

**Disclosures on the OHS Financial Risk Paradox:
External Reporting to Corporate Monitors or
Mushrooms?**

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On July 23, 2009 headlines on the front page of the Australian Financial Review announced “Poor Safety Record Hits [Company X] Output” (*AFR 2009 pp1,19*). Stories ran too in The Sydney Morning Herald and The Age, forecasting a US\$5 billion (35%) decrease in earnings from an expected \$15.9 billion to US\$10 billion due primarily to the impact of poor safety on production levels (*Fitzgerald 2009b, a*). The firm’s seven fatalities during the 2009 financial year¹ followed 11 work-related deaths that had occurred in 2008. Notably, the 2008 Annual Report Chairman’s Review had cited “another record profit increase of \$US15.4 billion, the seventh consecutive full-year profit increase”, describing it as “a stellar year for the Company and its shareholders” (*Argus 2008 p6*) but failing to mention the other result that had been steadily rising to a record² level in 2008, namely the deaths of eleven workers including six company employees. Instead, the Chairman’s Review stated, “our response [to Asian demand] has been to streamline our business to enable us to produce as much product as possible within the non-negotiable framework of the highest safety and environmental standards” (*Argus 2008 p6*). With the death of three more workers in separate incidents in the first two months of the 2009 financial year the workers, unions, regulators, politicians, public and the company’s management had had enough and production was shutdown on multiple occasions during the year to investigate fatal incidents (*AFR 2009; Fitzgerald 2009a; Stafford 2009*).

This example illustrates the financial risk paradox that occupational health and safety presents for managers and shareholders. On the one hand, higher financial returns may be realised by those firms prepared to accept higher levels of OHS risk. This is because efforts to make workplaces more competitive and productive (such as restructuring, downsizing, intensification of workload and increasing work pace) are often associated with increasing risk of health and safety failure (*Frederick and Lessin 2000, p10; Watson et al. 2003*). At the same time, organisations engaging in OHS training, hazard identification and control programs incur additional but measurable, implementation expenses (*Ginter 1979, Reber et al. 1993, Chen and Chan 2004*). Recognition of this risk – return relationship is the underpinning motivation for OHS regulation around the globe.

¹ In the week immediately following the release of these newspaper articles, the firm reported another two work-related fatalities at separate incidents in different locations, one on 28th July and the other on 29th.

² Annual fatalities in the firm’s operations had risen steadily from 3 in 2005 to 11 by 2008. The highest number of employee fatalities since merger was also reported in 2008 (6 employees). Details of annual employee and contractor fatalities since the company’s formation through merger are as follows: 11 workers in 2002 (no breakdown provided), **3 workers** in 2003 (all employees, no contractors), **17 workers** in 2004 (five employees 12 contractors), **3 workers** in 2005 (all employees, no contractors), **3 workers** in 2006 (plus two contractors, one employee), **8 workers** in 2007 (three employees, five contractors, total) and **11 workers** in 2008 (six employees, five contractors) and **7 workers** in 2009 (two employees and five contractors).

On the other hand however, where OHS risk results in a serious incident, such as those causing severe injury, illness or fatality, the financial risk returns are likely to be both negative and significant. These not only manifest in the form of operational losses, as illustrated above, but also in regulatory, legal, compensatory and reputational costs. Indeed, there are numerous examples in which the pursuit of increased productivity or profit has preceded serious and often catastrophic safety failures. These include the 1988 Piper Alpha oil rig explosion costing \$US 3.4 billion in losses and 167 lives (*Whyte 2006, 2009*) and the 2006 BP Texas City disaster which killed 15 workers, injured 180 others and led to a US\$ 87.4 million fine for the firm (*Cummins 2006; Fromartz 2006; Clark 2009*). The cost-cutting and cost-benefit analyses implicated in the compromised safety systems which allowed these disasters to occur have also been suggested as contributory factors in local incidents such as the 1998 ESSO explosion at Longford, Victoria which killed 2 people, injured 8, left the city of Melbourne without gas for two weeks and cost the company \$2 million in fines and an estimated \$500 million in restoration costs (*Hopkins 2000; Gooch 2002*). Furthermore, additional risks associated with OHS failures include the risk of increasing regulation, the impact of damage to corporate reputation and externalities such as the estimated annual \$55.2 billion³ human cost of work-related injury and illness in Australia.

Given this financial paradox, the way in which managers balance their OHS risk – return relationship is likely to be of interest to shareholders and other corporate stakeholders. Indeed, prior research has revealed stakeholder demand for the corporate disclosure of OHS information and there is a long history of voluntary corporate reporting on OHS in Annual Reports and more recently in corporate sustainability reports (see for example, *Maunder and Foley 1974; Andrew et al. 1989; Guthrie and Parker 1989; Gray et al. 1995; Deegan et al. 2000; Adams 2004; Brown et al. 2005; Brown and Butcher 2005; O'Neill and Deegan 2009b*). Nevertheless, despite identifying the presence of this OHS information in external reports, there has been relatively little academic consideration of the quality of this performance data for shareholder monitoring of OHS risk.

The motivation for this study is therefore rooted in the lack of clarity about the metrics used by Australian firms to communicate OHS performance, and risk, to shareholders. This study aims to address this gap by providing empirical evidence as to the dominant OHS performance metric(s) offered in publicly available corporate reports. These results will contribute to an understanding of the quality of OHS disclosures by Australian firms and the

³ This reflects the estimated actual cost for the 2005-6 year only and excludes those costs associated with pain, suffering and early death (estimated in prior studies to be an additional 141% of actual cost – see for example (*NOHSC 2004*)). The total actual annual 'human cost' of injury and illness in Australia is estimated at \$57.5 billion of which approximately 4% is borne by employers and the remaining 96% is borne by external stakeholders (ASCC 2009).

extent to which existing practices of reporting on OHS permit shareholders (and other stakeholders) to draw conclusions about an organisation's inherent OHS risk.

The structure of this paper is outlined as follows: section two provides a review of the literature, identifying and critiquing available metrics for evaluating and reporting on OHS performance. Section three develops a theoretical framework for the study. In section four the method employed to gather empirical evidence is described and the results are then presented and discussed in section five. Finally, the conclusions, limitations and suggestions for further research are presented in section six.

1. Literature review

In the financial markets, corporate financial disclosures provide critical metrics on which investors, creditors and others rely when assessing a company's financial performance and position as an input to economic decision-making. Poor quality information can have an effect on a company's share price, credit rating and reputation so it is important that the financial information reported by companies to investors and creditors has credibility⁴. Such credibility is enhanced by the process by which accounting standards are developed as well as the application, monitoring and enforcement of those standards. The development of disclosure rules and their monitoring, as required by the Corporations Act 2001, is currently effected through bodies such as the Australian Accounting Standards Board (AASB) and the Auditing and Assurance Standards Board (AUASB) and overseen by the Financial Reporting Council (FRC) and the Australian Securities and Investments Commission (ASIC). The AASB's statement of accounting concepts (SAC2) defines the objective of financial reporting as follows;

The general purpose financial reports are prepared to provide users with information about the reporting entity which is useful for making and evaluating decisions about the allocation of scarce resources (*ICAA 2009 p3*).

The Financial Reporting Handbook (*ICAA 2009*) suggests that "when general purpose financial reports meet this objective, they will also be a means by which managements and governing bodies discharge their accountability to those users" (p3). External financial reporting requires managers to include information for users about changes in on organisation's financial position, performance and risk.

⁴ After the collapse of several high-profile companies, including Enron in 2001, the International Federation of Accountants (IFAC) commissioned a study aimed at restoring credibility to the financial reporting process internationally (Task Force on Rebuilding Public Confidence in Financial Reporting, (2003) Rebuilding Public Confidence in Financial Reporting, IFAC, New York) so accountants are aware of an ongoing need to monitor the credibility of corporate financial information being disclose

There is no specific requirement within existing accounting standards however, for listed companies to publicly disclose OHS performance data, nor is OHS risk identified as a specific risk area of concern in AASB reporting requirements. Nevertheless, research has confirmed the disclosure of OHS performance to be of high importance to stakeholder groups including shareholders, employees, trade unions, regulators, suppliers, creditors and academics (*Tilt 1994; Deegan et al. 2000; O'Neill and Deegan 2009b*). Indeed, a recent survey of 135 stakeholders found injury and illness severity data to be important to 100% of respondents and very important to 73% (*O'Neill and Deegan 2009b*). Given the uncertainty surrounding the point at which the financial returns associated with operating at particular levels of OHS risk crystallise into financial penalties, the provision of relevant and reliable OHS performance information is critical to enable shareholders to make informed assessments of the risk of OHS failures and the associated financial implications.

The long-standing provision of (primarily non-financial) OHS performance information in external corporate reports recognises the relevance of this data to the economic decisions of organisational stakeholders⁵. Despite this, there has been little critique of the OHS performance data voluntarily provided in annual and sustainability reports with two notable exceptions. These are Brown and Butcher's (2005) study of disclosures by New Zealand firms which identified the rate of lost time through injury to be the most common, but not the only, measure of injury performance presented and O'Neill and Deegan's (2009a) examination of large mining firm disclosures which identified the disclosure of lost time metrics to be dominant but decreasing over time, while the disclosure of more aggregated 'recordable injury' data was increasing. The implications for accountability arising from the disclosure of these and other OHS outcome metrics are identified below.

OHS performance metrics

The severity of outcomes relating to work-related injuries and illnesses can differ widely. An injury might, for example, result in a cut finger requiring two stitches that heals in a week or it may lead to the permanent and total incapacity of an employee. The unit of measurement is therefore particularly important in any assessment of OHS performance. This is because outcome severity, in general, and the incidence of long term disability or incapacity, in particular, is the primary driver of financial and non-financial consequences arising from OHS failures (*NOHSC 2004; McDonald 2006; ASCC 2009*). Analysis of Australian economic data suggests the 64,000 work-related injuries and illnesses that result in full or partial work-

⁵ It also recognises the importance of OHS information to the decisions of non-financial stakeholders such as employees and other external stakeholders who may have a more 'social' interest in the data.

related 'incapacity'⁶ (14%) account for 88% of the total annual economic cost of \$57.5 billion, or 5.9% of GDP (ASCC 2009). Conversely, the 85% of incidents resulting in short or long term temporary absence account for only 9% of the total cost (\$5billion).

Furthermore, the past 20 years of research has provided detailed knowledge of workplace hazards and OHS cause-effect relationships, rendering the vast majority of OHS damage fundamentally avoidable (Chhokar 1987; Reason 1993; Borys 2000; Hopkins 2005; Al-Tuwaijri 2008, *pvii*). Research has also confirmed a robust inverse relationship between the preventative OHS control efforts of employers and the subsequent frequency and severity of workplace injury and illness (Ginter 1979; Chelius 1991). Consequently, the ability for stakeholders to assess changes in the incidence of high severity injury and illness is critical to any meaningful examination of the financial implications of OHS risk.

However, two alternate approaches to classifying OHS outcomes are evident in the literature. The first is a severity-focused approach that classifies outcomes according to the extent of worker impairment. As indicated above, these impairment-based classifications mirror the differing magnitudes of financial and non-financial consequences associated with various types of work-related injury and illness outcomes. Consequently these data are likely to be of interest to a wide range of organisational stakeholders (Hopkins 2006; McDonald 2006; O'Neill 2009; O'Neill and Deegan 2009b). The use of classified indicators of OHS severity outcomes to report on work-related injury and illness outcome is illustrated by, for example, State regulators and National agencies. These are summarised in Figure 1 below (for examples see NOHSC 2004; WorkCover NSW 2004; WorkCover NSW 2005).

OHS Outcome Severity Classification Scale

- 6. Fatality:**
(i.e. death of the worker either immediately or within the reporting year),
- 5. Full incapacity*:**
(i.e. permanently disabled and unable to return to work),
- 4. Partial incapacity*:**
(i.e. permanent disability or disfigurement resulting in either a return to work after an absence of at least 6 months or permanently on restricted duties or lower income),
- 3. Long-term impairment**
(i.e. requiring an absence of more than 2 weeks but less than 6 months)
- 2. Short-term impairment**
(i.e. requiring an absence from work of between three days and two weeks).
- 1. Minor impairment**
(i.e. requiring medical treatment or an absence of no more than two days from work).

Figure 1: Severity-based classifications of OHS outcome
(Source: Adapted from NOHSC 2004; WorkCover NSW 2005; ASCC 2009)

⁶ Full incapacity accounts for approximately 70% of this cost and partial incapacity for 18%. This data relates to 2005/6.

The second approach to classifying OHS outcomes is a response-based measurement structure that categorises injuries and illnesses according to organisational impairment (or organisational response). A useful illustration of these categories is provided in BHP Billiton Pty. Ltd's Sustainability Report (see Figure 2 below). A response-based approach distinguishes between those outcomes for which the response to the injury or illness is an absence from work (of one shift or more), a return to work but on restricted duties, the provision of medical treatment only or provision of first aid only. Figure 2 also identifies a number of OHS indicators which may be derived from various combinations of these response-based categories.

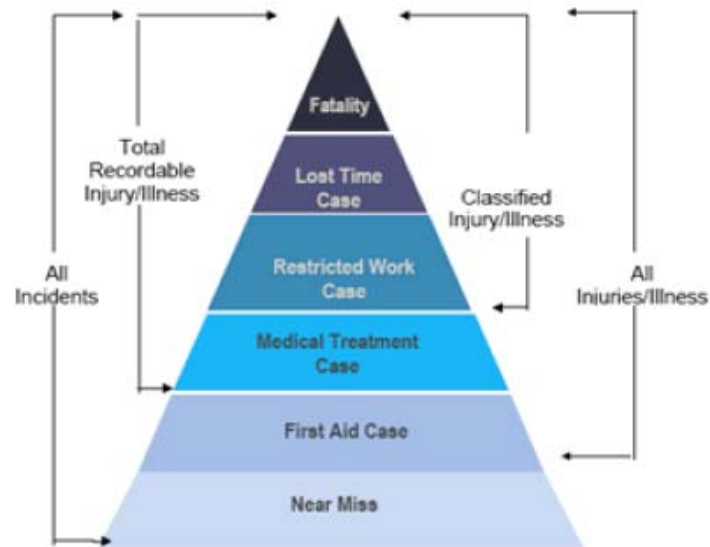


Figure 2: Response-based classifications of OHS outcomes
(Source: BHP Billiton Sustainability Report (2007), p175)

The OHS performance indicators derived from the classifications identified above are: lost time injury⁷, classified injury, total recordable injury and all (or 'recordable') injury rates. These are briefly defined as follows:

- Lost time injuries (LTIs) represent those incidents which result in the afflicted employee requiring an absence from work for at least one shift (including work-related fatalities) (NOHSC 1990).
- Classified injuries include all lost time incidents plus those in which the employee returns to work but, due to the injury, is unable to fulfil the full range of normal duties (BHP 2007).
- Recordable injuries (RI) include all classified injuries plus those incidents in which medical treatment is provided or the employee loses consciousness, irrespective of whether an absence from shift or restriction of duties is required (OSHA 1996).
- All incidents, or 'reportable' incidents, reflect the total number of occupational injury and illness for the period and include recordable incidents plus any minor cases of first aid provision in respect of a work-related injury or illness.

⁷ Note: lost time injuries are depicted in the second level of the main triangle.

Notably, the least aggregated of these response-based classifications, lost time injury, accumulates all category 2, 3, 4, 5 and 6 OHS outcomes identified in the severity scale above, from those resulting in a single day's absence from work through to fatality. This level of data aggregation means that while differences in the number of lost time or recordable injuries can reflect changes in the number of workers' compensation claims lodged, they are generally poor indicators of the level of financial risk associated with the incidence of serious injury and illness (categories 4-5 in particular).

By measuring the total number of days lost due to injury and illness in each response-based category, highly aggregated measures of outcome severity, such as an average rate of days lost per injury, may be derived. However again, the relatively high volume of low consequence outcomes may render invisible changes in the number of serious incidents. Consequently, response-based metrics are typically incapable of providing useful information on serious OHS outcomes⁸ (Hopkins 1994; Horwitz and McCall 2004; O'Neill et al. 2008). This review has demonstrated that while measures of OHS outcome severity are critical for assessing financial and non-financial OHS risk, different approaches to measuring and communicating severity are available. Those performance indicators based around categories of worker impairment are clearly more capable providing insight into changes in OHS risk, and therefore more relevant to shareholders, than those based on increasingly aggregated classifications organisational response (or treatment).

Guidance for external reporting on OHS performance

The accounting profession has, to date, failed to provide either an accounting standard or other recommendations to guide corporate external reporting on OHS performance. Given the absence of interest from the accounting profession, the safety profession has recently begun to consider the development of a clear OHS performance assessment and reporting framework⁹. This is likely to extend to listed companies the framework offered by the Occupational Health and Safety (Commonwealth employees) Act which requires Public Sector organisations to report on OHS using severity based classifications of performance.

Until such a framework for external reporting is developed however, Australian firms may instead refer to the Australian Standard, *AS1885: Australian National Injury Recording Standard* (NOHSC 1990) and apply the guidelines for internal review to external disclosure. In particular, AS1885 provides guidelines to managers for evaluating the effectiveness of OHS controls and recommends organisations monitor three key aspects of OHS

⁸ For a detailed comparison of severity-based versus treatment-based indicators see O'Neill et.al. (2008)

⁹ The peak Australian OHS professional body, the Safety Institute of Australia, has recently begun a National project to develop an OHS performance measurement and reporting framework.

performance: the incidence of injury or disease, the frequency of injury or disease and the severity of injury or disease. AS1885 proposed to measure severity using a highly aggregated indicator, the Average Time Lost Rate (ATLR), which measures the total days lost to any injury or illness as a proportion of the total number of injury or illness incidents (see Table 1 below). Identification of changes in average overall severity may be possible¹⁰ although the Average Time Lost Rate is unlikely to permit users to distinguish between changes in the most relevant (severity category 4 and 5) incidents relative to the typically high volume but low consequence (category 2 and 3) incidents.

Alternatively, Australian firms may look to the European-based Global Reporting Initiative's (GRI) sustainability reporting guidelines for direction on external corporate OHS disclosure. Within the ever more global marketplace, the GRI guidelines appear increasingly institutionalised in corporate social reporting practice. They are also promoted by Australian industry and professional associations¹¹, including both CPA Australia and the Institute of Chartered Accountants in Australia, as appropriate models for external reporting on CSR performance issues (*CPA Australia 2007, 2008; ICAA 2008*).

Unlike AS1885, the GRI guidelines focus specifically on providing a framework for external corporate social responsibility (or sustainability) reporting. GRI recommendations for reporting on OHS performance also advocate the presentation of indicators of occupational injury and illness incidence, frequency and severity although incidence is limited to the incidence of fatality only and severity is measured as a Lost Day Rate (calculated as total number of lost days as a proportion of total hours worked). Unfortunately, the GRI's lost day rate provides a less useful measure of serious incapacity than that offered by AS1885 above because it measures lost days as a rate of total hours worked (rather than total incidents). This means a high LDR may simply signify change in the number, rather than severity, of injuries and illnesses. The OHS performance indicators recommended by both the GRI guidelines and the AS1885 Australian Standard are contrasted in Table 1 below.

Issuing Body	Indicator(s)	Note
Standards Australia: AS1885.1 (Australia)	<ul style="list-style-type: none"> • Average lost time rate (days lost per lost time incidents) • Lost time injury incidence • Lost time injury frequency rate 	Lost time definition <u>excludes</u> all commuting injuries, restricted duties and all non-compensated injury or disease (see http://www.saiglobal.com).
Global reporting initiative: LA7 (OHS) Indicators (Multi-national)	<ul style="list-style-type: none"> • Lost day rate (per 200,000 hours worked) • Lost time injury frequency rate • Number of fatalities 	Lost day definition <u>includes</u> commuting injuries but <u>excludes</u> restricted duties (see http://www.globalreporting.org)

Table 1: Recommendations for evaluating OHS performance

¹⁰ An exception may exist where there are significant changes in the volume of high, versus low consequence incidents.

¹¹ See for example, recommendations for public reporting offered by CPA Australia, the Institute of Chartered Accountants.

Together, three alternative approaches to quantifying and reporting on OHS outcome severity are identified above. These include stratified measures of OHS severity (as identified in Figure 1) and the two average duration rates identified in Table 1 above. Clearly, the stratified severity approach will provide the most relevant and reliable data on changes in OHS severity and will therefore be the most relevant of the three approaches for informing shareholders and other stakeholders about changes in OHS risk. However, in the absence of mandatory OHS reporting requirements, or other directives to guide the choice of metrics used within and reported by organisations, managers are free to choose the approach they consider most appropriate. As noted above, there has to date been limited academic critique of current OHS disclosures practices. This study therefore seeks to identify and explain the choice of metrics used to report externally on OHS performance.

2. Theory development

A potential explanation for a manager's choice of OHS accounting method, or in this case choice of reported OHS performance indicators, may be offered by positive accounting theory. Jensen and Meckling (1976) defined the agency relationship as a contract in which one or more principals (shareholders) engage an agent (the manager) "to perform some service on their behalf which involves delegating some decision-making authority to the agent" (p308). Within this principal – agent relationship, information asymmetries exist which may permit adverse selection. That is, enable the manager to use private information to engage in activities different from that desired by the shareholder, with the information asymmetry "rendering the principal incapable of determining whether the agent made the appropriate choice" (Belkaoui and Jones 2000 p375). In this case, information asymmetry exists because managers (agents) may have private information about the existing level of OHS risk and the extent to which controls for health and safety hazards are both employed and effective. OHS failures can have potentially significant financial implications which are not readily visible to shareholders. The nature of accountability therefore requires the agent (manager) to engage in actions toward the achievement of a particular goal, such as effective prevention of serious injury, and that these actions, and consequences, be "rendered visible by some form of account(ing)" (Power 1991 p32).

Since both agent and principal are "assumed to be motivated by self-interest... but also aware of their common interest", they are likely to engage in monitoring behaviour (Belkaoui and Jones 2000 p374). Shareholders can use accounting information as one means of monitoring and enforcing contracts so as to reduce the agency costs associated with opportunistic or dysfunctional behaviours while corporate managers have an incentive to disclose information to shareholders to demonstrate they are not acting in a manner

detrimental to shareholder interests (*Belkaoui and Jones 2000; Gaffikin 2008; Deegan 2009*). The provision of OHS disclosures will be most relevant where the inherent operational health and safety risk is high. This suggests that managers of firms operating in industries perceived to be hazardous are likely to provide voluntary OHS disclosures to stakeholders. These seek to reduce agency costs by demonstrating that OHS risk is managed effectively and the risk of high OHS failure cost is therefore low. The following proposition is offered:

P1: Managers of firms operating in high (OHS) risk industries will provide OHS performance information to shareholders.

Furthermore, Watts and Zimmerman (*1978*) suggest that individuals are innovative and resourceful in pursuing their self-interest, with “the obvious implication...[being] that management lobbies on accounting standards based on its own self-interest” (p113) and selects accounting methods that promote wealth-maximisation and avoid political costs (*Belkaoui and Jones 2000*). As outlined above, higher financial returns may be available for those firms, and workers, prepared to accept higher levels of OHS risk. Consequently employers may lack the incentive to invest in injury and illness prevention at socially desirable levels (*Chelius 1991*). Conversely however, should serious injury occur (failures resulting in incapacity or fatality) the financial and political consequences can be significant. This presents a clear risk paradox.

The political cost hypothesis suggests that politically sensitive firms will seek to reduce the possibility of adverse attention, and the related costs of this attention, by adopting accounting methods that lead to a reduction in reported profits (*Watts and Zimmerman 1978*). These seek to avoid political sanctions that may be associated with excess profits. This assumes however, that “at least some users of accounting information must be unable or unwilling to unravel completely the effects of earnings management” (*Fields et al. 2001 p260*). Deegan (*2006*) describes this as the ability of managers “to fool those involved in the political process” although he also suggests that some “individuals will elect to remain rationally uninformed” (p251).

Extending this argument to voluntary disclosures on OHS performance suggests managers will seek to avoid the political costs, and related sanctions, that may be associated with those OHS failures resulting in serious injury and illness. They will therefore choose from the available suite of metrics, those OHS indicators which do not explicitly draw attention to serious OHS outcomes. As noted above, the most relevant indicators for communicating OHS performance to shareholders and other stakeholders are based on total fatal and non-fatal OHS outcomes and severity indicators of permanent (category 4 & 5) versus temporary (category 2 & 3) impairment. This extension of the political cost hypothesis suggests

managers are more likely to instead choose to avoid disclosing fatality data and instead of presenting stratified severity metrics, disclose only average injury duration rates. These duration rates could be perceived by less informed users as discharging accountability for serious injury (severity) despite their inability to highlight changes in the serious incapacities that drive financial and non-financial OHS outcomes. The second proposition is therefore;

P2: Managers are likely to provide an aggregated measure of injury and illness duration rather than impairment-based performance indicators of outcome severity.

The ability for managers to communicate OHS performance using aggregated duration, rather than severity measures, assumes, as Deegan (2006) suggests, that at least some users are either unable or unwilling to appreciate the effect of the choice of accounting method (OHS indicator) on the quality of information provided. The extent to which duration measures are provided, and accepted, as metrics for monitoring the severity of OHS outcomes will reflect the ability of shareholders to make an informed assessment of the OHS risk to which they are ultimately exposed.

3. Method

Previous research has identified that large firms are more likely than small firms to report to stakeholders on corporate social and environmental information (of which OHS performance is a part), with the relationship between organisational size and disclosure described as “empirically robust” (*Milne 2002*). The present study therefore targeted for examination Annual and Sustainability Reports issued by the largest 50 firms listed on the Australian Stock Exchange (ASX) in November 2007. These comprised a range of industries, from those with an historically high rate of serious injury and illness, such as mining and energy, manufacturing and utilities to those with historically lower rates such as retail, insurance and finance (see Appendix 1 for a complete list of sampled firms, by industry). To evaluate the stability of OHS metrics presented over time and the influence of the GRI guidelines on reporting, reports issued at equal points across the previous decade were reviewed. The study therefore targeted reports issued in the years 1997, 2000, 2003 and 2006.

Annual Reports for each of the 50 firms were located and downloaded from the Connect 4 database. The corporate website for each firm was then examined to locate publicly available Sustainability Reports. A substantial increase in CSR reporting over time was identified with no sampled firms producing a stand-alone sustainability report in 1997 and 44% of sampled firms releasing sustainability reports in 2006. The final sample comprised 182 Annual Reports and 33 Sustainability Reports, a total of 215 corporate reports. Table 2

summarises the sample by industry sector, corporate report type and year of issue. The composition of each industry group by firm is provided in Table 2 below.

ASX Industry sector	Total			Annual reports				CSR Reports			
	Firms	AR	SR	1997	2000	2003	2006	1997	2000	2003	2006
Financials	16	59	6	12	15	16	16	0	0	1	5
Materials	13	46	15	9	11	13	13	0	1	5	9
Consumer Goods	8	30	1	6	8	8	8	0	0	0	1
Industrials	5	20	3	5	5	5	5	0	0	1	2
Energy	4	13	5	1	4	4	4	0	0	2	3
Utilities	3	10	3	2	2	3	3	0	0	1	2
Health Care	1	4	0	1	1	1	1	0	0	0	0
Total	50	182	33	36	46	50	50	0	1	10	22
Note: 'Financials' include finance, banking and insurance firms 'Materials' include mining and manufacturing intensive firms 'Utilities' includes utilities and telecommunications firms 'Consumer goods' include both consumer discretionary and consumer staples.											

Table 2: Sampled reports, by type, sector and year

Data collection was executed by undertaking a content analysis of OHS information provided within each of the sampled reports. Content analysis is a research technique that permits the objective and systematic description of corporate narratives (Berelson 1952). Indeed, the ability of the content analysis method to organise a diverse set of data and describe both the content, and trends in the content, of textual communications is well recognised (Weber 1990; Guthrie et al. 2004).

The coding process used in this exploratory study sought to identify and describe any quantitative disclosures of corporate OHS outcomes. This was undertaken as follows. First each report was examined for disclosures relating to OHS performance. Where OHS performance data was identified, the following information was recorded for each reported indicator: the indicator name, indicator definition, performance result, prior year performance result (if shown) and the number of prior years for which data was provided (if shown). Online searches for key words including: health, safety, OHS, injury, illness, severity, death and fatal were also conducted to ensure no disclosures relating to these items had been overlooked. Data was collated in an Excel spreadsheet and primarily analysed using descriptive statistics.

4. Results

Analysis of the sampled OHS disclosures revealed a steady increase in external reporting on OHS performance over the decade, rising from the relatively low level of 22% of firms in 1997 to a majority of firms (64%) by 2006. The 1997 OHS disclosure rate was lower

than expected given that prior CSR disclosure research has identified OHS information to be the most common CSR disclosures offered by large firms (for example see Guthrie and Parker 1989; Kolk 2003; Brown et al. 2005; Brown and Butcher 2005; Vuontisjarva 2006).

As illustrated in Figure 3 below, 84% of those organisations providing OHS outcome data used the Annual Report to communicate performance. This is a welcome finding given recent research that has identified a strong preference among shareholders and other stakeholders for OHS performance data to be provided in Annual, rather than Sustainability, Reports (see O'Neill and Deegan 2009b). Only 16% of firms provided data solely in the Sustainability Report, although 55% of companies reporting on OHS performance disclosed OHS performance metrics in both an Annual and Sustainability report. These findings are summarised in Figure 3 below.

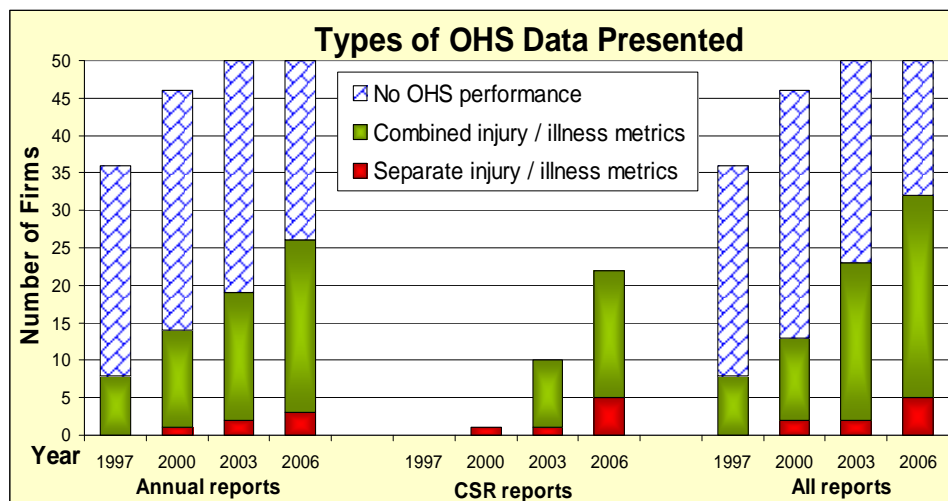


Figure 3: Presentation of OHS data (2007 - 2006)

Firms were less likely to provide stand-alone measures of occupational diseases, with two firms (4%) providing separate health metrics in 2000 and 2003 and four firms (8%) in 2006. All four were from the mining, manufacturing and energy sectors where health exposures such as hearing loss or chemical exposure are most likely to be relevant. Nevertheless, other sectors may have captured health outcomes, such as psycho-social (stress-related), viral and toxin related cases, within injury data since, as identified later in this paper, many firms reported aggregated indicators of 'work-related injury or disease'.

Analysis of disclosures by industry sector revealed firms in the materials sector, i.e. mining and manufacturing intensive organisations, to be strong leaders in reporting on OHS outcomes. These were followed by firms in the energy and utilities sectors. This was not unexpected given the activities undertaken by these particular types of firms are widely recognised to present high levels of OHS risk for shareholders and other stakeholders.

For example, economic cost data recently released by the Australian Safety and Compensation Council (ASCC) indicates that although the manufacturing sector has a lower than average injury and illness claim cost (\$116,200 per case) it presents the highest incidence of occurrence (17% of all cases) and is therefore responsible for largest share of total cost (\$9.3 million) of the 17 Australian industry sectors (which together average \$3.3 million) (ASCC 2009). Furthermore, the ASCC reveals the energy and utilities sector to have the highest total injury and illness cost of \$259,600 per case, (double the National average cost of \$125,500 per case), followed by the mining sector at \$211,300 per case (ASCC 2008). The mining sector also reports four times the Australian average annual fatality rate and has demonstrated a compensation claim rate of 41% higher than the National average (ASCC 2008). These sectors were most likely to report on OHS outcomes as shown below.

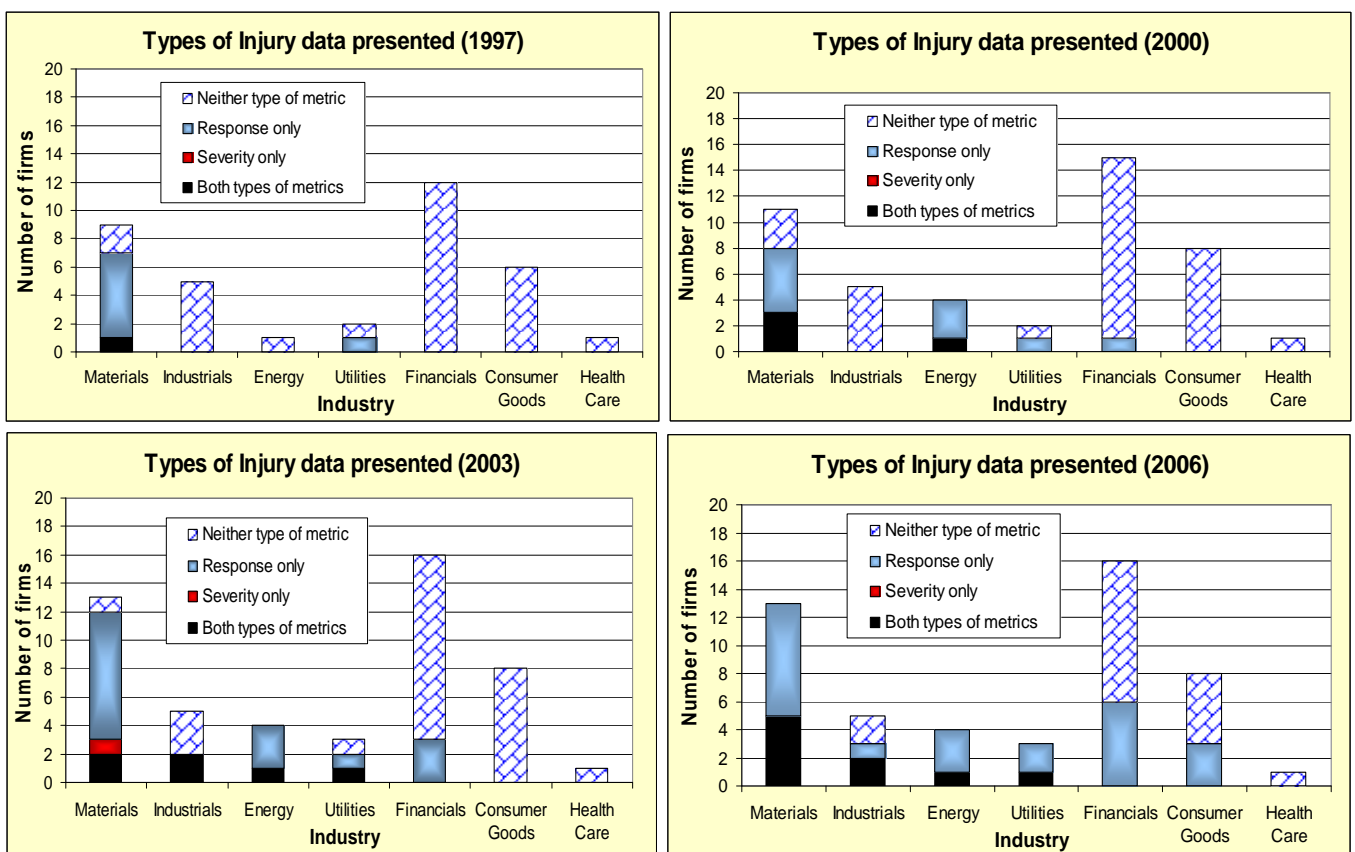


Figure 4: OHS disclosure by industry (1997, 2000, 2003, 2006)

As illustrated above, these findings demonstrate that sectors perceived as having a high OHS risk were most likely to report publicly on OHS performance. Conversely, the data demonstrate that those sectors perceived to present a lower risk of serious injury and illness, such as retail, insurance and finance-oriented firms were less likely to report publicly on OHS performance. Together these findings provide support for proposition one, namely,

P1: Managers of firms operating in high (OHS) risk industries will provide OHS performance information to shareholders.

Despite evidence of an increasing rate of external reporting on OHS performance demonstrated in the above graphs, the quality of reporting on OHS outcome severity failed to improve over the period. Recall, the above discussion identified the provision of both outcome severity and outcome frequency as critical to enable shareholders to make an informed evaluation of OHS risk and performance. The following sections describe the disclosure of fatality, then impairment-based and response-based measures of severity, then measures of outcome frequency by the sampled firms. The incidence of reporting on each of these aspects of OHS performance is summarised in below.

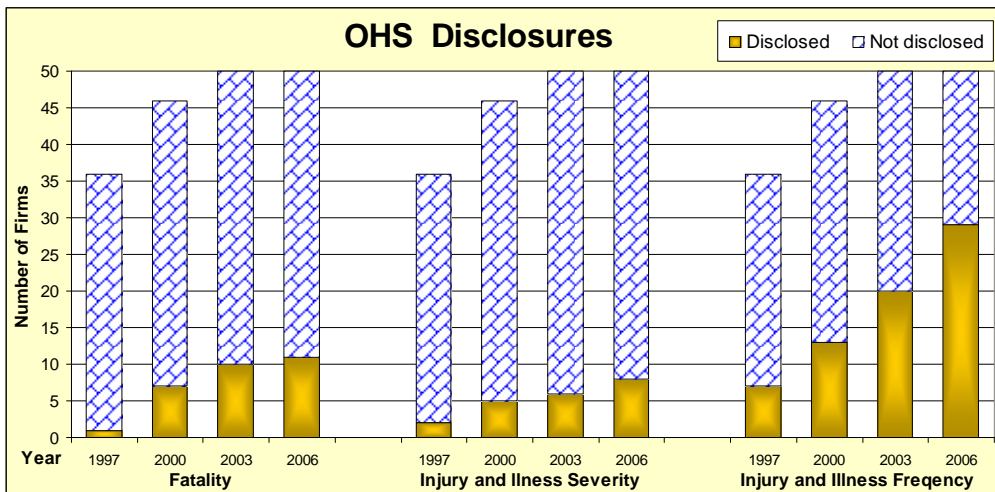


Figure 5: Disclosure of OHS outcomes

Reporting on OHS fatalities

Reporting on work-related death was generally low with fatality disclosures identified in only 29 of the 182 periods examined (15.9%). This included the eight occasions on which zero annual fatalities were reported. These 29 disclosures were offered by a total 17 of the 50 firms sampled, 11 firms from the materials sector, two firms each from industrials and financials, and one firm each from the energy and utilities sectors. Given the size and visibility of these organisations, it is likely that information about work-place fatalities would be reported in the news media and would be in the public domain prior to the release of the corporate report. This may explain why these particular firms chose to include the fatality data in their reports. Notably, six of the eight firms reporting zero fatalities had actually sustained work-related fatalities in their operations in the three years prior.

Reporting on OHS outcome severity

Only 11 of the 50 sampled firms (22%) reported a measure of injury and illness outcome severity in at least one of the four years examined in this study. Half of these firms disclosed this severity data in only one of the four sampled years and no firm reported on severity in all four periods. The overall lack of completeness in the reporting of severity data was compounded by a lack of consistency and stability on the measures presented. Together this made comparative assessments of outcome severity extremely difficult. The various reported severity indicators could be grouped into four types of OHS metrics. Reporting frequency for each type of metric is illustrated in Figure 6 and each category is discussed briefly below.

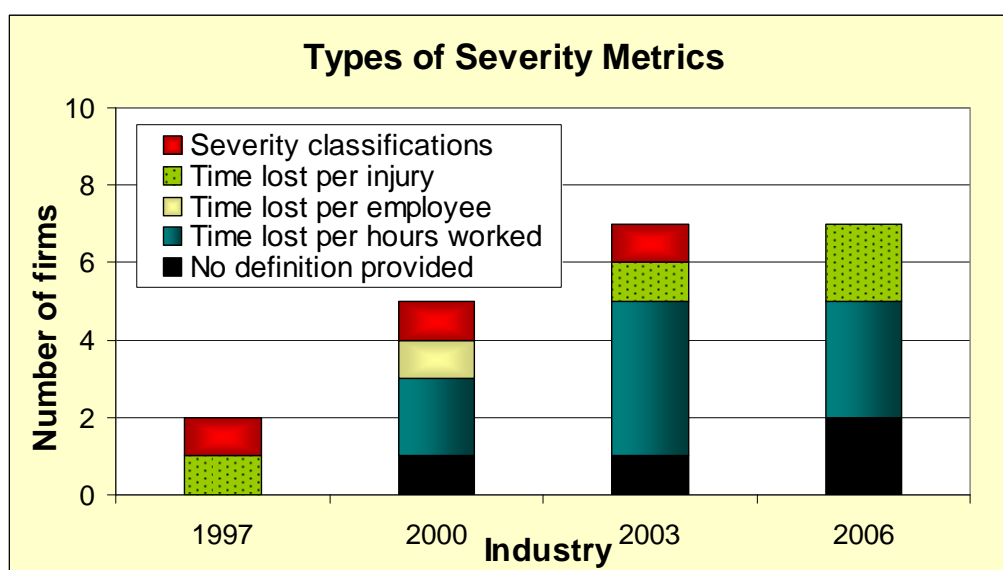


Figure 6: Reported OHS outcome severity measures

- Stratified impairment data. Only one firm provided a stratified suite of outcome metrics similar to that identified in the literature as most capable of reporting to stakeholders on serious OHS outcomes. This firm was a Commonwealth owned entity which reported outcome classifications of: fatality, serious personal injury, prescribed incapacity and dangerous occurrence incidents, between 1997 and 2003 in accordance with Section 74 of the Occupational Health and Safety (Commonwealth Employment) Act 1991. Definitions of the three non-fatal injury classifications were not provided for the benefit of report users although reference to the relevant legislation was made. With the privatisation of this organisation in 2006, the section on occupational health and safety was dropped from the Annual Report and the organisation went from providing the most informative data to providing none. This highlights the potential value of mandatory regulation of OHS disclosure.

- Time lost per incident. A single, aggregated measure of 'time lost per injury' was reported by four firms: one 'materials' firm in 1997 only, one 'industrials' firm in 2003 and 2006 only, and a second 'materials' firm and one 'utilities' firm each in 2006 only. As shown in Appendix 2 these firms appeared to adopt one of three different calculation methods. The two materials firms reported measures of days per lost time injury (each in one year only), the utilities firm reported a measure of 'days away due to lost time or restricted duties per injury' in 2003 only while the 'industrials' firm reported an ALTR, a measure of "average number of actual days lost due to an LTI" in 2003 and 2006 which "includes permanent contractor hours and injuries". This ALTR indicator appeared to capture time lost per injury although the denominator was not explicitly stated.

Each of these 'time lost per injury' metrics broadly reflected the duration indicator recommended by the Australian Standard, AS1885. The rate of reporting on duration per injury was however very low. This may reflect either a reluctance to report injury and illness duration or may demonstrate a lack of attention to this Australian Standard by sampled firms¹².

- Time lost per employee. Also illustrated in Figure 6 is the single instance in which an indicator of 'time lost per employee' was reported. This was disclosed by Firm 6 in the year 2000 only. This aggregated duration metric has decreasing significance as the total number of employees increase. Firm 6 went on to report an equally less informative measure of 'time lost per time worked' in the 2003 Annual Report and failed to provide any measure of severity in 2006.
- Time lost per time worked. This was the most commonly reported measure of duration with six firms reporting a duration rate of time lost per time worked and a further two firms reporting what appeared to be duration metrics although neither were adequately defined in the respective reports. Interestingly, only two firms employed the GRI's recommended duration rate of days lost per 200,000 hours. Three other firms reported an alternate rate of days lost per 1,000,000 hours. If two firms with the same underlying performance were to each report one of these 'Injury severity' indicators, the results provided by the firm using 1,000,000 hours would appear five times more favourable than the firm using 200,000. Stakeholders who failed to read the fine print may not realise that the indicators present quite different assessments of performance.

¹² Note: various Australian Standards have attracted criticism for not being made publicly available to firms. Instead organisations seeking to apply the standards need to purchase copies from SAI Global.

Furthermore, firms did not report the same types of metrics consistently over time. One materials firm changed from reporting an *average time lost per injury* metric in 2000 to the less relevant *lost workdays per 200,000 work hours* in 2003 and then *lost workdays per 200,000 man hours* in 2006 (one assumes that work hours and man hours are synonymous). Some firms kept the same indicator title from one year to the next but changed the underlying calculation method. For example, one energy firm (Firm 6), provided an *Injury Severity Rate*, defined as time lost per *employee* in 2000 then provided an *Injury Severity Rate* defined as a rate of hours lost to injury per million *hours worked* in 2003. For others, changes from year to year were potentially less significant and simply reflected inconsistent use of terminology. For example, Firm 3 reported an LTISR: Lost time injury Severity Rate, defined in 2003 as “Full days lost in LTIs per million hours worked” and defined in 2006 as “injury days per million exposure hours”. One would hope that for this firm an ‘injury day’ held the same meaning as a ‘full day lost due to an LTI’ and also that ‘exposure hours’ were equal to ‘hours worked’. Other reported duration indicators included the percentage of hours lost due to workplace injury as a percentage of hours worked (Firm 4) and ‘days lost or with restricted duties because of a recordable case per 200,000 hours worked (Firm 5).

Additional duration metrics were presented but poorly defined. These included the DLTI: defined only as ‘*rate of days lost to injury and restricted duty*’, although failing to specify the relevant denominator. Similarly various firms offered indicators labelled Injury severity (Firm 9) or Weighted Average Injury severity (Firm 5) without providing any indication as to what these actually measured. One firm reported that the Lost Time Injury Rate had deteriorated and that both the number and severity of lost time injuries had improved since the previous year. This did not make sense unless the indicator was a measure of time lost to time worked and there had been a substantial decrease in hours worked for the period. No downtime was explicitly reported. The report issued by another firm stated that the primary indicator of severity was the number of Total Days Lost or Restricted Due to Workplace Injuries but then failed to provide this data. Further into the report was the statement; “The two measures we use are Recordable Case Frequency Rate and Severity rate”. Again, the report failed to provide severity data and instead disclosed rates of Recordable Case Frequency and Lost Workday Case Frequency.

These examples illustrate the poor quality of most metrics used to report on severity and duration. The overall lack of completeness and lack of consistency, in both the choice of

metrics and the underpinning measurement methodologies, restricted the degree to which outcome severity could be compared, either across firms or even across time within a given firm. In addition, the majority of disclosures failed to take into account the number of injuries actually sustained in a period, and were therefore incapable of identifying whether time lost had resulted from those serious injury or illness occurrences that drive shareholder and stakeholder impact or rather from a high volume of low consequence events with immaterial social or financial impact.

A summary of the various severity and duration metrics discussed above is provided, by firm, in Appendix 2. Together these findings demonstrate that firms are more likely to present highly aggregated duration metrics, primarily time lost per hours worked, than to present severity data that will explicitly identify changes in performance for each level of short term, long term and permanent incapacity outcome. This was consistent with the proposition that managers will seek to avoid the political costs that may be associated with divulging serious OHS injury and illness by instead choosing accounting methods that present highly aggregated duration. Indeed, two thirds of the sampled firms failed to present severity data at all, instead choosing to report only on the frequency of OHS outcomes. Consequently, these results provide support for proposition two,

P2: Managers are likely to provide an aggregated measure of injury and illness duration rather than impairment-based performance indicators of outcome severity.

Reporting on the incidence and frequency of injury and illness

More frequent than reporting on the severity or average duration of work-related injury and disease were more general corporate disclosures of the incidence (total number) and frequency (rate) of incidents resulting in injury and disease. Frequency rates are based on the number, not duration, of incidents and will therefore count a minor injury and a severe injury each as one OHS incident.

The frequency data presented by sampled firms covered all four categories of response identified from the literature: lost time incidents, classified incidents, recordable incidents and total incidents. Of these, reporting on lost time was most prevalent with 30 firms (60%) providing at least one measure of OHS performance based on the number of incidents resulting in lost time. Eight firms presented recordable injury data which represented measures of the total injuries for which a claim was likely to be lodged and six firms presented reportable (or all injury) data.

These firms did not however, report on **the** frequency¹³ of lost time (and other outcome classifications) but collectively disclosed a variety of metrics that each reflected **a** measure of frequency. The subsequently diverse range of indicators meant that OHS performance was largely incomparable across the reports, due to both the different types of outcome classifications presented by firms (eg LTI versus RI) and the many different definitions employed (or withheld). These variations were evident between firms and also across the reports issued by individual firms in different years. This suggests that organisations develop OHS metrics internally rather than follow externally available calculation methods. The provision of clear definitions within each report was therefore critical to understanding the meaning attached to reported data. These findings are summarised below.

Incidence and frequency of occupational injury and illness				
Classification of outcomes	Number of firms reporting at least one metric in this category	Number of metrics used - defined (undefined) ¹⁴		
		defined	undefined	potential
Lost time outcomes	30	10	11	21
- Classified outcomes* ¹⁵	3	3	1	4
Recordable outcomes	8	5	3	8
All outcomes	3	5	1	6
Total	32	23	16	39
Note: Some firms reported metrics for more than one outcome classification				

Table 3: Summary of OHS incidence and frequency rates

Most of the 30 firms reported an LTIFR metric which usually referred to a Lost Time Injury Frequency Rate. A review of the LTIFR definitions provided in Annual and Sustainability Reports revealed that rates of 'lost time injury' for some firms captured only incidents resulting in injury while for others it captured those leading to either injury or illness. Furthermore, the LTIFR for some firms was defined as Lost Time Incident Frequency Rate where 'incidents', like 'lost time cases', usually (although not always) captured occurrences that resulted in either an injury or an illness. To illustrate, the 30 firms reporting on lost time used ten different calculation methods; two approaches to calculating incidence and eight methods for deriving frequency rates. On a further 11 occasions lost time performance was presented although not defined by one of nine sampled firms. Some were simply identified as LTIFR, although given the range of definitions applied to the LTIFR by sampled firms

¹³ In a small number of cases firms reported on the incidence, as opposed to the frequency, of injury and illness. These are detailed in Appendix 3.

¹² A number of firms reported metrics such as a Lost Time Frequency Rate (LTIFR) without providing information about the composition of a 'lost time' injuries or about the denominator used in the calculation.

¹⁵ As noted above, the definition for classified injury was very similar to lost time incident frequency rate.

there was no way to identify what these poorly defined or undefined instances were actually capturing. The range of metrics identified during the data collection process are summarised in Table 4 below. A similar table listing definitions for each of the lost time indicators, classified indicators, recordable indicators and reportable (all) indicators identified in the sampled reports is provided in Appendix 3.

<u>Lost time</u> indicators and definitions	Number of firms using each definition				
	Total	1997	2000	2003	2006
Number of lost time injuries	11	3	3	6	4
Number of lost time incidents	3			1	2
Rate of lost time injuries per 200,000 hours worked	3			3	2
Rate of lost time injuries and illnesses per 200,000 hours worked	1		1		
Rate of lost time injuries per million hours worked	23	6	8	11	15
Rate of lost time injuries per million exposure hours	1			1	1
Rate of injuries that result in an employee being absent from work for one or more whole shifts per million exposure hours	1				1
Rate of lost time incidents per million hours worked	1			1	
Rate of injury and illness per 100,000 hrs of total hrs worked	1				1
Rate of lost time occurrence incidence rate – lost time injuries and diseases per 100 workers employed	1				1
Rate of combined lost time injury/moderate medical injury frequency <i>(note this firms refers to this metric as an LTIFR. It is however, equivalent to the classified injury metric provided below)</i>	2	1			1
Rate of classified injuries per million hours worked	1			1	1
Rate of lost time injury - no definition provided	9	1	3	2	5
TOTAL (Number of firms reporting measures of lost time)	30	7	13	20	28
Maximum number of firms issuing reports in each period	50	36	46	50	50

Table 4: Reported lost time metrics

Despite the majority of sampled firms (64%) reporting to stakeholders on OHS outcomes, the overall quality of data presented was poor with disclosures frequently incomplete and generally incomparable. Few firms presented the combination of fatality (incidence), frequency and severity data required to enable an informed assessment of OHS performance or risk. Indeed, only seven of the 50 sampled firms issued a report in which the combination of: number of fatalities, frequency of injuries and illnesses and severity of injuries and illnesses was disclosed. These findings are summarised in Table 5 below. Furthermore, of those few firms presenting both severity and lost time (or recordable injury) rates in 1997 and 2000, most phased out severity reporting and presented only an injury frequency rate in 2003 and 2006.

Reports presenting data on all three aspects of OHS performance				
Firm	1997	2000	2003	2006
1		1	1	1
2			1	1
3				1
4		1	1	
5			1	
6			1	
7	1			
Number	1	2	5	3
Frequency	3%	4%	10%	6%

Table 5: Firms reporting measures of incidence, frequency and severity.

Presented alone, rates of injury and illness incidence or frequency provide insufficient context to enable users to make an informed assessment of the occurrence and likely impact of serious injury and illness. This could be argued as analogous to presenting financial statements that contain only a balance sheet. The information is relevant although without necessary income statement and cash-flow data a meaningful assessment of organisational performance is difficult.

5. Conclusion

The objective of this study was to undertake a detailed examination of both the content and quality of corporate accounts of OHS outcomes from Australia's largest listed companies. The findings indicate that the most frequent and detailed disclosures are provided by firms operating in hazardous industries. At face value this appears to suggest that managers (agents) are publicly providing information by which shareholders (principals) can monitor OHS performance in high risk firms. However, this OHS performance data was generally of poor quality: incomplete, incomparable, highly aggregated and poorly defined.

The findings reveal that managers are ignoring the recommendations of Australian Standard AS1885 to provide measures of OHS incidence, frequency and an impairment-based measure of severity. Instead, report preparers are choosing to focus on aggregated frequency rates of lost time and recordable injury, and most failed to provide severity data at all. Together this hampers the ability of stakeholders to monitor serious OHS outcomes and thereby prevents any meaningful assessment of OHS risk.

Present forms of OHS account(ing) therefore appear to be constructing a reality in which occupational illness is largely ignored and all forms of non-fatal injury are assumed to be

equal - a sprained ankle and a broken neck, each presented as a single injury event, concealing the incidence of serious damage and ignoring the related financial and social implications. This failure to adopt an accounting method that will distinguish between high and low severity incidents effectively 'smooths' variations in OHS performance and thereby manages stakeholder perceptions of OHS outcomes.

These reporting choices are potentially explained by agency theory as efforts by managers to reduce the political costs associated with explicitly identifying cases of permanent disability – the primary driver of financial and non-financial OHS consequences. Furthermore, like deferring income to a future period to smooth reported earnings, choosing a measurement method that captures only the number, but not the duration, of injuries and illnesses will effectively smooth OHS performance from one period to the next so as not to draw attention to unexpected changes in the incidence and duration of serious disability.

Together these findings suggest agency theory explanations relating to accounting method choice and earnings management processes may be extended to emerging practices of CSR disclosure. The reliance on secondary data in this study however, presents a limitation in that the motivations of managers are not directly observable and highlights an opportunity for future research that might seek to identify whether the choice of OHS indicators are, as it would appear, strategic efforts to reduce potential political costs associated with serious OHS damage or, alternatively, whether the poor quality of data simply reflects a lack of understanding of most appropriate metrics for assessing OHS performance and reporting this to shareholders. The practical implications of these findings lie in the strong support they provide for calls to mandate appropriate accounts of OHS performance, and in particular those calls for the requirements of s299(1)f of the Corporations Act to be extended so as to require company Directors to report on OHS breaches and OHS performance (using measures of fatality, impairment-based severity and recordable incident frequency).

Overall these results suggest that, in their current form, corporate OHS disclosures are incapable of providing the relevant, reliable and comparable information needed to make an informed assessment of the incidence of serious and long term disability. Given that these particular OHS outcomes are the primary drivers of material changes in both financial and non-financial consequences, existing practices of external corporate OHS reporting are therefore inadequate for providing a meaningful appreciation of the OHS risk to which stakeholders are exposed. Consequently, those shareholders who seek to monitor the extent to which managers might trade lower levels of OHS risk for wealth maximisation are likely to be left in the dark.

6. Appendices

Appendix 1: Overview of the sample

ASX Code	Company	Annual reports	Sustainability reports	Industry Code
AGL	Australian Gas Light Company	4	1	Utilities
ALL	Aristocrat Leisure Limited	4	0	Consumer Goods
ALN	Alinta Limited	2	0	Utilities
AMC	Amcor Limited	4	2	Materials
AMP	AMP Limited	3	0	Financials
ANZ	Australia & New Zealand Banking Ltd.	4	1	Financials
AWC	Alumina Limited (WMC/AWC)	4	0	Materials
AXA	AXA Asia Pacific Holdings Limited	4	0	Financials
BHP	BHP Billiton Limited	4	2	Materials
BIL	Brambles Industries Limited	4	0	Industrials
BLD	Boral Limited	4	1	Materials
BSL	Bluescope Steel Limited	2	1	Materials
CBA	Commonwealth Bank Of Australia	4	0	Financials
CCL	Coca-Cola Amatil Limited	4	0	Consumer Goods
CML	Coles Myer Limited	4	1	Consumer Goods
CNP	Centro Properties Group	3	0	Financials
CSL	CSL Limited	4	0	Health Care
CTX	Caltex Australia Limited	3	1	Energy
FGL	Foster's Group Limited	4	0	Consumer Goods
FXJ	Fairfax (John) Holdings Limited	4	0	Consumer Goods
GPT	General Property Trust	4	0	Financials
IAG	Insurance Australia Group Limited	2	1	Financials
ILU	Iluka Resources Limited	4	0	Materials
JHX	James Hardie Industries N.V.	4	0	Materials
LLC	Lend Lease Corporation Limited	4	0	Financials
MBL	Macquarie Bank Limited	4	0	Financials
MIG	Macquarie Infrastructure Group	4	0	Industrials
NAB	National Australia Bank Limited	4	1	Financials
NCM	Newcrest Mining Limited	4	2	Materials
ORG	Origin Energy Limited	3	2	Energy
ORI	Orica Limited	4	3	Materials
OXR	Oxiana Limited	4	1	Materials
PBL	Publishing & Broadcasting Limited	3	0	Consumer Goods
PPX	Paperlinx Limited	3	1	Materials

ASX Code	Company (Continued)	Annual reports	Sustainability reports	Industry Code
QAN	Qantas Airways Limited	4	0	Industrials
QBE	QBE Insurance Group Limited	4	0	Financials
RIN	Rinker Group Limited	2	0	Materials
RIO	Rio Tinto Limited	3	2	Materials
SGB	St George Bank Limited	4	0	Financials
SGP	Stockland	4	1	Financials
STO	Santos Limited	4	1	Energy
SUN	Suncorp-Metway Limited.	4	0	Financials
TAH	Tabcorp Holdings Limited	4	0	Consumer Goods
TCL	Transurban Group	4	1	Industrials
TLS	Telstra Corporation Limited.	4	2	Telecommunications
WBC	Westpac Banking Corporation	4	0	Financials
WDC	Westfield Group	3	2	Financials
WES	Wesfarmers Limited	4	2	Industrials
WOW	Woolworths Limited	3	0	Consumer Goods
WPL	Woodside Petroleum Limited	3	1	Energy
	TOTAL SAMPLED REPORTS	182	33	

Appendix 2: Summary of Severity Indicators Disclosed

Reported by	Reported Severity Indicator	Definition provided
Firm 1 1997 2003 2006	Injury duration rate Lost workdays Lost workday rate	Days per lost time injury Lost workdays per 200,000 work hours Lost workdays per 200,000 man hours
Firm 2 2006	Duration rate	Measures the impact of injuries on people by the number of days they are away from their unrestricted duties per injury
Firm 3 2003 2006	LTISR: LTI Severity Rate LTISR: LTI Severity Rate	<i>Full</i> days lost in LTIs per million work hours (where LTI is injuries resulting in absent from work for one or more complete days or shifts) Injury days lost per million exposure hours
Firm 4 2000 2003 2006	Hours lost % Hours lost % Hours lost %	Percentage of hours lost through injury Percentage of hours lost due to workplace injury (as a % of hours worked) Not defined
Firm 5 2000 2006	Weighted Average Injury Severity Severity rate Number of Total Days Lost or Restricted Due to Workplace Injuries	Not defined Lost Workday Frequency Rate plus the Restricted Workday Frequency Rate (ie. days lost or with restricted duties <i>because of a recordable case</i>) per 200,000 hours worked. <i>(but the graph providing the data is titled: Lost Workday Case Frequency Rate (Frequency per 200,000 hours worked))</i>
Firm 6 2000 2003	Injury severity Injury severity	Average working days lost per employee hours lost per million hours worked
Firm 7 2000	Injury days lost Lost time injury severity rate	Not defined (but appears to be: total number of days lost to injury) Days lost to injury per million hours worked
Firm 8 2006	DLTI: Days lost to injury	Rate of days lost to injuries and restricted duty
Firm 9 2006	Injury Severity	Not defined
Firm 10 1997, 2000, 2003	Serious personal injury Prescribed incapacity	Neither category defined
Firm 11 2003 (CSR only) 2006	ALTR: Average lost time rate ALTR: Average lost time rate	An LTI is any work injury which causes absence for one day or a shift or more (the body of the report also states "includes permanent contractor hours and injuries") Average number of actual days lost due to an LTI

Appendix 3: Summary of Reported OHS Performance Indicators

OHS Performance Indicators Disclosed by Sampled Firms		Number of firms reporting:				
Metric	Definition	Total	1997	2000	2003	2006
LOST TIME INCIDENTS						
LTI	Number of Lost Time Injuries	11	3	3	6	4
LTI	Number of Lost Time Incidents	3			1	2
LTIFR	Rate of lost time injuries per 200,000 hours worked	3			3	2
LTIFR	Rate of injuries & illnesses per 200,000 hrs of total hrs worked	1		1		
LTIFR	Rate of lost time injuries per million hours worked	23	6	8	11	15
LTIFR	Rate of lost time incidents per million hours worked	1			1	
LTIFR	Rate of lost time injuries per million exposure hours	1			1	1
LTOIR	Rate of lost time occurrence incidence rate - LTI & diseases per 100 workers employed	1				1
LTIFR	Rate of injury & illness per 100,000 hrs of total hrs worked	1				1
LTIFR	Rate of injuries that result in an employee being absent from work for one or more whole shifts per million exposure hours	1				1
LTIFR	Rate of combined lost time injury/moderate medical injury frequency <i>(note although this firms refers to this metric as an LTIFR it is equivalent to the classified injury metric provided below)</i>	2	1			1
CIFR	Number of classified injuries per million hours worked	1			1	1
LTIFR	No definition provided	9	1	3	2	5
	Total	30	7	13	19	28
RECORDABLE INCIDENTS						
TRC	Number of Total Recordable Cases	2		1		1
TRIFR	Rate of recordable injuries per million hours worked	1				1
TRIFR	Rate of recordable injuries per million exposure hours worked	1			1	
TRCFR	Rate of recordable cases per million hours worked	2			2	1
TRCFR	Rate of recordable cases per 200,000 hours worked	2		1	2	1
TRIFR	No definition provided	3				3
	Total	8	0	1	5	7
REPORTABLE INCIDENTS						
TRI	Number of Total Reportable Injuries	1				1
TRCFR	Rate of reportable case injuries per million hours worked	1			1	1
TRCFR	Rate of reported injury incidence rate per 1000 staff	1			1	
AIFR	All injury frequency rate per 200,000 hours	1				1
AIFR	No definition provided	2				2
TRCFR	No definition provided	1			1	
	Total	3	0	0	2	2
MINOR INCIDENTS						
MTI	Number of Medical Treatment Injuries	3		2	1	1
MTIFR	Rate of medical treatment injuries per million hours worked	3		1		2
MTIFR	No definition provided	2			2	1
FAC	Number of First Aid Cases	1				1
	Total	8	0	3	2	5

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