that the capability and structure of the business are fully aligned, and that during times of change, appropriate investments and resources are allocated to manage the change and develop the capability for the future state. In addition, the expected value and business benefits should be agreed upfront for all initiatives, risks identified and resources allocated to manage, monitor and assure that these benefits are being delivered.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6. How to enhance and protect shareholder value

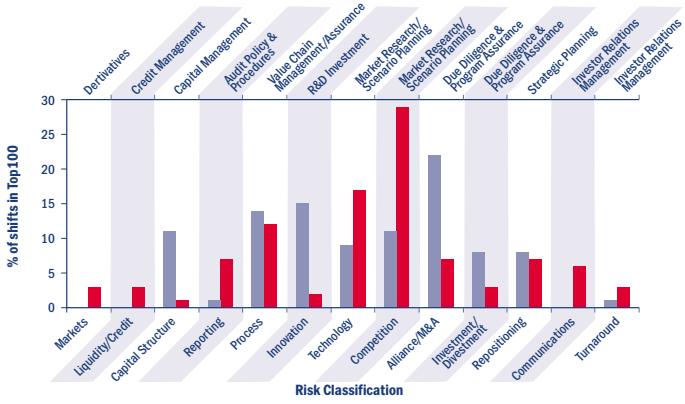
Traditionally, financial risk management techniques have evolved from two main sources: insurance and financial. Insurance has enabled the transfer of risks such as physical hazards and liabilities to the insurance markets. Financial risk management has hedged risks such as the price fluctuations of commodities, currencies and interest rates. Many of the risks behind the largest upward and downward shifts in value do not align neatly with these traditional risk management techniques.

Aligned closely to the empirical research results, it is possible to identify ten (risk) management techniques that can encourage positive value shifts and help to prevent or mitigate the negative value shifts. As with the risk classification scheme, there are many different ways of classifying and labelling these techniques. The table below provides some broad categories of management techniques, investment in which could address productively the sudden and major value shifts analyzed in this research.

Risk Classification	Management Technique
Financial	
Markets	Derivative instruments
Liquidity/credit	Credit management
Capital structure	Capital management
Reporting	Audit policy and procedures
Operational	
Process	Value chain management/assurance
Innovation	Investment in R&D and innovation
Strategic	
Technology	Market research/scenario planning
Competition	Market research/scenario planning
M&A	Due diligence and Program Assurance
Investment/divestment	Due diligence and Program Assurance
Repositioning	Strategic planning
Communications	Investor relations management
Turnaround	Investor relations management

These techniques are presented in Figure 20 as an overlay to the underlying value shift data. As in the table above, some techniques apply to more than one risk class.

Figure 20: Top100 Value Shifts by (Risk) Management Technique



Analysis of the underlying data shows that to enhance sudden value creation, there are three major techniques in which to invest (corresponding exactly to the key value drivers described in section 5):

- Due diligence and Program Assurance,
- Value chain management (in particular ensuring successful execution of core business process), and
- Investment in research and innovation.

This is in accordance with the number of shifts in each category[12]. For the negatives, the three main techniques on which to focus are:

- Market research and scenario planning,
- Value chain management (in particular, customer management), and
- Investor relations.

Again, these techniques correspond to the key value drivers of the negative price shifts, described in section 5. These results carry clear implications for management as they seek to allocate scarce corporate resources on the most efficient basis in order to create and protect shareholder value. However, as already commented, any misalignment between the investor expectations, company performance, communications and the overall economic and competitive environment is likely to cause a major event. Management therefore requires a sustainable ongoing process in place to ensure these elements remain aligned and the drivers of these events and associated risks continue to be appropriately managed.

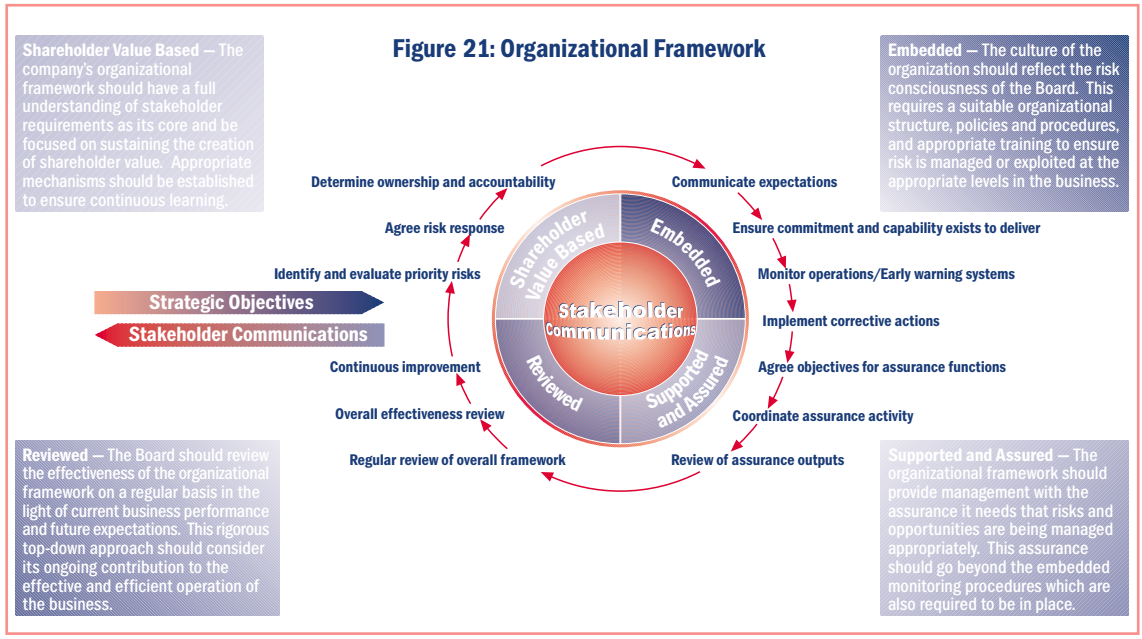
The framework below (Figure 21) represents the design principles for the type of organizational processes needed to ensure the exploitation of these positive value shifts, the mitigation of the negative value shifts and the ongoing management of stakeholder expectations

In summary, the organizational framework should be developed to ensure:

- It has a full understanding of the company's stakeholder requirements at its core, and is focused on sustaining the creation of ***shareholder value***. This requires an ongoing process to understand the financial and non-financial drivers of value, regular "top down" assessment of the key risks and opportunities, and Board-defined risk strategies and tolerances.
- Core business processes should be aligned to these drivers of value and risk management should be fully integrated into these processes. Appropriate tools and capability should be ensured and performance monitoring and early warning systems in place. This should ensure the Board's expectations are ***embedded*** in the

[12] *Ongoing R&D investment is included in 'Process' as part of general business operations.*

Figure 21: Organizational Framework



operations and culture of the business with appropriate capability in place.

- Business operations should be ***supported*** by appropriate centralized and decentralized functions with a clearly defined role in the management of value and risk. This should include the regular and independent ***assurance*** on progress in delivering the key drivers of value to ensure that the processes are operating as expected, exposure and opportunities managed.

- The Board should receive and ***review*** information on the historic and future financial and non-financial performance of the businesses to enable historic issues to be addressed and appropriate resources to be allocated to deliver the future expectations. In addition, the Board should consider the operation of the overall organizational framework in the light of current business performance and future expectations. The Board's overall assessment should rigorously consider the overall effectiveness and efficiency of the business and ultimately its ability to protect and grow shareholder value.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7. Summary and conclusions

The research presented in this report represents a first attempt to identify and analyze sudden and major shifts in shareholder value for a global portfolio of firms. Both positive and negative value shifts have been analyzed extensively to gain an understanding of the context of sudden price movements.

This analysis has been combined with a comprehensive evaluation of the critical events surrounding the value shifts. Such a combination produces a powerful and empirically-based risk and value framework within which CEOs and other senior corporate management may examine their firms' value histories and base current decision-making.

The research results show a prevalence of major value shifts across large firms. In a five-year period, it is quite likely that a CEO will experience such a sudden jump, or precipitous fall, in value while he or she is at the helm. Moreover, the impact on value tends to be sustained. Therefore, CEOs must strive to conform to the pattern of sustaining the positive shifts and, equally, must strive to turn around those negative shifts.

The study highlights the importance of strategic risk management. The vast majority of events surrounding the value shifts (positive and negative) were strategic in nature. Driving the positive value shifts, were strategic alliances, successful execution of core business process and investment in research and innovation. Driving the negative value shifts, were a failure to adapt to a changing business environment, customer mismanagement and poor investor relations. These results carry clear implications for CEOs in their risk management resource allocation decisions. It was found that negative value impacts can be especially severe when a firm is experiencing radical change (organizational or financial) concurrently with the risk event. Extra managerial vigilance, therefore, is required at such times.

While the management of many financial and operational risks can be delegated to a specialist department within the organization—treasury, insurance, audit, health and safety, procurement, for example—the CEO cannot delegate strategic risk management. It remains firmly on the Board agenda and it is the CEO's responsibility to provide leadership for managing strategic risk actively. The research presented in this report suggests that strategic risk management should be a top priority for the CEO.


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Appendix I — Methodology

The methodology for this research was developed by Ernst & Young and Oxford Metrica.

Both quantitative and qualitative methods were employed for this research. Quantitative research methods were used to focus on identifying and measuring the value shifts for analysis, modelling the largest value shifts, and analyzing the patterns in risk and value across the portfolio. Qualitative research methods were used to evaluate the critical events surrounding each value shift.

Quantitative Methods

Oxford Metrica undertook all quantitative analysis. This analysis comprised three phases. The share price movements of the Global 1000 quoted firms were analyzed in phase one. In phase two, the largest 100 positive and largest 100 negative value shifts were modelled further to produce a cleaner measurement of the relationship between the critical underlying event(s) and the subsequent shift in value. In phase three, these two Top 100 portfolios were analyzed in depth to identify and explain the emerging patterns of risk and value.

Phase One - Measuring Value across the Global 1000

The Global 1000 portfolio of firms is defined as the largest (by market capitalization on July 31, 2001) 1,000 quoted firms worldwide. The share price movements of these firms were analyzed to identify their largest shifts in value. A value shift is defined as the movement (upward or downward) in a firm's share price, relative to the market index. The index selected for this analysis was the MSCI (Morgan Stanley Capital International) World Index. By identifying relative movements, rather than absolute changes in share price, a firm-specific picture is developed which does not merely replicate the wider movements of the general market.

For each firm in the Global 1000, the largest value shift for any 20-day trading period (4 trading weeks or approximately one calendar month) was calculated. The period of analysis chosen was the last five calendar years; August 1, 1996 to July 31, 2001, inclusive. This process yielded, therefore, for each firm, the largest positive and the largest negative shift in the firm's value, relative to the overall market. In other words, the analysis captures for each firm in the Global 1000, its best and worst month, in shareholder value terms, over the last five years.

Phase Two - Modelling the Largest Shifts in Value

The value shifts identified in phase one were then ranked by size and two subportfolios were created for further analysis. The "Top 100 Positives" includes the 100 firms (of the Global 1000) that experienced the largest increases in value in any 20-day trading period over the last five years. The "Top 100 Negatives" includes the 100 firms that experienced the biggest such decreases in value.

All these value shifts have been measured relative to the market index; all market-wide movements have been stripped out from the analysis. However, any value shift still may be influenced by the sensitivity of the share price to the market movement. This sensitivity is captured by the firm's ß, or beta factor.

The next stage of the analysis, therefore, involved risk-adjusting all the value shifts to take account of this sensitivity. These procedures, combined with a lognormal adjustment to the stock returns, is undertaken by using Oxford Metrica's ValueReaction™ model. The lognormal adjustment is necessary because the pattern of stock returns does not conform to a normal distribution. These modelling procedures mean that a robust measurement of share price reaction is

13 *In the cases of Fortis, Reed International/ Elsevier, Rio Tinto, Royal Dutch/ Shell and Unilever, each of which is quoted on two separate exchanges, the greater in absolute terms of the two value shifts has been included for analysis.*

captured—a reaction that is neither affected by market-wide or sectoral influences, nor by the inherent sensitivity of a firm's share price to market movements.

Phase Three - Identifying the Patterns of Risk and Value

To gain insights to the causes behind sudden major shifts in value for large firms, the Top 100 value shifts (positive and negative) were modelled further. Specifically, the value shifts were analyzed:

- by geographic region
- by industry sector
- by firm size

The value shifts then were classified by the calendar month in which they occurred, so as to discover whether firms' reporting patterns were driving the shifts. Subsequently, the pattern of shifts was traced across the full five-year period of analysis, revealing some interesting dimensions of stock volatility over the period. Finally, the Top 100 portfolios were analyzed:

- by risk class
- by risk management technique
- by value source

In order to achieve this, a risk classification framework had to be designed which was entirely driven by the empirical evidence and yet could comfortably accommodate these three dimensions. Oxford Metrica balanced the highly detailed classification system produced by New World Research with the practical demands of Ernst & Young's RiskUniverse™ framework. New World Research's system carried the advantage of being data-driven and rooted firmly in the empirical evidence. Ernst & Young's Risk Universe™ tool has the advantages of practicality and comprehensiveness, and is rooted firmly in extensive experience that goes beyond the sample of firms analyzed for this research. The resultant risk classification framework produced by Oxford Metrica seeks to leverage the advantages of both these systems and yet remain resonant and consistent with each.

Identified for this new risk framework are ten core (risk) management techniques that map on to the risk classes and could encourage positive shifts in value and prevent or mitigate those negative.

Finally, the new risk framework complements Ernst & Young's model of shareholder value, where the value of a firm may be sourced either from the value of the existing business or from future growth options.

Qualitative Methods

The qualitative research was conducted by New World Research. The objective was to discover and classify the critical event(s) that lay behind the 200 sudden shifts in value; 100 positive and 100 negative. This involved a three-stage approach.

Firstly, initial data from the quantitative analysis, such as the name of the firm and the date of the value shift, was entered into a database in order to search for financial and business commentaries.

Second, commentaries were analyzed in order to determine the circumstances of the firm at the specified date, and the critical event(s) that could be underlying the positive or negative shift. Given that the 200 shifts were the largest for the global portfolio over the past five years, in the majority of cases each value shift had attracted considerable attention and commentary in the financial and business press. In many cases, it was possible to track down discussions among the firm, investors and analysts as to the cause of the value shift.

Thirdly, once all 200 value shifts had been analyzed on a case-by-case basis, they were classified. Each value shift was labelled with a detailed risk classification. Finally, each "risk class" was placed into a broader risk classification of strategic, operational or financial. This classification then fed into the final stage of the quantitative research approach described above.

Data

All raw financial, stock and market data used in the quantitative analysis were obtained from *Thomson Financial Datastream*. Qualitative information was obtained from *Reuters Business Briefing and Northern Light* databases.


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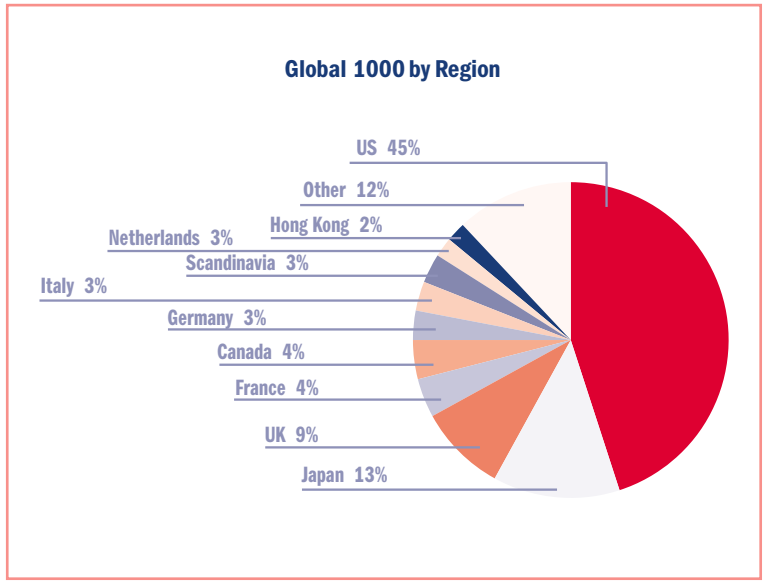
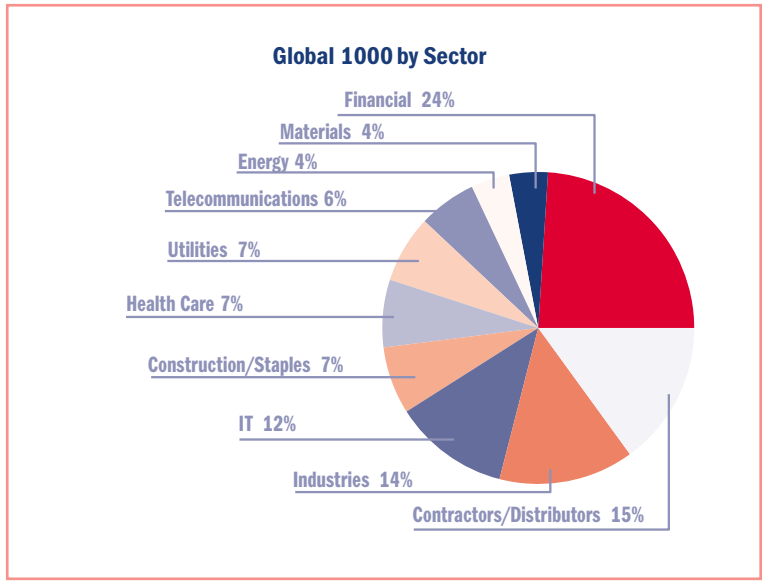
Appendix II — Regional and sectoral composition of Global 1000



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Appendix III — Industry classification

Sector	Subsectors	
Energy	Oil & Gas Exploration/ Production Oil Services	Oil Integrated
Materials	Chemicals, commodity Forestry Pulp & Paper	Chemicals, speciality Mining Steel
Industrials	Aerospace Automobile Business Support Construction Diversified Industry Engineering Shipping & Ports	Airlines & Airports Building Materials Commercial Vehicles Defence Electrical Equipment Rail, Road, Freight
Consumer/Discretionary	Auto Parts Cable & Satellite Discount Stores Home Entertainment Household Appliances Media Agencies Restaurants & Pubs Textiles	Broadcasting Clothing & Footware Electronic Equipment (retail) Hotels Leisure Facilities Printing & Publishing Retailers, General Tyres & Rubber
Consumer/Staples	Brewers Food & Drug Retailers Household Products Soft Drinks	Distillers & Vintners Food Processors Personal Products Tobacco
Health Care	Health Maintenance Organisations Medical Equipment & Supplies	Hospital Management Pharmaceuticals
Financials	Asset Managers Consumer Finance Investment Banks Mortgage Finance Real Estate Developers	Banks Insurance Brokers Life Assurance Non-life Insurers Reinsurers
Information Technology	Computer Hardware Electronic Equipment (wholesale) Semiconductors Telecommunication Equipment	Computer Services Internet Software
Telecommunications Services	Telecommunication Fixed Line	Telecommunication Wireless
Utilities	Electricity Water	Gas Distribution

The industry classification is based on the Global Industry Classification Standard (GICS) as determined by Morgan Stanley Capital International and Standard & Poor's.

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