
Quantifying executive threats: shareholder litigation

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Abstract: Threats confronting directors and officers of publicly traded companies are among the least understood dimensions of operational risk, all while the key manifestation of those threats – shareholder class action (SCA) litigation – counts among the most economically and reputationally damaging risks. The goal of the research outlined here is to offer a general overview of SCA as a key expression of executive threat, with a particular emphasis on one of the key root cause of those suits: accounting restatements. Representing corrections of, or amendments to earlier disclosed company performance details, restatements are recast in a more informationally-revealing context of ‘restatement-type-materiality’ conjoint, which yields a deeper theoretical understanding of conditions under which corrections of earlier released management disclosures can lead to significant heightening of executive risk. Also discussed is a general outline of a multi-attribute exposure assessment approach, which amalgamates multiple risk heightening proxies into a single evaluative framework.

Keywords: executive risk; securities class action litigation; directors and officers liability; accounting restatements; executive threats; risk assessment; risk analysis; SCA; risk estimation; risk measurement.

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1 Introduction

A stakeholder ecosystem has been conceptualised as a network of organisational constituents interacting with a business entity in a manner that contributes to it remaining a going concern (Banasiewicz, forthcoming). Implied in this conceptualisation is the dyadic nature of firm-stakeholder interactions, which reflects distinctiveness of the individual constituent groups and thus the changing character of organisational obligations in relation to individual groups. For instance, shareholders, one of the most visible organisational constituent groups, tend to have infrequent, if any, direct contact with the business organisation in which they hold stock and their expectations rarely extend beyond opportunistic arbitrage (Boesso and Kumar, 2009; Ezzine and Olivero, 2013; George and Lorsch, 2014). On the other hand, employees usually have constant direct interactions with the organisation and their expectations tend to emphasise continuity and conditions of employment (Beach, 2007; Hubbard and Purcell, 2001; Woods, 1993); still other stakeholder groups, such as customers or creditors, have periodic interactions with business entities and their expectations tend to reflect the fulfilment of implicit or explicit commitments (Greenberg, 2014; Houston et al., 2010). Furthermore, the character of dyadic organisation-stakeholder interactions may reflect legally binding obligations, typically taking the form of laws or regulations, or it may reflect the more implicit behavioural norms, which can be broadly conceptualised as ever-changing socio-political sentiments reflecting shifting and emerging societal priorities (Banasiewicz, 2014).

One of the more pronounced formal obligations of corporate managers is timely, accurate and complete disclosure of pertinent information (Kross and Suk, 2012; Morris et al., 2012); in the US, those expectations can be viewed as a direct consequence of legislative acts (the Securities and the Securities Exchange Acts, both discussed later) that spell out obligations of managers of publicly traded companies (Palmiter, 2009; Pickering, 1968; Sametz, 1991). Management disclosures are of particular interest to current and prospective shareholders who rely on that information in making investment-related decisions. When shareholders believe that management did not properly discharge their information dissemination obligations they can take remedial legal action, which they can pursue individually or as a group; the latter are known as ‘class actions’, which are lawsuits pursued jointly by a group (i.e., a ‘class’) of plaintiffs (Barabanov et al., 2008; Francis et al., 1994; Johnson and Clearfield, 2006). In the context of shareholders-company dyads, such suits are commonly known as securities or shareholder class actions (SCAs).

SCAs are one of the more reputationally and economically damaging risks confronting directors and officers of public companies, and the companies themselves. On average, about 200 of those suits are filed in US federal courts¹ annually (Cornerstone Research, 2015), and in the vast majority of cases the underlying cause of action stems from alleged wilful misconduct taking the form of incomplete, misleading or incorrect disclosures (Bebchuk and Fried, 2004; Chung and Wynn, 2008; Harris, 2008). In a broader conceptual sense, those suits can be seen as manifestations of a recurring conflict of interest that emanates from the separation of ownership and management, which characterises large, public business organisations (Emanuel, 2005; Finegold et al., 2007; Windsor, 2009). Known variously as the principal-agent problem (Fama and Jensen, 1983; Hindley, 1970) or agency theory (Eisenhardt, 1989; Pepper and Gore, 2013; Stroh et al., 1996), it tends to arise when managers of business organisations make decisions on

behalf of owners of those organisations under conditions of divergent interests and asymmetric information, ultimately leading to non-conformance of managers' behaviours to shareholders' expectations of those behaviours (Cheng et al., 2010; Harris, 2008; Morrissey, 2012).

1.1 Research data

One of the cornerstones of US securities markets is the earlier mentioned public disclosure requirement, which is placed upon all companies traded on US stock exchanges; that requirement is enforced by the US Securities and Exchange Commission (SEC), a federal regulatory agency created expressly (by the US Securities Exchange Act of 1934) to police and monitor the efficient functioning of securities markets. The main disclosure mechanism employed by the SEC is the use of standard reporting templates (e.g., SEC Forms 10-K and 10-Q for annual and quarterly financial outcomes, or SEC Form 8-K for ad hoc developments, such as mergers and acquisitions) to assure that all companies provide the same type of performance details² to enable investors to make meaningful assessments and comparisons. Once reported to the SEC, performance data are made publicly accessible via the electronic data gathering, analysis and retrieval (EDGAR) system, which is open to the public and searchable on a company-by-company basis.

The SEC's EDGAR system offers effective means of accessing specific company's filings, but it does not offer an easy way of extracting data for analyses. Given that, Standard & Poor's, a financial services company, has also been designated as an official repository of historical public disclosure data, structured as analysis-friendly data tables. The company's data warehouse, Compustat, offers cumulative and complete recording of disaggregate disclosure and related metrics and it is used extensively in applied and academic research focused on broader cross-company and/or cross-time analyses, including the research detailed in this paper. When examining cross company differences, the current research utilised five consecutive years, 2010 thru 2014, of all public filings by all companies traded on North American exchanges; the resultant dataset contained 10,553 individual companies, of which 6,656 had reporting data covering the entire analysis period (1,768 individual metrics were extracted from 'Compustat/North America/fundamentals annual' and 'Compustat/North America/security daily' tables). When assessing long-term trends, ten-year non-static sample spanning 2005 thru 2014 was utilised; trends and summaries reported in ensuing figures and tables were computed using either of the datasets.

2 Shareholder litigation

Managers of US exchanges-traded companies are required to disclose financial details of their companies' performance in a manner originally spelled out by two key legislative acts – the US Securities Act of 1933 and the US Securities Exchange Act of 1934 (governing the issuance of new and trading of existing securities, respectively) (Pickering, 1968; Rogers et al., 2011; Sametz, 1991). Furthermore, as spelled out in the more recent US Sarbanes-Oxley Act of 2002, executive managers (namely, the chief executive and chief financial officers) are also required to attest to the accuracy of those disclosures³; it is worth noting that the definition of 'disclosure' includes both written

statements, such as the annual financial filings (US SEC Form 10-K) as well as verbal communications, such as comments made during analyst calls (Kross and Suk, 2012; Lees, 1981). Naturally, accuracy of all management disclosures is of paramount importance – in fact, the rights of investors in that regard are absolute, which means that no distinction is made between intentional and unintended errors, omissions or misstatements. In legal terms, any company performance related error or omission can be construed as a violation of applicable statutes or regulations, even if no discernible intent to deceive is alleged (Chen, 2010; Emanuel, 2005).

However, even though any incomplete, misleading or inaccurate managerial disclosure automatically creates a legal liability, it does not necessarily create an economic liability (Magnuson, 1981; Morris et al., 2012). More specifically, the latter arises when there is evidence linking managerial disclosure inaccuracy to economic damages, which typically take the form of misrepresentation-precipitated stock price decline (more on that later) (Acito et al., 2009; Cheng et al., 2010). Hence, shareholder litigation can be conceptualised as a consequence of (alleged) managerial misrepresentations and a corresponding – i.e., occurring within the same timeframe – shareholder loss.

Table 1 SCA suit frequency

<i>Year</i>	<i>NYSE and NASDAQ listings</i>	<i>NYSE and NASDAQ SCA filings</i>	<i>Avg. frequency</i>
1996	8,783	110	1.3%
1997	8,190	174	2.1%
1998	7,771	242	3.1%
1999	7,418	209	2.8%
2000	7,197	216	3%
2001	6,474	498*	7.7%
2002	5,999	265	4.4%
2003	5,643	228	4%
2004	5,593	239	4.3%
2005	5,525	182	3.3%
2006	5,467	120	2.2%
2007	5,339	177	3.3%
2008	5,042	223	4.4%
2009	4,764	165	3.5%
2010	4,660	175	3.8%
2011	4,529	188	4.2%
2012	4,411	151	3.4%
2013	4,416	166	3.8%
2014	4,578	170	3.7%

Note: *Jump due to 'IPO laddering (promotion of inflated pre-IPO prices)' claims

Shareholder suits are typically pursued as class actions, which are collective complaints where a group (a class) of shareholders acts as one⁴. Occurrence-wise, SCAs are fairly infrequent, but can be quite costly. More specifically, as shown in Table 1, on average,

companies traded on major US exchanges (NYSE/Amex and NASDAQ) face roughly 3.5% chance of incurring SCA, even when the downward trend in the number of companies listed on those exchanges is taken into account. The potential economic impact, however, can be quite a bit more significant: according to Stanford Law School's Securities Class Action Clearinghouse, a total of 3,919 securities class action suits have been filed in the US since 1996⁵, of which 2,018 settled at the aggregate cost of over \$87 billion⁶. It is worth noting that nearly half of all SCAs are dismissed, of those that remain, virtually all end in negotiated settlements; overall, fewer than 1% of shareholder suits reach trial (Cornerstone Research, 2015).

On a more micro scale, company-specific magnitudes of SCA settlements tend to reflect a combination of market capitalisation and the veracity of alleged violations of securities laws, which results in a tremendous variability in settlement values: leveraging a convenience sample of 327 verified SCA settlements collected for the purposes of this study and excluding outliers in the form of the so-called 'mega settlements', or settlements that exceeded the \$1 billion mark (there are a total of ten \$1 billion+ settlements, with the Enron settlement being the largest at \$7.2 billion), the mean settlement value is \$38.2 million and the corresponding standard deviation is \$111.9 million, which underscores tremendous cross-company variability.

2.1 Organisational duality and shareholder actions

In a legal sense, corporate entity is endowed with a person-like status, thus it is separate and distinct from individuals that comprise it (Pickering, 1968). On the other hand, from the organisational theory point of view, business organisation is a group of individuals joined together in pursuit of commercial goals (Rogers, 1975). Hence it follows that shareholder litigation can be directed at organisations as separate legal entities or at organisational decision makers, namely, corporate directors and officers, as individuals. Shareholder suits aimed at organisations usually seek economic damages as compensation for loss of shareholder value stemming from disclosure errors or omissions-attributable decline in stock's market value (Barabanov et al., 2008); suits directed at organisations' directors and officers (henceforth referred to as 'managers') seek changes in policy or personnel, stemming from shareholders' belief that managers' actions caused harm to the organisation itself (Francis et al., 1994; Hazen, 2009). Those suits, known as 'derivative', pit the corporate entity against its managers – their basic rationale centres on the need to avoid an otherwise inescapable conflict of interest, where corporate managers, as organisational decision makers, would be in a position of suing themselves. Thus in contrast to shareholder litigation, where shareholders take legal action *against* the corporate entity, in derivative litigation shareholders act *on behalf* of the corporate entity by taking legal action against its managers. In practice, derivative suits tend to accompany shareholder litigation (hence the label 'derivative', which indicates that those claims stem, or are derived from the same underlying allegations), thus the ensuing analysis will treat the two as a single category of securities class actions.

Critical to developing a deeper understanding of the overall causal structure of securities class action litigation is the delineation of root causes of allegations of managerial misconduct: what specific factors or developments compel shareholders to assert misrepresentations in management disclosures? After all, the essence of the earlier discussed principal-agent problem is the shareholders' reliance on information conveyed by managers (Fama and Jensen, 1983; Hindley, 1970; Pepper and Gore, 2013).

Considering that shareholders generally do not have the ability to independently verify the accuracy of those disclosures, what causes them to allege misrepresentation in managerial communications? Ironically, it is corporate managers' own actions that signal that possibility.

3 Restatements and amendments

The US federal securities laws require all companies traded on US exchanges to fully disclose the details of their financial performance (Hazen, 2009). Operationally, those requirements take the form of annual, quarterly and current (forms 10-K, 10-Q and 8-K, respectively) reports filed with the SEC and subsequently made public by the Commission. Annual reports provide a comprehensive overview of the company's business and financial condition and include audited financial statements, while quarterly reports offer end-of-a-period snapshots of key financial metrics (in effect, a subset of what's included in the annual report); lastly, current reports "...announce major events that shareholders should know about"⁷. Hence in contrast to annual and quarterly reports, both of which are scheduled and contain pre-determined content, current reports are used on ad hoc basis and are meant to communicate non-recurring events, inclusive of any amendments to earlier filed annual or quarterly reports⁸.

From the standpoint of executive threat, current reports may signal to investors (and other interested parties, such as regulators) two somewhat distinct types of potential managerial misrepresentations:

- 1 material error discovered ex post facto in annual or quarterly reports
- 2 omissions of material facts, which may signal behaviours known as 'lying through omission'.

Technically, the former is categorised as a restatement, which is a correction of previously communicated information, while the latter is typically considered an amendment, which is a release of previously undisclosed information (Wang, 2009). Some corrections and amendments can be primarily stylistic, such as minor wording changes or rectification of typographical errors, while others can be substantive, such as mathematical mistakes, errors in the application of accounting principles, changes in estimates, or oversight or misuse of facts that existed at the time the financial statements were prepared. Stated differently, from the standpoint of evaluating companies' past performance or future prospects minor disclosure mistakes may be inconsequential – as such, those are extremely unlikely to precipitate adverse stakeholder action; major corrections, on the other hand, may materially alter one's evaluation of past performance and/or future prospects – those carry significantly heightened odds of spurring adverse stakeholder action.

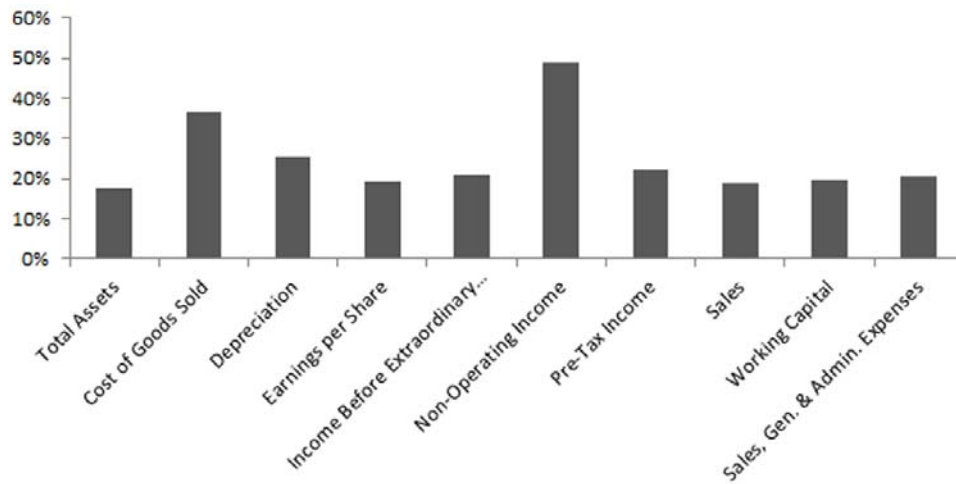
3.1 What gets corrected the most?

Although financial performance of business organisations tends to be frequently reduced to just a handful of metrics, such as sales, return on investment or long-term debt, disaggregate public disclosure statements tend to include hundreds of metrics, in part because aggregate categories such as long-term debt are usually broken down into

numerous more detailed measures (to that end, the Compustat fundamentals data table that contains the core balance sheet and income statement measures has more than 800 individual variables). When coupled with a commonsensical assertion that anything that is countable can be miscounted, it is not surprising that restatements and amendments are fairly common, especially when looked at from the standpoint of longer-term trends.

The analysis of ten years of annual SEC filings revealed that roughly 68% of companies traded on US exchanges incurred at least a single restatement, which suggests an annual rate of approximately 7%. Stated differently, on average, about 7% of public disclosures are subject to subsequent revisions. In terms of what metrics are most frequently restated, Figure 1 offers a summary of the top ten most frequently restated company performance metrics.

Figure 1 Average annual frequency of restatements by type: top ten



Overall, ‘non-operating income’ is the most often restated value with nearly half (49%) of all restatements containing a correction of that metric. It is a broad summary measure, computed as a net sum of several income (rental, royalty, interest, dividend, franchise income as well as equity in earnings of non-consolidated subsidiaries) and expense (amortisation of deferred credit and/or negative intangibles, foreign exchange adjustments, idle plant expenses, moving as well as other/miscellaneous expenses) categories. Thus although reported as a singular figure, it is a composite comprised of numerous quantities, which offers at least some explanation of its high error rate. The same reasoning does not apply to the second and third most frequently misstated performance metrics, ‘cost of goods sold’ and ‘earnings per share (EPS)’, respectively – both are considerably more narrowly defined, which should make them less error-prone.

3.2 *The question of materiality*

It has been noted earlier that although any correction of an earlier made disclosure carries a threat of a potentially adverse shareholder reaction, to trigger a shareholder lawsuit a restatement has to be causally linked to economic damages. That means that the new, i.e., restated, information is materially different from earlier disclosures, and that difference

translates into substantive change in investors' evaluations of the company's past performance and/or its future prospects (Kross and Suk, 2012; Rogers et al., 2011). Hence, corrections of non-material typographical errors and other stylistic changes carry significantly less risk than substantive revisions of key financial indicators, such as 'sales' or 'EPS' (Gertsen et al., 2006; Marcy, 2007). Moreover, the riskiness of substantive revisions is further modulated by the relative magnitude of corrections (Acito et al., 2009; Burks, 2011; Keune and Johnstone, 2012), as it is intuitively obvious that the greater the correction – the greater the risk of adverse stakeholder action, such as shareholder litigation (Beck and Bhagat, 1997). Given that is there an identifiable tipping point?

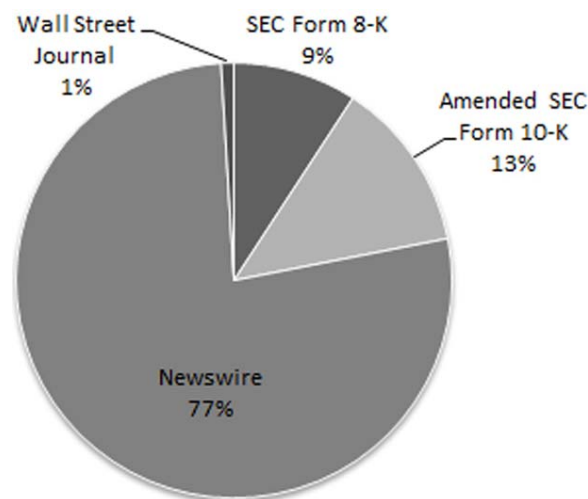
The notions of just-noticeable difference, which is the amount of change required before a change can be noticed (De Martino et al., 2006; Kahneman, 2011; Laufer and Paz, 2012), and absolute threshold, which is the level at which a quantity can be detected (Levin, 2000; Meddis and Lecluyse, 2011) paint a fairly complex picture in that regard: cross-investor differences in expectations, the level of involvement and the breadth of applicable knowledge combine to produce individually-determined, probabilistic conclusions. Individual differences notwithstanding, investor expectations tend to be shaped by simplifying heuristics, typically in the form of aggregate benchmarks (Kahneman, 2011). Within the confines of restatement magnitude evaluations, the use of heuristics may result in transforming difficult to evaluate points on a continuum of possible values, such as downward revisions in EPS of 2.1%, into discrete, conclusion-laden classifications, such as 'normal', 'low' or 'high'. Hence from the standpoint of shareholder litigation threat assessment, a restatement magnitude that falls within a 'normal' range can be expected to carry an average chance of triggering a shareholder suit, whereas a magnitude that falls outside of that norm can be deemed as carrying below (i.e., 'low') or above (i.e., 'high') the norm chances of triggering litigation. Operationalisation-wise, 'normal' can be expressed as a confidence interval-defined range, with magnitudes falling below and above the so-defined range being classified as 'low' and 'high', respectively. Adjusting for company size differentials, where restatement magnitudes are expressed in relative rather than absolute terms, yields measure-specific, normalised restatement risk impact estimation ranges illustrated in Table 2.

The revenue-weighted distribution of the top ten most restated financial outcomes, shown earlier in Figure 1, were computed using restatements filed using SEC Form 8-K or a corrected (i.e., re-filed) SEC Form 10-K capturing all public filings for all US exchanges-traded companies for a period of ten years. The shaded areas show measure-specific normal restatement magnitudes, while the quantities falling above and below show statistically material restatement thresholds. Given their diametrically different interpretations, it is important to draw a distinction between corrections of earnings and expense related metrics: a restatement lowering an earlier-communicated company earnings or assets delivers negative news, while an upward earnings/assets correction is likely to be viewed as positive news. In general, the opposite is true for expense related metrics, where downward restatements are likely to be interpreted as positive developments, while upward changes as negative ones. Hence from the standpoint of just-noticeable difference threshold, material downward earnings/assets revisions or upward corrections of expenses are both likely to precipitate adverse investor reaction, while upward earnings/assets and downward expense correction are not expected to compel adverse actions.

3.3 Communication medium

Although US traded companies are required to disclose any developments that could materially impact investors' evaluations of their performance (Baker and Filbeck, 2015; Marcy, 2007), the choice of what constitutes such an event is typically left to the reporting company's discretion (Wang, 2009). When put in the context of rules against lying through omission, which consist of making statements that paint an incomplete or inaccurate picture and not revealing other information necessary to present the entire truth, the resultant materiality threshold ambiguity can be quite problematic, as misjudgements can lead to either an unnecessarily heightened reporting burden on the one hand, or allegations of insufficient disclosures on the other (Cho et al., 2003; Lerner and Mahoney, 2000; Tuttle et al., 2002).

Figure 2 Communicating change: 2001–2010 aggregates

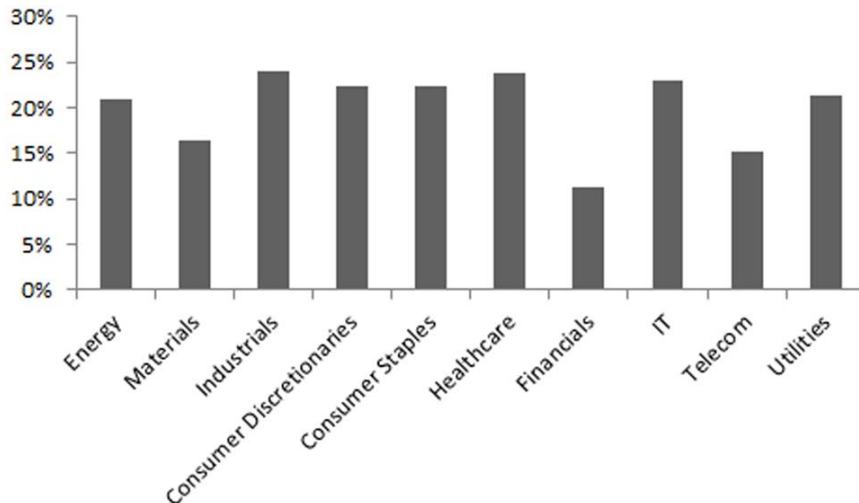


A strategy that some business organisations rely on to manage those ambiguities is to use a combination of official and 'stealth' change reporting mechanisms (Evans and Sridhar, 2002). The former utilises current reports (SEC Form 8-K), which are easy for investors to track thus making the newly reported events highly visible; the latter relies on a variety of more surreptitious means, such as adding 'fixes' to annual or quarterly filings, submitting revised reports or issuing brief press releases. As shown in Figure 2, US firms make particularly heavy use of press releases (shown as 'newswire', a generic name for services that electronically transmit news to the media and the public), which appears to point toward the desire to resolve the materiality challenge by steering what management believes to be more material (and generally fewer in number) disclosures in the direction of official mechanisms, all while using the more stealth reporting means to communicate the more numerous though less material changes.

3.4 Cross-industry differences

When looked at as unexpected developments, restatements of – and amendments to – earlier communicated information can be seen as random events (Blankley et al., 2012), in view of which it appears reasonable to expect an approximately uniform distribution of those events across industry sectors (Acito et al., 2009). Stated differently, an industry that encompasses, for instance, 10% of all companies should also account for roughly 10% of all restatements (a ratio commonly referred to as a ‘fair share index’). Furthermore, there appear to be no theoretical or practical reasons to expect material cross-industry differences in terms of costs of responding to restatement-triggered adverse stakeholder actions (e.g., defence and settlement costs associated with shareholder litigation), given that those tend to be shaped by a company-specific combination of the size of market capitalisation and the veracity of litigation-triggering allegations.

Figure 3 Average annual restatement frequency



However, the empirical reality contradicts those expectations: as graphically illustrated in Figure 3, the average industry sector⁹ specific restatement frequency ranges from a low of about 11% (financials) to a high of about 24% (healthcare and industrials). Additionally, the cross-industry differences are not limited to the frequency dimension of SCA litigation suits – the analysis of a convenience sample of 327 verified SCA settlement amounts points to equally noticeable severity differences, summarised in Table 3: the utilities sector stands out as exhibiting considerably larger median settlement values, followed by telecommunications and consumer staples sectors. A part of the reason for those observed differences might stem from a larger capitalisation base of, particularly, firms that fall within the utilities sector. A point-in-time assessment of median market capitalisation points to an overall median value of \$200.5 million, while the utilities firms boast a significantly higher median of \$1,164.9 million, followed by telecommunication firms with a median market capitalisation of \$586.4 million.

Table 3 SCA indexing: likelihood and severity

<i>Industry sector</i>	<i>Frequency index (1 = overall avg.)</i>		<i>Severity index (1 = overall avg.)</i>	
	<i>Since 1996</i>	<i>Last three years</i>	<i>Median settlement</i>	<i>Fair share index*</i>
Energy	0.5	0.6	\$8,000,000	0.8
Materials	0.3	0.5	\$5,055,043	0.2
Industrials	0.7	0.7	\$5,925,000	1.2
Consumer discretionaries	1.0	1.0	\$5,900,000	0.9
Consumer staples	0.9	1.2	\$16,000,000	0.5
Healthcare	1.8	1.9	\$6,000,000	0.5
Financials	0.8	1.3	\$8,238,750	0.4
Information technology	1.7	1.0	\$5,950,000	0.4
Telecommunications	1.1	0.6	\$18,600,000	4.4
Utilities	1.1	0.9	\$39,000,000	7.0

Note: *Percent of total \$/Percent of total N.

Amalgamating the implications of frequency and severity indices depicted in Table 3, a picture emerges of meaningful cross-industry differences: some industries, such as materials or industrial, exhibit consistently sub-norm economic exposure to the threat of shareholder litigation, while others, such as healthcare or utilities, appear to face more economically-significant exposures.

4 Looking beyond univariate trends

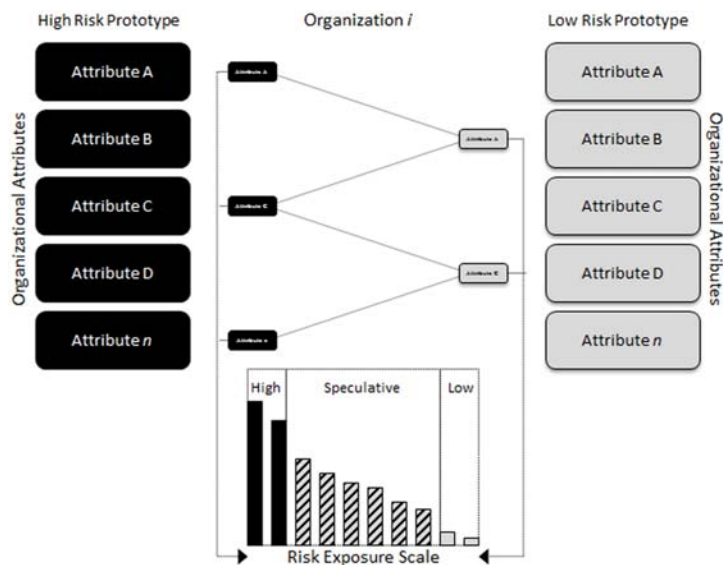
Aggregate trends discussed earlier offer a considerable amount of descriptive insights, which can be quite beneficial from benchmarking and bias reduction standpoints (Kahneman, 2011; Wade, 2011). However, such generalisations are correlational only, which considerably limits those insights' value to risk decisioning (Basak et al., 2006). Additionally, risk proxies such as restatements or industry trends tend to be reductive in the sense of obfuscating within-industry, cross-company differences, which runs counter to the demands of detail-intensive risk mitigation efforts (Mullen, 2013; Talluri et al., 2013). For instance, a review of the frequency with which public US companies restated their annual SEC filings between 2005 and 2014 (either by re-submitting revised SEC Form 10-K or through the use of SEC Form 8-K) reveals that, in an average year about 1,000 companies corrected some part of their earlier-filed disclosures; yet, only about 200 shareholder suits were filed during the same timeframe (see Table 1). Recalling the earlier drawn distinction between stylistic and substantive corrections, as well as the importance of materiality, it is clear that a mere indication of the presence of a restatement is too coarse a measure to be used as a risk indicator. However, when adequately contextualised – i.e., operationalised in a manner that accounts for the type as well as the relative materiality of corrections, a restatement indicator has the potential to deliver robust predictive value. Furthermore, when supplemented by additional exposure-heightening factors, such as recent mergers and acquisition related activities,

the resultant solution will have the potential to yield theoretically and practically meaningful predictive accuracy gains.

4.1 Multi-attribute assessment

When looked at from the standpoint of risk assessment, organisations can be conceptualised as bundles of attributes, some of which might be indicative of exposure to adverse events (Banasiewicz, 2014; Harvey, 1993; Yemshanov et al., 2013). Within the context of shareholder litigation, a comparison of a statistic sample of US exchanges (NYSE/Amex and NASDAQ) traded companies, which are those that have been continuously listed since the passage of PSLRA (December 1995), reveals that about 50% of those companies have been targeted with securities litigation. Building on that natural categorisation, the two groups (i.e., those that were sued by their shareholders vs. those that were not) can be contrasted in terms of a wide array of characteristics, including the frequency, type and materiality of restatements, in addition to other material events, such as mergers and acquisitions or sales volatility, to name just a few. Overall, the totality of organisational attributes can be reduced to only those that maximise the between-group dissimilarity, ultimately leading to the delineation of a set of exposure heightening proxies. Operationally, that entails the creation of multiple restatement-measuring metrics, including binary indicators (true/false) to capture the occurrence, and materiality contrasts to capture numeric thresholds associated with material effects, while also correcting for cross-company size and industry differences. Lastly, care must be taken to properly adjust for the potentially skewing-base values – for instance, although in absolute sense the information technology (IT) sector boasts the largest number of securities class actions (Cornerstone Research, 2015), when adjusted for the base number of companies, it is the healthcare sector that exhibits the highest relative frequency of shareholder suits, as shown in Table 3.

Figure 4 Profile similarity risk assessment



The result of the contrasting analysis is the creation of ‘high’ and ‘low’ risk company prototypes, graphically illustrated in Figure 4. The ‘high risk’ prototype is a multi-attribute combination of organisational characteristics shared by organisations that incurred at least one SCA, while the ‘low risk’ prototype is a multi-attribute combination of organisational characteristics shared by organisations that did not incur a single SCA (both within the analysis period, which is 1 January 1996 onward). The role of these two theoretical profiles is to serve as reference benchmarks for organisation-specific, degree-of-similarity assessments: the more communalities an organisation shares with either of the two prototypes, the more it is deemed to resemble it – in general, high degree of similarity with high risk prototype is indicative of heightened risk of shareholder litigation, while high degree of similarity with low risk prototype is indicative of low risk. Interpretation-wise, as suggested by the notion of just-noticeable difference (De Martino et al., 2006; Kahneman, 2011; Laufer and Paz, 2012), in order to be deemed high or low, the company-specific degree of similarity to the respective prototypes has to be material; absent that, exposure can be deemed ‘speculative’, suggesting that it is not materially higher or lower than the average.

References

- Acito, A.A., Burks, J.J. and Johnson, B.E. (2009) ‘Materiality decisions and the correction of accounting errors’, *The Accounting Review*, Vol. 84, No. 3, pp.659–688.
- Ali, A. and Kallpur, S. (2001) ‘Securities price consequences of the Private Securities Litigation Reform Act of 1995 and related events’, *The Accounting Review*, Vol. 76, No. 3, pp.431–460.
- Baker, H.K. and Filbeck, G. (2015) *Investment Risk Management*, Oxford University Press, New York, NY.
- Banasiewicz, A.D. (2014) *Risk Profiling of Organizations*, 2nd ed., Erudite Analytics, Boston, MA.
- Banasiewicz, A.D. (forthcoming) ‘The ecosystem of executive threats: a conceptual overview’, *Risk Management*, In Press.
- Barabanov, S.S., OnemOzocak, H.J.T. and Walker, T.J. (2008) ‘Institutional investors and shareholder litigation’, *Financial Management*, Vol. 37, No. 2, pp.227–250.
- Basak, S., Shapiro, A. and Tepla, L. (2006) ‘Risk management with benchmarking’, *Management Science*, Vol. 52, No. 4, pp.542–557.
- Beach, L.R. (2007) *Human Element: Understanding and Managing Employee Behavior*, M.E. Sharpe, Armonk, NY.
- Bebchuk, L.A. and Fried, J.M. (2004) *Pay Without Performance: The Unfulfilled Promise of Executive Compensation*, Harvard University Press, Cambridge, MA.
- Beck, J.D. and Bhagat, S. (1997) ‘Shareholder litigation: share price movements, news releases, and settlement amounts’, *Managerial and Decision Economics*, Vol. 18, Nos. 7–8, pp.563–586.
- Blankley, A., Hurtt, D.N. and MacGregor, J.E. (2012) ‘Abnormal audit fees and restatements’, *Auditing: A Journal of Practice & Theory*, Vol. 31, No. 1, pp.79–96.
- Boesso, G. and Kumar, K. (2009) ‘An investigation of stakeholder prioritization and engagement: who or what really counts’, *Journal of Accounting and Organizational Change*, Vol. 5, No. 1, pp.62–80.
- Boyle, E. and Knofl, F. (1996) ‘The Private Securities Litigation Reform Act of 1995’, *The CPA Journal*, Vol. 64, No. 4, pp.44–47.
- Burks, J. (2011) ‘Are investors confused by restatements after Sarbanes-Oxley?’, *The Accounting Review*, Vol. 86, No. 2, pp.507–539.

- Chen, S. (2010) 'Bolstering unethical leaders: the role of the media, financial analysts and shareholders', *Journal of Public Affairs*, Vol. 10, No. 3, pp.200–215.
- Cheng, A.C.S., Huang, H.H., Li, L. and Lobo, G. (2010) 'Institutional monitoring through shareholder litigation', *Journal of Financial Economics*, Vol. 95, No. 3, pp.356–383.
- Cho, S-Y., Hagerman, R., Nabar, S. and Patterson, E. (2003) 'Measuring stockholder materiality', *Accounting Horizons*, Vol. 17, Supplement, pp.63–76.
- Chung, H.H. and Wynn, J.P. (2008) 'Managerial liability coverage and earnings conservatism', *Journal of Accounting and Economics*, Vol. 46, No. 1, pp.135–153.
- Cornerstone Research (2015) *Securities Class Action Filings: 2014 Year in Review* [online] <http://www.cornerstone.com> (accessed 5 March 2015).
- De Martino, B., Kumaran, D., Seymour, B. and Raymond, D.J. (2006) 'Frames, biases, and rational decision-making in human brain', *Science*, Vol. 316, No. 5787, pp.684–687.
- Eisenhardt, K.M. (1989) 'Agency theory: an assessment and review', *The Academy of Management Review*, Vol. 14, No. 1, pp.57–74.
- Emanuel, S. (2005) *Corporations*, 3rd ed., Aspen Publishers, New York, NY.
- Evans, J.H. and Sridhar, S.S. (2002) 'Disclosure-disciplining mechanisms: capital markets, product markets, and shareholder litigation', *The Accounting Review*, Vol. 77, No. 3, pp.595–526.
- Ezzine, H. and Olivero, B. (2013) 'Evolution of corporate governance during the recent financial crises', *The International Journal of Business and Finance Research*, Vol. 7, No. 1, pp.85–100.
- Fama, E. and Jensen, M.C. (1983) 'Agency problems and residual claims', *Journal of Law and Economics*, Vol. 26, No. 2, pp.327–349.
- Finegold, D., Benson, G.S. and Hecht, D. (2007) 'Corporate boards and company performance: review of research in light of recent reforms', *Corporate Governance: An International Review*, Vol. 15, No. 5, pp.865–878.
- Francis, J., Philbrick, D. and Schipper, K. (1994) 'Shareholder litigation and corporate disclosure', *Journal of Accounting Research*, Vol. 32, No. 2, pp.137–164.
- George, B. and Lorsch, J.W. (2014) 'How to outsmart activist investors', *Harvard Business Review*, Vol. 92, No. 5, pp.88–95.
- Gertsen, F.H.M., van Riel, C.B.M. and Berens, G. (2006) 'Avoiding reputation damage in financial restatements', *Long Range Planning*, Vol. 39, No. 4, pp.429–456.
- Greenberg, P. (2014) 'What's customer engagement again?', *Customer Relationship Management*, Vol. 18, No. 6, pp.46–47.
- Harris, J.D. (2008) 'Financial misrepresentation: antecedents and performance effects', *Business & Society*, Vol. 47, No. 3, pp.390–401.
- Harvey, C.M. (1993) 'Multiattribute risk linearity', *Management Science*, Vol. 39, No. 3, pp.389–394.
- Hazen, T.L. (2009) *Principles of Securities Regulation*, 3rd ed., Thomson/West, St. Paul, MN.
- Hindley, B. (1970) 'Separation of ownership and control in the modern corporation', *Journal of Law and Economics*, Vol. 13, No. 1, pp.185–221.
- Houston, J.F., Lin, C., Lin, P. and Ma, Y. (2010) 'Creditor rights, information sharing, and bank risk taking', *Journal of Financial Economics*, Vol. 96, No. 3, pp.485–512.
- Hubbard, N. and Purcell, J. (2001) 'Managing employee expectations during acquisitions', *Human Resource Management Journal*, Vol. 58, No. 1, pp.17–33.
- Johnson, K. and Clearfield, A. (2006) 'Improving governance by joint shareholder action', *Pensions & Investments*, Vol. 34, No. 5, p.12.
- Kahneman, D. (2011) *Thinking, Fast and Slow*, Farrar, Staus and Giroux, New York, NY.
- Keune, M. and Johnstone, K. (2012) 'Materiality judgments and the resolution of detected misstatements: the role of managers, auditors, and audit committees', *The Accounting Review*, Vol. 87, No. 5, pp.1641–1677.

- Kross, W.J. and Suk, I. (2012) 'Does regulation FD work? Evidence from analysts' reliance on public disclosure', *Journal of Accounting and Economics*, Vol. 53, Nos. 1–2, pp.225–248.
- Laufer, O. and Paz, R. (2012) 'Monetary loss alters perceptual thresholds and compromises future decisions via amygdala and prefrontal networks', *The Journal of Neuroscience*, Vol. 32, No. 18, pp.6303–6311.
- Lees, F.A. (1981) *Public Disclosure of Corporate Earnings Forecasts*, Conference Board, New York, NY.
- Lerner, J. and Mahoney, C. (2000) 'Ten steps to avoid a restatement', *Directors and Boards*, Vol. 24, No. 2, pp.31–34.
- Levin, M. (2000) *Fundamentals of Sensation and Perception*, 3rd ed., Oxford University Press, London, UK.
- Magnuson, R.J. (1981) *Shareholder Litigation*, Callaghan, Wilmette, Ill.
- Marcy, S. (2007) *Analysis of Financial Restatements in 2006 and Beyond*, Tax Management, Washington, DC.
- Meddis, R. and Lecluyse, W. (2011) 'The psychophysics of absolute threshold and signal duration: a probabilistic approach', *The Journal of Acoustical Society of America*, Vol. 129, No. 5, pp.3153–3165.
- Morris, J., Grippo, F. and Barsky, N. (2012) 'A new era of accountability?', *Strategic Finance*, Vol. 93, No. 11, pp.42–45.
- Morrissey, D.J. (2012) 'Shareholder litigation after the meltdown', *West Virginia Law Review*, Vol. 114, No. 2, pp.531–572.
- Mullen, E. (2013) 'Aversion is not a form of risk mitigation', *Directorship*, March/April, pp.60–61.
- Palmiter, A.R. (2009) *Corporations*, 6th ed., Wolters Kluwer Law & Business, New York, NY.
- Peng, L. and Roell, A. (2008) 'Executive pay and shareholder litigation', *Review of Finance*, Vol. 12, No. 1, pp.141–184.
- Pepper, A. and Gore, J. (2013) 'Behavioral agency theory: new foundations for theorizing about executive compensation', *Journal of Management*, Vol. 39, No. 7, pp.1–28.
- Pickering, M.A. (1968) 'The company as a separate legal entity', *The Modern Law Review*, Vol. 31, No. 5, pp.481–511.
- Rogers, J.L., van Buskirk, A. and Zechman, S.L.C. (2011) 'Disclosure tone and shareholder litigation', *The Accounting Review*, Vol. 86, No. 6, pp.2155–2183.
- Rogers, R.E. (1975) *Organizational Theory*, Allyn and Bacon, Boston, MA.
- Sametz, A.W. (1991) *The Battle for Corporate Control: Shareholder Rights, Stakeholder Interests, and Managerial Responsibilities*, Irwin, Homewood, IL.
- Stroh, L.K., Brett, J.M., Baumann, J.P. and Reilly, A.H. (1996) 'Agency theory and variable pay compensation strategies', *The Academy of Management Journal*, Vol. 39, No. 3, pp.751–767.
- Talluri, S., Kull, T.J., Yildiz, H. and Yoon, J. (2013) 'Assessing the efficiency of risk mitigation strategies in supply chains', *Journal of Business Logistics*, Vol. 34, No. 4, pp.253–269.
- Tuttle, B., Collier, M. and Plumlee, D.R. (2002) 'The effect of misstatements on decisions of financial statement users: an experimental investigation of auditor materiality thresholds', *Auditing*, Vol. 21, No. 1, pp.11–27.
- Wade, J. (2011) 'Benchmarking risk management', *Risk Management*, Vol. 58, No. 7, p.44.
- Wang, L.W. (2009) *Avoiding Material Omissions Under the Federal Securities Laws*, Tax Management, Arlington, VA.
- Windsor, D. (2009) 'Tightening corporate governance', *Journal of International Finance*, Vol. 15, No. 3, pp.306–316.
- Woods, R. (1993) 'Managing to meet employee expectations: quality improvement', *Human Resource Planning*, Vol. 16, No. 4, pp.13–28.

Yemshanov, D., Koch, F.H., Ben-Haim, Y., Downing, M., Sapio, F. and Siltanen, M. (2013) 'A new multicriteria risk mapping approach based on a multiattribute frontier concept', *Risk Analysis*, Vol. 33, No. 9, pp.1694–1709.

Notes

- 1 The US Private Securities Litigation Reform Act of 1995 restricts all shareholder litigation suits to federal court districts; prior to its passage, those suits were pursued in state courts.
- 2 Although the financial fundamentals (e.g., revenues, expenses, profitability, etc.) are essentially the same for all public companies, there are, nonetheless, industry-specific measures that only apply to companies in particular industries – for instance, reserve adequacy measures are applicable to insurance companies only.
- 3 The Sarbanes-Oxley Act of 2002, Section 302, mandates that corporations' periodic filing include certifications that:
 - a the signing officers have reviewed the report
 - b the report does not contain any untrue statements or omissions and is not misleading
 - c the financial statements and related information fairly present the financial condition and the results in all material aspects
 - d the signing officers are responsible for internal controls and have evaluated those controls within the preceding 90 days and made a report on their findings.
- 4 The concept and the practice of 'class action' originated in the US and is still largely an American phenomenon, although a handful of European Union jurisdictions began to institute similar provisions. The essence of a class action is tied closely to the economics of civil litigation: under most circumstances it would not be economically sound for a single shareholder to pursue costly litigation, as the cost of such litigation would likely exceed the value of alleged shareholder losses – however, when multiple (often thousands) shareholders are able to join together as a 'class' and jointly pursue a single action, the cost-benefit relationship changes drastically.
- 5 The year the Private Securities Litigation Reform Act (PSLRA) of 1995, which set the current pleading, discovery, liability, class representation and other rules (Ali and Kallapur, 2001; Boyle and Knoff, 1996), went into effect.
- 6 <http://securities.stanford.edu/stats.html>.
- 7 <http://www.sec.gov/answers/form8k.htm>.
- 8 Under most circumstances companies are required to file the current report within four days of the triggering event, versus 60 to 90 days (depending on the size of the company) and 40 to 45 days for annual and quarterly reports, respectively.
- 9 There are numerous industry categorization schemas – the one used here is the global industry classification standard (GICS), jointly developed by Standard & Poor's and Morgan Stanley capital international; the GICS typology uses four-tier classification hierarchy: sectors, industry groups, industries and sub-industries. The analyses discussed here are focused on 'sectors', which are the most aggregate groupings.