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Editorial

Welcome to the first issue of the *Journal of the Asia Pacific Centre for Environmental Accountability* for 2011. Readers will note that from this issue a new format has been adopted for the journal, moving away from the two column approach hitherto presented towards a single column which should facilitate ease of submission by authors.

As has become the convention with the journal there are two feature articles included in the current issue. The first feature article by Raja Adzrin Ahmad and Greg Tower ‘Regulatory and industry influences on the communication of environmental information: a comparative study of top French and Australian firms’ is an empirical study of environmental disclosures by the top listed companies in France and Australia for two years set against GRI as the benchmark. It continues a growing body of research in this field. Helpful reference points are: first, manufacturing and service-orientated organisations and the question of which type of industry contains companies with higher levels of disclosure and, second, whether the global financial crisis is related with declines in social non-economic disclosures. The emphasis is on the need for industry rules to complement regulation as a means to encourage greater disclosure.

The second feature article, by authors associated with France, China and Australia is entitled ‘Multiple directorships and CAC-40 natural environmental disclosures’. Written by Stephanie Courtois, Clemantine Gombart, Isabelle Pignatel and Alistair Brown the article provides a first insight into environmental disclosures of French CAC-40 companies for a single year following a period of change in France set against Cormier and Magnan’s (2003) benchmark disclosure list of 39 items. Specific attention is given to the influence of multiple directorships on disclosures, using simple linear regression. Do they, or do they not have an influence? Read on for further insight.

The edition is completed with a **Call for Papers** and **Environment Extra!**

Notes for contributors

Manuscript requirements

Articles should be submitted in a word document, Times New Roman, 12 point, single spaced, single column, and attached to an email. References should be in the UniSA Harvard referencing style, available from the following link:

<http://www.unisa.edu.au/ltu/students/study/referencing/harvard.pdf>

As a guide to authors, articles should be no more than 6,000 words unless negotiated with the editors. The submission of shorter articles is particularly welcome. Each article should be preceded by an abstract of no more than 100 words.

To ensure anonymous review, authors should not identify themselves directly or indirectly in their manuscript. A separate cover page should show the title of the manuscript; the author(s)'s name(s); position(s); affiliation(s); and contact details.

The reviewing process

Feature articles are independently reviewed by members of the Editorial Board in accordance with the requirements for classification as a C1 journal article in Australia: 'For the purposes of the HERDC, an acceptable peer review process is one that involves an assessment or review of the research publication in its entirety before publication by independent, qualified experts. Independent in this context means independent of the author'.

Each article published in the *Journal of the Asia Pacific Centre for Environmental Accountability* is blind reviewed by at least two members of the Editorial Board. The journal is listed on the ARC's ERA 2010 journal list which is considered acceptable as evidence of peer review for HERDC purposes.

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Editorial objectives

The objectives of the journal are, first, to encourage investigation of environmental and social accounting, reporting, accountability and assurance. The second objective is to promote environmental, social and sustainability accounting, accountability, reporting assurance, and related taxation research to professional and academic accountancy and finance academics, professional bodies and governments. The editors are amenable to quality research in any paradigm including, for example, field or experimental investigations, archival or survey research, interpretive or critical studies and case study research.

Editorial criteria

Major criteria used to evaluate papers are:

- subject matter must be of importance to the accounting discipline;
- research questions must fall within the journal's objectives;
- research must be well designed and executed; and
- presentation is well written and in conformance with the journal's style.

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Regulatory and industry influences on the communication of environmental information: a comparative study of top French and Australian firms

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Abstract

This study evaluates environmental disclosures in a country with explicit mandatory disclosures (France) and one where disclosures are virtually all voluntary (Australia). Comparative analysis using the Global Reporting Initiative (GRI) framework is conducted over a two year period during the Global Financial Crisis (GFC). The top French firms disclosed 55% in each year whereas the Australian firms' disclosures voluntarily rose from 37% to 45%. One of the strongest findings is that manufacturing firms' level of environmental disclosures is far higher than service-orientated firms (56-60% versus 34-38%). Interestingly, the worsening global economic crisis did not precipitate a drop in such 'social non-economic' disclosures. A key implication is that regulation per se may not be the sole answer to improved disclosure. Instead, more carefully targeted industry rules may well deliver a higher level of corporate transparency. Future research into countries with differing regulatory expectations, financial prowess and governance systems could add further insights.

Key words:

Environmental disclosure; communication; corporate social responsibility

1. Introduction

The topic of corporate social responsibility has blossomed into global prominence (Golob & Bartlett 2007; Farneti & Guthrie 2009). The international business arena is facing tremendous pressure to be socially

responsible and eventually report on issues other than those in the financial domain. The annual report or separate 'sustainability' documents are key communicating mediums to provide information for different stakeholders and to discharge environmental accountability towards broader society (Hooghiemstra 2000). Such reporting also allows corporations to articulate their principal concerns with regard to sustainable performance and development.

As the role and the expectation of business on society escalate (Golob & Bartlett 2007), firms have a wider responsibility and need to consider the impact of their business conduct upon the society and the environment. There is a growing concern internationally about the social and ecological impact of business activities (Farneti & Guthrie 2009). Despite the fact that corporate social responsibility has been in existence since the 1950s, concern for environmental reporting has gained widespread currency and serves as a core construct in the 1990s and the new millennium (De Bakker, Groenewegen & den Hond 2005).

Multiple theoretical lenses have been used in the environmental literature including the decision usefulness approach, economic-based and political economy theories (Liu & Anbumozhi 2009). Legitimacy theory remains one of the dominant perspectives used to explain corporate social responsibility reporting (Hooghiemstra 2000). Firms engage in environmental reporting to demonstrate that their actions are legitimate and conform to societal expectations. Viewed from the legitimacy framework, reporting is regarded as a way to legitimize activities as well as a channel to influence stakeholders' perceptions toward the company. It can be used to influence perceptions which eventually justify its continued existence (Guthrie & Parker 1989).

While accounting reports can be mandatory, solicited or voluntary (Woodward, Edwards & Birkin 1996; Van der Laan 2004), external reporting on corporate social responsibility issues predominantly remains voluntary. This research study compares and contrasts the level of environmental reporting using data from two countries with very different environmental reporting regulatory regimes: France (a rare example where mandatory rules are in place) and Australia (where such information is voluntary). Since May 2001 French¹ companies are required to make information available to investors with regard corporate social and environmental performance if they are listed on the stock exchange (Robins 2005; Tschopp 2005). However, due to the broadly written regulation, the presentation and extent of disclosure are subject to firm

¹ There are a number of other countries in which the mandatory environmental reporting has been introduced such as Sweden, Norway, the Netherlands and Denmark. Nevertheless, France is used in this study because it is the first country in the world that imposed such regulation (Tschopp 2005).

discretion, leaving room for variation in terms of uptake and diffusion (Tower et al. 2010).

Australia is chosen for this study because it is one of the most stable economic, political and social countries in the Asia Pacific region (Golob & Bartlett 2007), whilst corporate social responsibility reporting remains discretionary. The Australian Parliamentary Joint Committee on Corporations and Financial Services (2006) concluded that corporate social responsibility reporting should remain voluntary. This is because the Committee believes that corporate social responsibility reporting should be strongly encouraged rather than being enforced. Suggett and Goodsir (2002) argue that in Australia the community places emphasis on the meeting of social obligations (Suggett & Goodsir 2002). Hence, these social drivers potentially place much pressure on firms to report beyond core profit activities. Through use of this country comparative, data insights can be gleaned about the role of mandatory regulation on environmental reporting.

Top 30 firms from each country (France and Australia) are selected as the data sample because of their wider resource possession, giving them panoptic ability to adopt more proactive environmental management practices. Further, these firms have multiple stakeholders and, thus, may feel obligated to disclose such information. According to Liu and Anbumozhi (2009), listed companies use environmental information as a medium for stakeholder management.

This paper augments the empirical literature on environmental disclosure practices by analysing the trends in disclosure practices and making a comparison between two countries to enrich the corporate social responsibility debate. Undoubtedly, environmental issues and the ecological impact of business conduct are important. This is evidenced in the recent 2009 United Nations Climate Change Conference, commonly known as the Copenhagen Summit in which the Copenhagen Accord recognizes that climate change poses the greatest challenge of the present and proactive actions need to be taken to minimize its adverse impact. In addition, comparative study enables greater insights to be generated into environmental disclosure practices. Further, most prior assessments have focused on examination of a single country (see for example Deegan & Rankin 1996; Hackston & Milne 1996; Milne, Tregidga & Walton 2003; Daub 2007) and very few studies examine the communication of environmental information across countries in different regions. Likewise, use of the GRI framework as a unique model to assess the level of environmental disclosure can provide insights with regard to the extent of adoption of such a standard as an international reporting instrument. Hence, this study expands the existing pool of knowledge by exploring the

level of environmental disclosure to shed additional light on this pivotal issue.

The rest of the paper is organised as follows. The next section provides the background of the study where the relevant review of prior literature in relation to corporate social responsibility reporting practices is presented. Following that, the research methods are outlined. The results are then presented with concluding remarks and suggestions for future research offered in the final section.

2. Literature review

Unprecedented challenge placed by the wider stakeholders and the changing voice of the community has altered and shaped business responsibilities. As a result, the pursuit of sustainable development becomes the principle, endorsed by many corporations, to have greater transparency and better stakeholder management (Golob & Bartlett 2007). Against the backdrop of global business environment, corporate social responsibility reporting serves as a useful channel to disseminate information to social actors.

Golob and Bartlett (2007) examine the reporting patterns of corporate social responsibility in Australia and Slovenia. These two countries are selected because they differ in terms of national culture, yet the reporting pattern in both countries appears to be driven by market pressures and is predominantly voluntary. Using GRI and the World Business Council for Sustainable Development (WBCSD) as the template reporting framework, the findings indicate that Australian companies engage in corporate social responsibility reporting more actively than those in Slovenia. One possible justification offered by the authors is because Slovenia is still in its infancy regarding corporate social responsibility reporting. Whilst Australian corporate social responsibility reporting seems to cover wide ranging issues, Slovenian reporting is focused narrowly and the structure follows the one proposed by the European Commission's Green Paper on corporate social responsibility reporting 2001 (Commission of the European Communities 2001).

Lynch (2010) investigates the nature and extent of environmental reporting contained in 324 annual reports in the public sector. Specifically, the study examines the annual reports of 18 Australian state government departments of which 12 are responsible for environmentally sensitive areas over an eight-year period from 2001 to 2008. As society expects governments to manage public resources in a sustainable and responsible manner, the author asserts that detailed environmental performance will be disclosed in the annual reports. However, findings show that the reporting pattern is not consistent over time and the standard of reporting varies

between departments even though the amount of environmental disclosure increases. The findings also reveal a disappointing low level of GRI-based reporting. The author recommends mandatory GRI adoption for all government departments.

Skouloudis, Evangelinos and Kourmouisis (2010) assess the adoption of triple-bottom-line reporting according to GRI guidelines for companies operating in Greece. Using the GRI 2002 Guidelines, their findings indicate a very challenging framework for Greek firms. Major gaps exist where Greek firms are still lagging behind the international experience. Further, Greece's reporting on non-financial items varies significantly in terms of materiality and completeness, with low number of GRI adopters.

Brown, de Jong and Levy (2009) assess the degree of GRI's institutionalization by drawing on institutional theory. Eight criteria are used to assess the degree of GRI institutionalization which includes, among others the uptake of GRI reports, the emergence of new language and concepts, competitive pressures related to GRI and new institutional logic. The chronicle of GRI depicts how institutions emerge as a result of interactions among many actors and how the resources and economic structure shape emerging institutions. The governance perspective indicates that information must have usable format and content of which specialized knowledge is crucial.

Guthrie and Farneti (2008) analyse voluntary sustainability reporting by Australian public sector organisations in light of GRI G3 Guidelines (GRI 2006) supplemented by the *Sector Supplement for Public Agencies*, which adds another set of core indicators. Seven different levels of Australian government organisations are studied where content analysis is employed. Despite the fact that all of the organisations claimed that GRI indicators are being followed, their study found that the reporting pattern is diverse and fragmentary. The examination of social and environmental disclosure in the annual reports and the sustainability reports reveals that annual report remains as the main medium for sustainability disclosure. The authors suggest that sustainability reporting for public sector organisations in Australia is still in its infancy, with the *G3 Guidelines* and the *Sector Supplement for Public Agencies* too generic for public sector organisations.

Guthrie, Cuganesan and Ward (2008) examine the social and environmental reporting practices of the Australian Food and Beverage Industry. They note that there have been very limited studies to date that focus solely upon industry-specific reporting. Food and beverage is chosen because of its significance to the Australian economy and environment, coupled with the intense contemporary issues surrounding the industry such as food safety and obesity. Using the GRI 2002 guidelines, supplemented with industry-specific items relevant to the Australian food

and beverage industry, content analysis is applied to various reporting media; annual reports and websites. Their results indicate that firms are using both reporting media for social and environmental reporting, with corporate websites indicating a higher frequency of disclosure. The authors suggest that generally accepted social and environmental guidelines tailored specifically for web-based communication should be established to allow rigorous and reliable disclosure.

The focus of Farneti and Guthrie's (2009) study is to identify contextual factors for sustainability reporting of Australian public sector agencies. 'Better social and environmental practice' agencies (those that follow GRI Guidelines) were invited to participate in the study. Semi-structured interviews with key preparers are conducted to explore the motivation for the voluntary reporting of sustainability information. Findings from the interviews reveal that the main purpose of reporting is to inform internal stakeholders, with the annual report being only one of the media used to channel social and environmental information. GRI implementation is seen to be difficult due to its generic framework, while other extended performance reporting frameworks such as the balanced scorecard and triple bottom line have already been adopted. Their findings also indicate that a key individual within each organisation drives the social and environmental reporting process.

Liu and Anbumozhi (2009) provide an empirical observation on Chinese listed firms with regard to corporate environmental information. They assert that the strategy adopted by Chinese listed firms tends to be influenced by pressure from the government, whilst pressure from other important stakeholders like shareholders and creditors appears to be weaker. An interesting finding revealed relates to selectivity of the disclosure of environmental information. The authors suggest that more aggressive and effective legislative and administrative measures should be promoted so that Chinese enterprises would become more proactive, to improve their environmental performance.

In France, Depoers (2000) examines the economic determinants of the extent of disclosure for 102 industrial and commercial listed firms. An index of financial and non-financial voluntary information is used to assess the level of discretionary disclosure. As a pioneer voluntary disclosure study in France, the major contribution of this paper is to explore the incentives to withhold and the incentives to disclose discretionary information. The results indicate that managers make strategic disclosures in which they disclose the information when firm size and foreign activity are imperative. On the other hand, information is concealed if managers feel that disclosure may place the firm's competitive position at stake and may increase pressure from labour.

A case study for a French company, Total SA, one of the largest oil and gas company in the world, is conducted by Cho (2009). The paper examines the environmental disclosure decisions and practices following two important environmental-related disasters that occurred in France less than two years apart; a) the 20,000-ton Erika oil spill on December 9, 1999 and b) the deadly explosion of chemical plant on September 21, 2001. As a result, international media have negatively publicized the events causing considerable damage towards the firm's reputation and image. The findings provide support for legitimacy theory in which environmental disclosure is used as a powerful legitimating device. A more open communication strategy is being employed to restore damaged firm reputation and image.

As highlighted in the above literature, most previous studies use the GRI (Griffin & Mahon 1997) guidelines as the template benchmark to assess the level of environmental disclosures by listed companies around the world. The GRI is almost universally employed as it is clearly the most acknowledged international corporate social responsibility reporting benchmark in the world (Brown, de Jong & Levy 2009). Therefore, this set of global guidelines is used as the reporting framework to conduct the comparative analysis between top French and Australian listed companies. By employing the GRI 2006 framework, this paper seeks to answer the following research questions:

- a) *What is the level of environmental communication for the Top 30 French and Australian listed firms?*
- b) *Does the listed company's country influence the level of disclosure?*
- c) *What other company characteristics (such as size, profit, leverage and industry category) affect the communication of environmental information for the Top 30 French and Australian listed firms?*

3. Research methods

This study utilises a positivist empirical research method seeking to explain what is being reported with regard to environmental disclosure. It also examines possible firm specific factors that could explain variations in the level of disclosure over time.

The Top 30 listed firms for 2007 and 2008 from each country, France and Australia, are selected for this study. All 30 environmental performance indicators from the GRI 2006 guidelines are used to assess the reporting of environmental accountabilities by the sample firms. The study records the incidence of disclosure by giving a score of one if the firm reports on the item and zero otherwise. It should be noted that it is not the aim to analyse the quality of environmental information disclosure, however an argument could be made that the higher the quantity of information provided by a

firm, the higher the quality may be offered to stakeholders seeking to understand company environmental activities.

Consistent with prior studies, a disclosure index is used to capture the strength of environmental disclosure (see for example Cowan & Gadenne 2005; Frost et al. 2005; Clarkson et al. 2008). The internationally accepted framework, GRI, is used as the benchmark to measure the level of environmental disclosure for the Top 30 French and Australian listed firms (refer Appendix 1 for the list of items included in the Environmental Disclosure Index ($EnvDis_{j,t}$)). Table 1 summarises the variables used in this study.

Table 1: Variables description

Variable	Description
$EnvDis_{j,t}$	The aggregate environmental disclosure score for firm j for time period t based on the total sum of score awarded per item of the thirty [30] points, expressed as a proportion of the total possible score.
$CoreEnvDis_{j,t}$	The aggregate 'core' environmental disclosure score for firm j for time period t based on the total sum of scores awarded per item of the seventeen [17] points, expressed as a proportion of the total possible score.
$AddEnvDis_{j,t}$	The aggregate 'additional' environmental disclosure score for firm j for time period t based on the total sum of scores awarded per item of the thirteen [13] points, expressed as a proportion of the total possible score.
$TA_{j,t}$	The total assets (expressed in AUD\$) of firm j as at the end of time period t .
$LogTA_{j,t}$	Logarithmic transformation of the total assets (expressed in AUD\$) of firm j as at the end of time period t .
$Ind_{j,t}$	Indicator variable where firm j is scored one [1] if operated in a manufacturing industry, otherwise two [2] if operated in a service industry for time period t .
$Lev_{j,t}$	The proportion of total liabilities of firm j as at the end of time period t to the total assets of firm j as at the end of time period t .
$ROA_{j,t}$	The proportion of net earnings after interest, depreciation and taxation of firm j from time period t divided by the total assets of firm j as at the end of time period t .
$Country_{j,t}$	Indicator variable where firm j is scored one [1] if it is from France; otherwise firm j is scored two [2] if it is from Australia for time period t .

Traditionally, annual reports serve as the primary avenue to disseminate information to various stakeholders (Wiseman 1982; Guthrie & Parker 1989; Roberts 1992). Over the past decade, however, most firms publish their social and environmental involvement in separate reports. Thus,

relying solely on annual reports may provide limited insights into the environmental reporting practices and may not provide a comprehensive view of the firm's extended performance (Guthrie & Farneti 2008). For this reason, this study examines environmental disclosures from annual report and discrete corporate social responsibility reports for the period under study. Table 2 reveals that a reasonable minority of French and Australian firms provide stand-alone corporate responsibility reports with this use of medium slowly growing during the decade.

Table 2: Corporate Responsibility Reporting Mediums for France and Australia

	Stand-alone Corporate Responsibility Report	Corporate Responsibility Report integrated in Annual Report
	%	%
Year 2005		
France	40	0
Australia	23	0
Year 2008		
France	47	12
Australia	37	8

Source: KPMG International Survey of Corporate Responsibility Reporting 2008. The above table indicates the result of a tri-annual international survey on corporate responsibility reporting practices of the Top 100 conducted by KPMG.

The environmental reporting analysis is being conducted in an economic period of woe. Table 3 shows the deepening economic crisis from 2005-2009, especially for France. In France, GDP growth and business confidence fell whilst unemployment rose. In contrast, Australia is one of the few countries in the world to deal with the global economic crisis mostly unscathed. GDP still grew albeit more slowly and unemployment rose only marginally.

Table 3: France and Australia Economic Condition (2005-2009)

Year	GDP Growth (%)		Unemployment Rate (%)		Business Confidence		Inflation Rate (%)	
	France	Aust	France	Aust	France	Aust	France	Aust
2009	-2.53	1.35	9.44	5.58	79.83	0.49	0.01	1.85
2008	-0.40	2.38	7.86	4.24	96.17	11.16	2.82	4.35
2007	0.45	4.05	8.33	4.36	109.00	9.73	1.48	2.35
2006	0.55	2.85	9.26	4.78	106.50	9.05	1.68	3.55
2005	0.43	2.75	9.30	5.06	100.25	6.43	1.73	2.68

Source: INSEE (translated as the French National Institute for Statistics and Economic Studies), National Statistics Office, Australian Bureau of Statistic and Trading Economics (<http://tradingeconomics.com>) accessed on 12 July 2010. [§]The business confidence is measured by the level of optimism that business leaders have about the performance of the economy and how they feel about their organisation's prospect.

4. Research findings

Table 4 reveals a more depressing story of falling profits between 2007 and 2008. In both countries firm profits fell by around 50%.

Table 4: Top 30 French and Australian Listed Firms' Size and ROA (2008-2007)

Country		2008	2007	Year Change	p-value
France	$TA_{i,t}$ (Mean)	120,482,673,116	109,668,336,583	+10,814,336,533	0.888
	$ROA_{i,t}$ (Mean) %	2.78%	5.89%	-3.11%	0.095***
Australia	$TA_{i,t}$ (Mean)	56,384,948,843	54,670,717,512	1,714,231,331	0.943
	$ROA_{i,t}$ (Mean) %	3.95%	6.73%	-2.78%	0.348
Total	$TA_{i,t}$ (Mean)	88,433,810,979	82,169,527,048	6,264,283,932	0.877
	$ROA_{i,t}$ (Mean) %	3.36%	6.31%	-2.95%	0.089***

Legend: *** significant at the 0.01, confidence level.

The first research question posed relates to the level of environmental disclosures by French and Australian companies. Tables 5(a-d) show the overall level of these GRI-style disclosures ranged from 37-55% in 2007 to 44-55% in 2008. The French companies' disclosures stayed almost exactly the same over the two year period whereas the Australian firms rose despite the worsening economic conditions in both countries (Table 5a). In both countries listed manufacturing companies had a statistically significant higher level of environmental disclosures (56-60%) than service style firms (34-38%). This finding is consistent with legitimacy theory as manufacturing firms are far more likely to have environmental issues with their higher levels of processing and materials handling and

thus may feel a stronger need to legitimise their activities through communication (see Table 5b).

Table 5a: Mean Environmental Disclosures by Country (2007 and 2008)

Variables	Mean Environmental Disclosure ($EnvDis_{i,t}$)			
	n	Mean	t	Sig.
<i>Year 2007</i>			2.829	0.007*
France	30	0.550		
Australia	30	0.372		
<i>Year 2008</i>			1.662	0.103
France	30	0.554		
Australia	30	0.446		

Legend: * significant at the 0.01 confidence level.

Table 5b: Mean Environmental Disclosures by Industry (2007 and 2008)

Variables	Mean Environmental Disclosure ($EnvDis_{i,t}$)			
	n	Mean	t	Sig.
<i>Year 2007</i>			3.692	0.000*
Manufacturing	31	0.569		
Service	29	0.346		
<i>Year 2008</i>			3.592	0.001*
Manufacturing	31	0.605		
Service	29	0.387		

Legend: * significant at the 0.01 confidence level.

Table 5c: Mean Environmental Disclosures by Industry: Further Breakdown (2007 and 2008)

Variables	Mean Environmental Disclosure ($EnvDis_{i,t}$)			
	n	Mean	t	Sig.
<i>Year 2007</i>			2.073	0.047**
France - Manufacturing	18	0.606		
France - Service	12	0.467		
<i>Year 2008</i>			1.299	0.205
France - Manufacturing	18	0.591		
France - Service	12	0.500		
Mean Environmental Disclosure for Additional Indicators ($AddEnvDis_{i,t}$)				
<i>Year 2007</i>			2.677	0.012**
Australia - Manufacturing	13	0.518		
Australia - Service	17	0.261		
<i>Year 2008</i>			3.270	0.003*
Australia - Manufacturing	13	0.626		
Australia - Service	17	0.308		

Legend: *, ** significant at the 0.01 and 0.05 confidence levels respectively.

Table 5d: Mean Environmental Disclosure: Core versus Additional Indicators (2007 and 2008)

Variables Mean Environmental Disclosure for Core Indicators (<i>CoreEnvDis_{it}</i>)				
	n	Mean	t	Sig.
<i>Year 2007</i>			1.818	0.075***
France	30	0.563		
Australia	30	0.427		
<i>Year 2008</i>			1.189	0.240
France	30	0.578		
Australia	30	0.492		
Mean Environmental Disclosure for Additional Indicators (<i>AddEnvDis_{it}</i>)				
<i>Year 2007</i>			3.884	0.000*
France	30	0.533		
Australia	30	0.300		
<i>Year 2008</i>			1.997	0.051***
France	30	0.523		
Australia	30	0.385		

Legend: *, *** significant at the 0.01 and 0.10 confidence levels respectively.

Table 5c breaks down industry differences by country. French manufacturing firm disclosures fall across the two years whilst Australian companies rose sharply. Service firms in both countries increased in 2008.

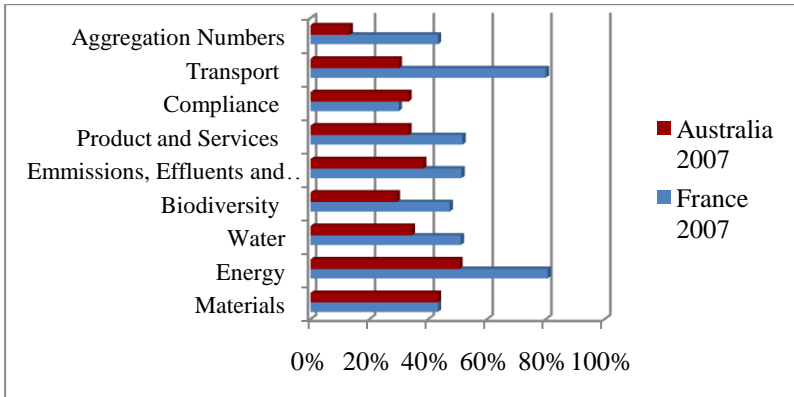
Table 5d splits the analysis² of key GRI indicators into their two component parts ('core' and 'additional' items). Both countries' firms communicated more 'core' items as the GFC deepened, however, only Australian entities increased their 'additional' item disclosures.

Figure 1a and 1b provide further detail on the 30 GRI items as categorised³ into key elements (see Appendix 1 for the specifics on each item). Energy and transport are the items most communicated whilst biodiversity compliance and aggregate/summary numbers the least disclosed. Both countries have similar trends for communicating these environmental categories.

²Additional partitioned multiple regression analysis is conducted (full tables not shown for brevity) reveals similar predictor variables for both categories. In 2007 and 2008, *CoreEnvDis_{it}* is positively influenced by size (*LogTA_{it}*) with more in French companies. Whereas being in the manufacturing industry is the best predictor of 'additional' item in both countries in both years.

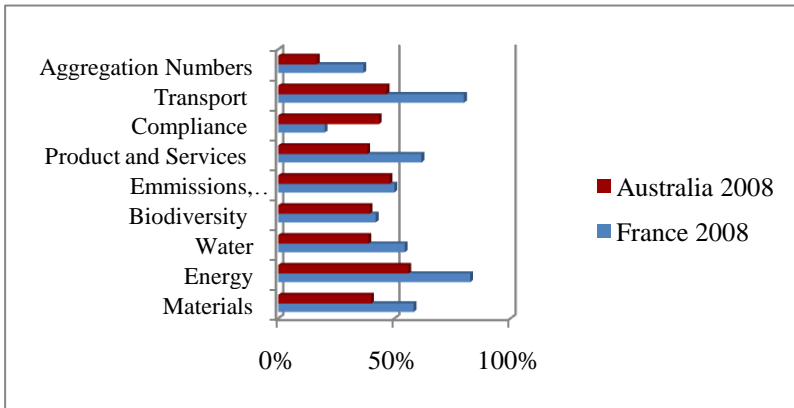
³Besides splitting the environmental disclosure into a number of dimensions of sustainability which include environment, human rights, labour issues, society, product responsibility, and economy, the Guidelines also sub-divide them into 'core' indicators and 'additional' indicators. The former refers to the indicators identified as of interest to most stakeholders and are material to most reporting organisations while the latter are indicators that are deemed relevant to some organisations but may not necessarily be for the majority. Further analysis (not shown for brevity) finds that 'core' GRI items have slightly higher disclosures in each year and by each country than those GRI items that they dub 'additional'.

Figure 1a: GRI Environmental Indicators for France and Australia in 2007



Source: Original figure

Figure 1b: GRI Environmental Indicators for France and Australia in 2008



Source: Original figure

Predictor variables to explain the level of environmental disclosures are explored in Table 5 and 6 and Appendix 2. Correlation matrices for both years show no major problem with multicollinearity between the independent variables with the highest correlations no more than 0.578 and 0.562 in 2007 and 2008 respectively (Appendix 2).

Table 6(a) full and backward regressions highlight the key predictors of GRI disclosures in 2007 as being size ($LogTA_{j,t}$), industry ($Ind_{j,t}$), and country ($Country_{j,t}$). Larger French manufacturing firms have the highest level of environmental disclosures. Whereas in 2008, size, industry, and leverage are predictor variables (but not country because the Australian firms' GRI disclosures rose in a similar way to the French disclosures). In 2008, larger, less leveraged manufacturing firms are the highest communicators (Table 6b). Profit ($ROA_{j,t}$), is not a predictor in either year.

Table 6a: Multiple Regression Analysis for 2007

Regression model	Full			Backward		
n	60			60		
F value	5.551			8.736		
Significance	0.000			0.000		
Adjusted R Squared	0.278			0.282		
Variables	B	t-value	p-value	B	t-value	p-value
Constant	-0.373	-0.685	0.496	-0.087	-0.175	0.862
$LogTA_{j,t}$	0.130	2.397	0.020**	0.097	2.035	0.047**
$Ind_{j,t}$	-0.227	-3.700	0.001*	-0.237	-3.941	0.000*
$Lev_{j,t}$	-0.160	-0.897	0.374	ns	ns	ns
$ROA_{j,t}$	0.240	0.725	0.471	ns	ns	ns
$Country_{j,t}$	-0.047	-1.535	0.131	-0.053	-1.759	0.084***

Legend: Multiple regression equation is stated as: $EnvDis_{j,t} = \alpha_i + \beta_1 LogTA_{j,t} + \beta_2 Ind_{j,t} + \beta_3 Lev_{j,t} + \beta_4 ROA_{j,t} + \beta_5 Country_{j,t} + \varepsilon_j$. See Table 1 for definitions of all variables. *, **, *** significant at the 0.01, 0.05 and 0.10 confidence levels respectively.

Table 6b: Multiple Regression Analysis for 2008

Regression model	Full			Backward		
n	60			60		
F value	3.852			6.384		
Significance	0.005			0.001		
Adjusted R Squared	0.195			0.215		
Variables	B	t-value	p-value	B	t-value	p-value
Constant	0.241	0.428	0.670	0.048	0.098	0.923
$Log(TA)_{j,t}$	0.085	1.463	0.149	0.098	1.882	0.065***
$Ind_{j,t}$	-0.212	-3.261	0.002*	-0.225	-3.654	0.001*
$Lev_{j,t}$	-0.344	-1.580	0.120	-0.350	-2.072	0.043**
$ROA_{j,t}$	-0.015	-0.038	0.970	ns	ns	ns
$Country_{j,t}$	-0.025	-0.759	0.451	ns	ns	ns

Legend: Multiple regression equation is stated as: $EnvDis_{j,t} = \alpha_i + \beta_1 LogTA_{j,t} + \beta_2 Ind_{j,t} + \beta_3 Lev_{j,t} + \beta_4 ROA_{j,t} + \beta_5 Country_{j,t} + \varepsilon_i$. See Table 1 for definitions of all variables. *, **, *** significant at the 0.01, 0.05 and 0.10 confidence levels respectively.

5. Conclusion

This study assesses environmental disclosures in a country with high mandatory disclosures (France) and one with low disclosures (Australia) over a two year period where the economic climate is worsening. The French firms, with their mandatory requirements, disclosed 55% of the GRI target in each year whereas the Australian firms (in their more *laissez-faire* situation) rose from 37 to 45%. Interestingly, the worsening global economic crisis did not precipitate a drop in such ‘social non-economic’ disclosures. There may be an interaction between higher communication in annual reports based on regulatory influences versus the move towards an equilibrium disclosure level without mandatory rules. In other words, the level of environmental disclosures may be approximating an equilibrium disclosure level of 45-55%. Energy and transport issues are especially well addressed.

Past studies have shown that variations in social and environmental disclosure occur across countries, companies, industries and time (see for example Patten 1991; Gray, Kouhy & Lavers 1995; Hackston & Milne 1996; Adams, Hill & Roberts 1998; Gray et al. 2001). This study notes that larger companies have higher environmental disclosures, a result which is consistent with legitimacy theory. Legitimacy theory posits that

firms provide social reporting to demonstrate a sense of moral obligation and to maintain social legitimacy. The degree of legitimacy differs from one firm to another depending upon firm visibility and public pressure (Oliver 1991). Larger firms tend to receive more attention than smaller counterparts, and are under greater pressure to demonstrate social concerns (Trotman & Bradley 1981). In addition, larger firms could undertake more activities that have impact on the society and they also have more shareholders who are concerned about companies' social activities (Cowen et al. 1987; Hackton & Milne 1996). Hence, annual report and/or separate 'sustainability' documents are effective means to communicate such information (Hooghiemstra 2000).

One of the strongest findings is that manufacturing firm levels of environmental disclosures is far higher than service-orientated firms (56-60% versus 34-38%). This again is consistent with legitimacy theory as higher profile companies will seek to be seen as a clear communicator of potentially controversial environmental activities. Cho (2009) argues the industry focus does influence corporate social responsibility disclosure as higher profile firms are exposed to constant ethical and social pressure around the globe, and firms that work within environmentally sensitive industries are subject to increased public pressure and thus need to be thought of as providing strong environmental stewardship.

Further research should track environmental disclosures farther across the changing economic conditions. Moreover, analysis of additional countries with differing regulatory expectations, financial prowess and governance systems could add further insights. A key implication is that regulation per se may not be the sole answer to improved disclosure. Instead more carefully targeted industry rules and expectations may well deliver a higher level of corporate transparency.

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Appendix 1: GRI 2006 Environmental Indicators

No.	Code	Core/ Additional	Category	Description
1	EN1	Core	Materials	Materials used by weight or volume
2	EN2	Core	Materials	% of materials used that are recycled input materials
3	EN3	Core	Energy	Direct energy consumption by primary energy source.
4	EN4	Core	Energy	Indirect energy consumption by primary source.
5	EN5	Additional	Energy	Energy saved due to conservation and efficiency improvements.
6	EN6	Additional	Energy	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives.
7	EN7	Additional	Energy	Initiatives to reduce indirect energy consumption and reductions achieved.
8	EN8	Core	Water	Total water withdrawal by source.
9	EN9	Additional	Water	Water sources significantly affected by withdrawal of water.
10	EN10	Additional	Water	Percentage and total volume of water recycled and reused.
11	EN11	Core	Biodiversity	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.

No.	Code	Core/ Additional	Category	Description
12	EN12	Core	Biodiversity	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.
13	EN13	Additional	Biodiversity	Habitats protected or restored.
14	EN14	Additional	Biodiversity	Strategies, current actions, and future plans for managing impacts on biodiversity.
15	EN15	Additional	Biodiversity	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.
16	EN16	Core	Emissions, Effluents and waste	Total direct and indirect greenhouse gas emissions by weight.
17	EN17	Core	Emissions, Effluents and waste	Other relevant indirect greenhouse gas emissions by weight.
18	EN18	Additional	Emissions, Effluents and waste	Initiatives to reduce greenhouse gas emissions and reductions achieved.
19	EN19	Core	Emissions, Effluents and waste	Emissions of ozone-depleting substances by weight.
20	EN20	Core	Emissions, Effluents and waste	NO, SO, and other significant air emissions by type and weight.
21	EN21	Core	Emissions, Effluents and waste	Total water discharge by quality and destination.
22	EN22	Core	Emissions, Effluents and waste	Total weight of waste by type and disposal method.

No.	Code	Core/ Additional	Category	Description
23	EN23	Core	Emissions, Effluents and waste	Total number and volume of significant spills.
24	EN24	Additional	Emissions, Effluents and waste	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally.
25	EN25	Additional	Emissions, Effluents and waste	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organisation's discharges of water and runoff.
26	EN26	Core	Products and services	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.
27	EN27	Core	Products and services	Percentage of products sold and their packaging materials that are reclaimed by category.
28	EN28	Core	Compliance	Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with environmental laws and regulations.
29	EN29	Additional	Transport	Significant environmental impacts of transporting products and other goods and materials used for the organisation's operations, and transporting members of the workforce.
30	EN30	Additional	Aggregation numbers	Total environmental protection expenditures and investments by type.

Legend: For each item of EN1-EN30, firm j is scored one [1] if it discloses the item in the firm's annual report and/or the discrete sustainability report, otherwise firm j is scored zero [0] for the item.

Appendix 2a: Pearson and Spearman Correlation Matrix for 2007

	<i>EnvDis_{j,t}</i>	<i>LogTA_{j,t}</i>	<i>Ind_{j,t}</i>	<i>Lev_{j,t}</i>	<i>ROA_{j,t}</i>	<i>Country_j</i>
<i>EnvDis_{j,t}</i>		0.180	-0.436*	-0.147	0.054	-0.348*
<i>LogTA_{j,t}</i>	0.216		0.256**	0.460*	-0.334*	-0.259**
<i>Ind_{j,t}</i>	-0.439*	0.221***		0.308**	-0.102	0.167
<i>Lev_{j,t}</i>	-0.113	0.388*	0.290**		-0.337*	0.071
<i>ROA_{j,t}</i>	-0.011	-0.332**	-0.079	-0.578*		0.045
<i>Country_j</i>	-0.322**	-0.252***	0.167	0.046	0.067	

Legend: See Table 1 for definitions of all variables. *, **, *** significant at the 0.01, 0.05 and 0.10 confidence levels respectively (two-tailed).

The upper half is Pearson correlation matrix while the lower half is the Spearman correlation matrix. As shown in Appendix 2a or 2b none of the 2007 and 2008 correlations are above the 0.8 benchmark figure for multicollinearity concerns (Field 2005).

Appendix 2b: Pearson and Spearman Correlation Matrix for 2008

	<i>EnvDis_{j,t}</i>	<i>LogTA_{j,t}</i>	<i>Ind_{j,t}</i>	<i>Lev_{j,t}</i>	<i>ROA_{j,t}</i>	<i>Country_{j,t}</i>
<i>EnvDis_{j,t}</i>		0.001	-0.427*	-0.245***	0.101	-0.213
<i>LogTA_{j,t}</i>	0.011		0.280**	0.467*	-0.070	-0.264**
<i>Ind_{j,t}</i>	-0.432*	0.257**		0.207	0.053	0.167
<i>Lev_{j,t}</i>	-0.220***	0.426*	0.221***		-0.562*	-0.036
<i>ROA_{j,t}</i>	0.158	-0.333**	-0.130	-0.532*		0.062
<i>Country_{j,t}</i>	0.218***	-0.254***	0.167	-0.085	0.133	

Legend: See Table 1 for definitions of all variables. *, **, *** significant at the 0.01, 0.05 and 0.10 confidence levels respectively (two-tailed).

Multiple directorships and CAC-40 natural environmental disclosures

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Abstract

Extending Cormier and Magnan's (2003) study of French environmental reporting, this study investigates the level of natural environmental disclosures (NED) of French CAC-40 companies for the year-ending 2006. Results show that, while overall CAC-40 companies disclose 53% of Cormier and Magnan's unweighted environmental disclosure list, it is multiple directorships that is highly significant for the NED of CAC-40 companies.

Key words:

Multiple directorships; environmental disclosures; France

1. Introduction

In recent times the emergence of a new environmental order in France (Economist 2010), and French companies' growing influence in global affairs, especially in the Asia-Pacific region (Lum & Vaughn 2007)⁴, makes it timely to examine Cormier and Magnan's (2003) six broad component environmental disclosure instrument in a CAC-40 context⁵. Cormier and Magnan's (2003) environmental index itself contains 39 individual item which are grouped into the six broad categories labelled *Expenditure and Risks*, *Laws and Regulations*, *Pollution Abatement*, *Sustainable Development*, *Land Remediation and Contamination* and *Environmental Management*, and has been used by Cormier, Magnan and Velthoven (2005) in a German company context.

The index's rich broad thematic categories are a compelling reason to use in a CAC-40 study. Sustainable development, pollution abatement, land remediation, environmental management and the reduction of environment risks are still laudable pursuits in this era of ecological challenges, particularly in France, where the state has tried to legislate and regulate in these specific areas (NRE 2001) and where the French accounting organization is seen to be proactive in fostering responsibility in these key areas.

This paper examines the extent of natural environmental disclosures of French CAC-40 companies for the year-ending 2006, building upon Cormier and Magnan's (2003) cost/benefit study of year-ending 1997 French firms' reporting on environmental disclosures. It is a timely paper because France has gone through considerable change in recent years in its approach to accounting regulation, environmental regulation (French Government 2005), sustainable development (NSSD 2006), pollution abatement (ADEME 2006), land remediation (Globenet 2006) and environmental management (Economist 2010), the very themes that make up Cormier and Magnan's environmental disclosure index. The emergence, in 2005, of a national environmental strategy (National

⁴ France, for example, is one of the major external powers of the Pacific, with many of its public listed companies operating in the Asia Pacific region (see for example, Accor 2010). France also administers the following islands in the Pacific Ocean: New Caledonia (French: Nouvelle-Calédonie), French Polynesia (French: Polynésie française), Society Islands (French: Îles de la Société or officially Archipel de la Société), Windward Islands (French: Îles du Vent), Leeward Islands (French: Îles Sous-le-Vent), Marquesas Islands (French: Îles Marquises or Archipel des Marquises or Marquises), Austral Islands (French: Îles Australes or Archipel des Australes), Îles Tuamotu-Gambier (French: Îles Tuamotu-Gambier or Archipels des Tuamotu et des Gambier or Archipel des Tuamotu-Gambier or Tuamotu-Gambier or officially la subdivision administrative des (Îles) Tuamotu-Gambier), [Tuamotus](#) (French: Îles Tuamotu or Archipel des Tuamotu), Gambier Islands (French: Îles Gambier or Archipel des Gambier), Wallis and Futuna (French: Wallis et Futuna or Wallis-et-Futuna), Wallis Island, Futuna Island, Alofi Island, and Clipperton Island (French: Île de Clipperton).

⁵ See Appendix One for a list of CAC-40 companies.

Strategy for Sustainable Development) and the development of French environmental roles for government agencies (Ministère de l'Écologie et du Développement Durable (Ministry of Ecology and Sustainable Development) and Ministère des Affaires Étrangères (Ministry of Foreign Affairs) are, at least, symbols of a contemporary environmental order which French companies work under and, thus, present an interesting context in which to examine the extent and interconnectivity of CAC-40 disclosures.

This paper also looks at the effect of multiple directorships on natural environmental disclosures (NED). It responds to Cormier and Magnan's (2003) call to extend their "specific, but perhaps limiting, conceptual framework" (p. 55) and to consider environmental disclosures from "different theoretical frameworks" (p. 55). Prior work has been conducted on the importance of multiple directorships on shareholder interests, firm values and corporate performance (Kiel & Nicholson 2005) but little research has been conducted on the effect of multiple board directorships on NED.

While many commentators have indicated the relevance of multiple directorships on shareholder interests and on firm value, there has been little published evidence on the consequences of multiple directorships on the extent of natural environmental disclosures by French companies. The empirical evidence will provide implications of the recent trends both for stakeholders and for proponents of environmental reporting. The study directly addresses issues that are currently being canvassed by professional bodies representing predominantly Australian financial stakeholders (CPA Australia 2009), French environmental accounting watchdogs (the Social and Environmental Rating Agency (ARESE), and intergovernmental Pacific organizations with an interest in environmental reporting (Secretariat of the Pacific Regional Programme - SPREP⁶) non-financial stakeholders.

As such, the following research questions are posed:

RQ1: *What is the level of NED of CAC-40 companies?*

RQ2: *Does multiple board directorships explain the level of NED of CAC-40 companies?*

The remainder of this paper is organized as follows. Section 2 reviews environmental disclosures as a reflection of French environmental interconnections, as well as developing the study's hypotheses. Section 3 provides a description of the study's methodology and its empirical findings. Section 4 comments on the findings and their implications.

⁶ France's current contribution on to the Pacific-based organisation is USD110,847 (which is 15.441% of total membership contributions).

2. Literature review and hypotheses development

Thomas' (1991) contingency theory links a company's business environment and organisational attributes to the level of annual report disclosures. This paper argues that a firm's directors multiple directorships are an organizational attribute that may affect a listed company's disclosure. Thomas' (1991) contingency theory is, in turn, often linked to stakeholder theory which recognises that stakeholders have a right of account (Gray et al. 1997). There are two strains of stakeholder theory: one based on an empirical view of management where stakeholders are identified by the company according to the way each stakeholder furthers its interest and how they might be managed (Freeman 1984); and the other based on a normative view, where all stakeholders interests are seen as important (Clarkson 1995). The strength of both contingency and stakeholder theories rests in their broad economic, political and social lens, which go beyond the narrower economic concerns of theories such as contracting or agency theories. In this way, both organizational attributes and business environmental factors may be considered in developing hypotheses of the extent of human resource disclosures in listed CAC-40 companies.

According to overseas assessments, current national attitudes towards environmental issues in France are complex and mixed (Economist 2010; EORG 2002). For example, while the collective opinion towards nuclear energy is largely subdued, the mood towards underground storage of nuclear waste is sensitive (Terradaily 2006). In addition to this complexity, there is increasing pressure on French companies to increase the quantity and quality of reporting disclosures because of the increasing pressures of capital markets pressures on France (Cormier & Magnan 2003; NRE 2001). Foreign investment in France, for example, represents 42 percent of its GDP and 45 percent of the value of the CAC-40 (Embassy of the US 2006) and, thus, there may be a need for increased reporting disclosures from foreign investors. Indeed, France's adoption, in 2005, of International Financial Reporting Standards, has not only resulted in additional information being disclosed and reported but also in information which interconnects with national French standards.

However, it is France's regulatory milieu, including its regulations of directorships, which may offer unique insights into the interconnectivity of CAC-40 environmental disclosures because of recent events. France's environmental policy is now based on the June 2003 publication *National Sustainable Development Strategy* which made a commitment that France would submit its National Strategy for Sustainable Development for 'peer review' by other countries (French Government 2005). This new

responsibility for French environmental matters falls on the French Ministère de l'Écologie et du Développement Durable (Ministry of Ecology and Sustainable Development) and the Ministère des Affaires Étrangères (Ministry of Foreign Affairs) and the International Institute for Environment and Development (IIED) is engaged to help develop the methodology and facilitate the process. In 2005, France also adopted an Environment Charter which recognizes the fundamental rights and duties of environmental protection and promotes the ideas of the quality of life and protection of everyone's health and the mobilization of economic and scientific capabilities to provide solutions to the ecological challenges of climate warming and biodiversity impoverishment (Prime Minister Government Portal 2005)⁷.

This surge of French government environmental regulation has its foundations in the government's publication of an Environmental Code in 2000 which incorporated all legislation related to the protection of the natural environment, air and water quality, polluting industries and activities, waste and, and the protection of the landscape and urban environment. Since then, the French government also passed legislation in 2003 on technological and natural hazards (Law 2003/699 of July 30 2003) and in April 2004 to implement EU Directive 2000/60 on river basin management (Law 2004/338 of April 21 2004), although the directive does not become fully applicable until 2015.

Indeed, certain industries must pay a tax on polluting activities (taxe generale sur les activités polluantes) and is levied on waste treatment, emissions of certain substances, take-off of large aircraft at major airports, lubricants, oils and waste oils, detergents and fabric softeners, quarried materials, anti-parasite products used in agriculture and industrial activities. No products containing polychlorinated biphenyls (PCBs) or polychlorinated terphenyls (PCTs) may remain in industrial use after 2010. Collection systems are required for junked cars (Directive 2002/96) and bans are placed on sales of equipment which contain the substances of lead, mercury and cadmium (Directive 2002/95). The French government promotes waste minimization and recycling through a "green point" system. The French Agency of Environment and Energy Management promotes a "Retour" logo for companies that take back products and packaging at the end of their lives. In keeping with EU commitments to the Kyoto Protocol and Copenhagen Sustainable Meeting Protocol on global warming, many French businesses in the energy sector or industries with in-house power-generating capacity try to limit their carbon-dioxide emissions.

⁷ Other key agencies and institutions that enforce or set environmental policies are the Coastline Conservation Agency, the French Environmental Health Safety Agency, the National Institute for the Industrial Environment and Risk, and six agencies that supervise individual river basins.

Given France's mobilization of environmental laws and regulations in recent times, this paper suggests that the broad categories constructed and used by Cormier et al. (2005), Cormier and Magnan (1999; 2003) are given prominence by the prevalence of directors with multiple board appointments. French law is extremely detailed on the governing of French boards of listed companies (Medef 1995). French law imposes strict limits on the board membership of management, with a ceiling on the number of directors who may at the same time be employees of the company.⁸ Indeed, the board of directors fulfills a four-fold function: determining a company's strategy, appointing corporate officers to implement this strategy, supervising management and ensuring information is made available to shareholders (Medef 1995). French boards traditionally use few formal procedures, have considerable power over its own membership⁹, and focus on enhancing the company's interest (rather than share value as in Anglo-American companies) which is:

understood as the over-riding claim of the company considered as a separate economic agent, pursuing its own objectives which are distinct from those of shareholders, creditors including the internal revenue authorities, suppliers and customers. It nonetheless represents the common interest of all of these persons, which is for the company to remain in business and prosper (Medef 1995, p. 7).

There are, of course, many commentators who criticize firms for appointing directors who hold directorships in many companies (Fich & Shivdasani 2006; Yermack 2006; Core, Haolhausen and Larcker 1999; Council of Institutional Investors 1998)¹⁰. Directors with multiple board appointments are seen to be incapable of effectively monitoring the management of the firm (Shivdasani & Yermack 1999) because of insufficient time and attention to discharge their responsibilities (Lipton & Lorsch 1992)

However, following Fama and Jensen (1983), Ferris, Jagannathan and Pritchard (2003) found no evidence that multiple directors shirk their responsibilities to serve on board committees. Indeed Fama and Jensen (1983) found multiple appointments create incentives for directors to develop sound monitoring reputation. Booth and Deli (1995) found multiple directorships allow firms to develop relationships with customers and suppliers.

⁸ Article of L93 of the Code des Sociétés (code of company law) limits the number of directors holding a contract of employment with the company to a third of board members, and article L115 limits the number of *directeurs généraux* to five

⁹ The board can co-op members and propose their appointment by shareholders' meetings.

¹⁰ Freshfields Bruckhaus Deringer (2010) note the need for increased representation of women on the board of directors of listed companies.

Multiple directorships (also termed interlocking directorships or holding multiple board seats) are critical important to company stakeholders because of the impact individual directors and boards may have on a company's operations (Schnake & Williams 2008; Ahan, Jiraporn & Kim 2008) and ultimately its environmental disclosures (Deegan and Rankin 1996) and environmental performance (Clarkson, Li, Richardson & Vasvari 2007). Excessive workloads of directors, given the number of other boards they sit on, may limit the time they need to carry out their controlling, counselling, monitoring and strategizing duties (Lipton & Lorsch 1992; Fich & Shivdasani 2006).

However, through multiple directorships, directors pick up skills, contacts, reputation (Faman & Jensen 1983), experience and access to funds (Pfeffer & Salancik 1978) Zahra and Pearce, 1989; Johnson, Daily and Ellstrand, 1996; Nicholson and Kiel 2004), which gives entities access to funds (Zahra and Pearce 1989), external stakeholder support (Zahra and Pearce 1989), suppliers (Booth & Deli 1995) and communication channels (Pfeffer & Salancik 1978). Multiple directorship also improve an entity's solvency and economic performance (Dooley 1969; Pfeffer 1972, Pennings 1980, Stokman, Ziegler & Scott 1985; Mizruchi & Stearns, 1988; Gilson 1990), innovation (Haunschild & Beckman 1998) and corporate governance.

In a NED context, the following hypothesis is thus posed:

H₁ : There is a positive relationship between the number of external appointments held by corporate directors and the level of NED of the CAC-40 French-listed firms

3. Methodology

CAC-40 takes its name from Paris Bourse's early automation system Cotation Assistée en Continu (*Continuous Assisted Quotation*) and is the first French stock market index, a benchmark index for Euronext Paris. The index represents a capitalization-weighted measure of the 40 most significant values among the 100 highest market capitalizations on the Paris Bourse (Euronext 2006). Similar to how the S&P 500 is a subset of the S&P 3000, the CAC-40 is a subset of the larger Societe des Bourses Françaises 250 (SBF 250) (Street Authority 2006). Inclusion is based on size and liquidity criteria (Air Liquide Annual Report 2005, p. 274). CAC-40 base value of 1,000 was set on 31 December 1987. As of 1 December 2003, the index has become a free float weighted index. The CAC-40 Index is determined by a committee of experts from Euronext. To belong to this index, three conditions must be fulfilled: shares must be liquid, the company has to have sufficient market capitalization, and there needs to be a certain volume of shares. If one of these conditions is not met, a firm

may be withdrawn from the index. Thus, at the time of the study, one firm was withdrawn from the index. The CAC-40 Index represents the most important market capitalizations. For the purposes of this study, the sample consists of 39 CAC company annual reports and separate social and environmental reports, representing a selected sample of the highest market capitalised companies operating in France for the year ending 2006. The study did not select non-CAC company annual reports and stand-alone environmental reports and unlike the studies of Cormier et al. (2005) and Cormier and Magnan (2003), it included financial, as well as non-financial, French companies, rather than just non-financial companies. All company annual reports and separate social and environmental reports were gleaned from the internet. Information was obtained from Diane, a French database.

CAC-40 companies' voluntary NED, as reflected in their annual and environmental reports, is operationalised using NED - *Dependent Variables Comprehensive (DVC)* – which is coded using a modified version of Cormier and Magnan's (2003) and Cormier, et al.'s (2005) environmental disclosure instrument (see Appendix 1) which for the purposes of this study comprises six categories: *Environmental Expenditures and Risks, Laws and Regulations, Pollution Abatement, Sustainable Development, Land Remediation and Contamination, and Environmental Management*. Each of these broad categories possesses individual components. For example, *Laws and Regulations is made up of Litigation (present and potential) on environment; Fines (environmental); Orders to conform (environmental); Corrective actions (environmental); Incidents (environmental) and Future legislation or regulation requirements (environment)*.

Individual components of the dependent variable are scored dichotomously: 'one' for item disclosed by the CAC-40 companies; 'zero' for non-disclosure (Cormier & Magnan 1999; 2003; Cormier et al. 2005). Disclosure indices may be classified into weighted or unweighted indices (Cooke 1991). The weighted disclosure index, given a higher score to some items relative to others based on the perceived importance of those particular items (Cooke 1991). In an unweighted index, each disclosure item is deemed equally important and therefore each item is awarded the same score when it is disclosed (Cooke 1991; Meek *et al.* 1995). Unweighted disclosure indices have often been used in past disclosure studies (see for example Cooke 1991; Hossain *et al.* 1995; Cahaya *et al.* 2008). An unweighted technique is considered to be far more relevant, and less subjective, than a weighted technique (Cooke 1991; Craig & Diga, 1998). Consistent with the past literature, this study adopts an unweighted technique for scoring each disclosure item.

4. Results

Descriptive results of the NED percentage scores for individual disclosure components are shown in Table 1. The highest scoring broad categories appear to fall under the broad categories of *Pollution Abatement* and *Environmental Management*. Within the broad disclosure category (BDC) of *Pollution Abatement*, all individual disclosure components exceed 50% except *Noise and Odours* (43.59%). *Control, Installations, Facilities or Processes Described* (84.62%) are the most disclosed item within the *Pollution Abatement* category. Within the broad category *Environmental Management*, all individual disclosure components except *Awards* (20.51%) are greater than 64%. *Environmental Management System* (84.62%) and *Environmental Policies* (82.05%) are the two most disclosed individual categories under *Environmental Management*.

Table 1 Number and Percentage of Sampled Companies Disclosing Each Individual Item

BDC	No	Individual Disclosure Components	CAC 40	
			Number	Percentage
E&R	1	Past and current expenditures for pollution control equipment and facilities	23	58.97%
	2	Past and current operating costs of pollution control and facilities	18	46.15%
	3	Future estimates of expenditure for pollution control equipment and facilities	10	25.64%
	4	Future estimates of operating costs for pollution control equipment and	5	12.82%
	5	Financing for pollution control equipment or facilities;	20	51.28%
	6	Environmental debt	0	0.00%
	7	Risk provision on environment	6	15.38%
	8	Provision for charge on environment	8	20.51%
L&R	9	Litigation (present and potential) on environment	5	12.82%
	10	Fines (environmental)	2	5.13%
	11	Orders to conform (environmental)	5	12.82%
	12	Corrective actions (environmental)	14	35.90%
	13	Incidents (environmental)	8	20.51%
PA	14	Future legislation or regulation requirements (environment)	13	33.33%
	15	Air emission information	29	74.36%
	16	Water discharge information	27	69.23%
	17	Solid waste disposal information	29	74.36%
	18	Control, installations, facilities or processes described	33	84.62%
	19	Compliance status of facilities	31	79.49%

BDC	No	Individual Disclosure Components	CAC 40	
			Number	Percentage
		(environment)		
	20	Noise and odours	17	43.59%
SD	21	Conservation of natural resources	30	76.92%
	22	Recycling	28	71.79%
	23	Life cycle information	25	64.10%
LRC	24	Sites (environment)	23	58.97%
	25	Efforts of remediation (present and future)	26	66.67%
	26	Cost/potential liability (provisions for site remediation)	7	17.95%
	27	Spills (number)	6	15.38%
	28	Spills (nature)	15	38.46%
	29	Spills (efforts to reduce)	18	46.15%
	30	Spills Liabilities (actual and potential)	12	30.77%
EM	31	Environmental policies or company concern for environment	32	82.05%
	32	Environmental management system	33	84.62%
	33	Environmental auditing	31	79.49%
	34	Goals and targets (environment)	29	74.36%
	35	Awards (environment)	8	20.51%
	36	Department or office for pollution control	27	69.23%
	37	ISO 14000	25	64.10%
	38	Participation in elaboration of environmental standards	28	71.79%
	39	Joint projects with other firms on environmental management	27	69.23%
Overall mean				53%

Key: BDC is broad disclosure category; E&R is Environmental Expenditures and Risks; L&R is Laws and Regulations; PA is Pollution Abatement; SD is Sustainable Development Disclosures; LRC is Land Remediation Contamination; EM is Environmental Management.

On the other hand, relatively low NED scores appear under the broad categories of *Laws & Regulations*, *Land Remediation & Contamination* and *Environmental Expenditures & Risks*. Under *Laws & Regulations*, all individual component NED scores are under 36%. For the broad category *Land Remediation & Contamination*, five out of seven categories fall below 50%. Moreover, for *Environmental Expenditures & Risks*, six out eight categories are below 50%.

Table 1 shows that the overall mean disclosure score was 53% Table 2 below depicts the distribution of NED scores for the 39 CAC-40 companies. Table 2 shows 14 out of the 39 CAC-40 companies (about 36% of companies) had disclosure scores of less than the overall mean of 53% (below 21 out of 39 disclosure items). Two companies had a 100% disclosures score (39 out of 39 disclosure items).

Table 2: Distribution of Disclosure Score Mean DVC

Mean DVC (out of 39)	CAC-40 (number)	CAC-40 (%)
4	1	2.56%
5	2	5.13%
10	3	7.69%
11	1	2.56%
13	3	7.69%
18	1	2.56%
19	2	5.13%
20	1	2.56%
21	1	2.56%
22	1	2.56%
24	1	2.56%
25	3	7.69%
26	1	2.56%
27	3	7.69%
29	2	5.13%
31	3	7.69%
32	2	5.13%
34	2	5.13%
37	3	7.69%
38	1	2.56%
39	2	5.12%
	39	100%

The results of the single regression, in Table 3, show that the independent variable for multiple directorships of board members is significant for NED. However, the R-score is low (0.021).

Table 3: Single Regression Results CAC-40

CAC-40 Independent Variable	Single regression		
	R	p-value	Sig
Multiple directorships of board members	0.021	0.015	**

** Statistically significant

5. Conclusion

In terms of the first research question, this paper finds an overall mean of NED of 53%. This level is consistent with the results found by Cormier and Magnan (2005) for German listed companies over the 1992-1998. Also consistent with Cormier and Magnan (2005) are the relative low scores for the broad categories of *Laws & Regulations, Land Remediation & Contamination* and *Environmental Expenditures & Risks*, and relatively higher scores for the broad categories of *Pollution Abatement* and *Environmental Management*.

The CAC-40 components of *Pollution Abatement* and *Sustainable Development* were scored relatively highly by CAC-40 companies suggesting directors with links with many companies are keenly attuned to monitor and appreciate these global environmental matters. This is in accord with Fama and Jensen (1983) who found multiple appointments create incentives for directors to develop sound reputation through monitoring..

In terms of the second research question, multiple directorships of board members is significant for environmental disclosures. Thus, the paper's key hypothesis is accepted. Consistent with contingency theory and stakeholder theory, multiple directorships has allowed board directors to engage with a large number of other company directors who oversee environmental disclosures and environmental performance. It appears increased environmental disclosures is contingent upon directors exposure to skills, contacts, reputation, experience, governance and stakeholders viewpoints through multiple board directorships. Although the statistical results are based on a low R-score, they are useful in the context of utilising a simple regression for a generalised explanation of natural environmental disclosure patterns. Further study might consider the use of more independent variables though multiple regression and their interaction effects; with multiple directorships for environmental disclosure. Further research might also consider multiple directorships in terms of environmental disclosures outside the CAC-40 domain.

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Appendix 1: List of CAC-40 Companies

Accor	Air France – KLM
Air Liquide	Alcatel-Lucent
Alstom	Arcelor Mittal
AXA	BNP Paribas
BOUYGUES	Capgemini
Carrefour	Credit Agricole
Dexia	EADS
EDF	Essilor
France Telecom	Gaz de France
Group Danone	L'Oreal
Lafarge	Largardere
LVMH	Michelin
Permod Ricard	PPR
PSA Peugeot Citroen	Renault
Saint Gobain	Sanofi-Aventis
Schneider Electric	Societe Generale
STMicroelectronics	Suez
Total	Unibail-Rodamco
Vallourec	Veolia Environnement
VINCI	Vivendi

Appendix 2: Environmental Disclosures Scores

Dependent Variables Comprehensive Unweighted (DVC)

Environmental Expenditures and Risks (DVB1)

Past and current expenditures for pollution control equipment and facilities
Past and current operating costs of pollution control and facilities
Future estimates of expenditure for pollution control equipment and facilities
Future estimates of operating costs for pollution control equipment and facilities
Financing for pollution control equipment or facilities;
Environmental debt
Risk provision on environment
Provision for charge on environment

Laws and Regulation (DVB2)

Litigation (present and potential)
Fines
Orders to conform
Corrective actions
Incidents

Future legislation or regulation requirements

Pollution Abatement (DVB3)

Air emission information

Water discharge information

Solid waste disposal information

Control, installations, facilities or processes described

Compliance status of facilities (environment)

Noise and odours

Sustainable Development Disclosures (DVB4)

Conservation of natural resources

Recycling

Life cycle information

Land Remediation and Contamination (DVB5)

Sites (environment)

Efforts of remediation (present and future)

Cost/potential liability (provisions for site remediation)

Spills (number)

Spills (nature)

Spills (efforts to reduce)

Spills Liabilities (actual and potential)

Environmental Management (DVB6)

Environmental policies or company concern for the environment

Environmental management system

Environmental auditing

Goals and targets (environment)

Awards (environment)

Department or office for pollution control

ISO 14000

Participation in elaboration of environmental standards

Joint projects with other firms on environmental management

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The Environmental Management Accounting Network - Asia Pacific (EMAN-AP) track is organised by the Centre for Accounting, Governance and Sustainability (CAGS), University of South Australia (Professor Roger Burritt) in collaboration with ICCSR

In recent times there have been calls for business to become more sustainable with the profit debate appearing to have shifted from the existence of profit recovery, to its sustainability. Businesses need to consider their social and environmental impact, not only to differentiate their products, services and investment returns from their competitors, but to ensure they reduce the damage to social and environmental capital associated with their activities. Such considerations mean that environmental management accounting (EMA) practices will need to be

closely linked to conventional accounting in order to integrate non-financial measures with monetary, quantitative measures of corporate economic activities.

In August 2010 the International Integrated Reporting Committee (IIRC) was established in order to create a framework which brings together financial, EMA, social and governance data in a clear, concise, consistent and comparable format, in the form of integrated reporting (IR). This will go further than the Global Reporting Initiative to bring together monetary and the physical accounting in an integrated framework that supports the information needs of investors, by showing the broader consequences of decision-making, reflecting the interconnections between environmental, social, governance and financial factors and the link between sustainability and economic value.

The objectives for an integrated reporting framework are to: show the broader and longer-term consequences of decision-making; reflect the interconnections between environmental, social, governance and financial factors in decisions that affect long-term performance and condition, making clear the link between sustainability and economic value; provide the necessary framework for environmental and social factors to be taken into account systematically in reporting and decision-making; rebalance performance metrics away from an undue emphasis on short-term financial performance; and bring reporting closer to the information used by management to run the business on a day-to-day basis. Integrated sustainability reporting is more about management and governance than reporting. This stream considers the linkages between EMA and integrated reporting.

The process of integration will improve the internal awareness of strategic issues and EMA will play a major part in the provision of data that can be mainstreamed into strategy, operations and reporting in order that owners and managers can make the best decisions for their business about financial, social and economic capital within an acceptable governance framework. While conventional accounting continues to neglect corporate sustainability issues and can lead to distorted information being provided to managers as a basis for their decision making, development towards integrated EMA activities with conventional economic measures could lead to the highlighting of innovative opportunities.

Questions surrounding EMA and IR include:

- Does integrated reporting provide a suitable foundation for links with environmental management accounting?

- What innovative opportunities can environmental management accounting offer to integrated reporting?
- How can environmental management accounting systems best be integrated into economic, social and governance information for integrated reporting?
- What is the relationship between academic environmental management accounting research and practitioners in the context of integrated reporting?
- Risk governance is a focal point of integrated reporting. What are the implications for EMA?
- What are the links between organisational performance, risk management and EMA?
- How is EMA related to benchmarking of risk and risk mitigation?
- Is EMA a means of self-regulation or a technique to encourage regulators to broaden the regulatory mix?
- What is the relationship between sustainability reporting and integrated reporting?
- What kinds of integration exist in integrated reporting?
- What could be understood by “integrated” reporting?
- How do developing and emerging countries view the links between EMA and Integrated Reporting?
- What are the drivers of EMA based Integrated Reporting?
- Etc..

All papers related to potential issues associated with environmental management accounting and integrated reporting will be considered by the Track Scientific Panel.

**2nd EMAN AFRICA CONFERENCE ON
SUSTAINABILITY ACCOUNTING FOR EMERGING
ECONOMIES Sept 28-30th, 2011**

**VENUE: UNIVERSITY OF LIMPOPO (TURFLOOP
CAMPUS) SOUTH AFRICA**

About the conference

Sustainability requires an organisation to take full account of its impact on the planet and people. The 2nd EMAN-Africa conference on Sustainability Accounting for Emerging Economies (SAEE) aims inter alia to explore the

current state of sustainability accounting in emerging economies and the extent to which it is being applied to account for corporate impact on the planet and people. It would also explore how sustainability accounting can assist with the goals of the United Nations sustainable development program in finding solutions to sustainable management of resources especially in relation to emerging economies. Emerging economies appear to be more vulnerable to unsustainable management of social, economic and environmental resources and consequential loss; the reason for this is that the livelihood of the majority of the population in these countries depend on the well-being of ecosystems (for instance the well-being of forests, soils, and oceans for subsistence farming and fishing) which, if destroyed or deteriorated by corporate or other human activities, negatively affects the poor majority because of non-existence of alternative sources of livelihood.

This conference seek to gather scholars and practitioners to present research as well as practical ideas and case studies, and to dialogue on sustainability accounting problems and solutions for emerging economies. The overall objective is to apply academic and practical research to assess how sustainability accounting can contribute to sustainable management of resources in emerging economies.

Papers are solicited from accounting, taxation, auditing, economics, finance, law, engineering, environmental management and other related fields, which relate (but are not exclusive) to the following issues:

- Challenges for implementing sustainability accounting information disclosure in emerging economies
- Accountants' attitudinal stance to sustainability agenda in emerging economies especially within the African perspective
- The role being played by accountancy professional bodies in emerging economies toward sustainability
- Review of sustainability accounting research in emerging economies; what is known to exist, and further research needs
- How can the accountancy profession contribute towards a more sustainable environment in emerging economies
- Sustainability accounting education in universities in emerging economies
- Corporate governance and sustainability of emerging economies
- Relationship between environmental legislation and sustainability accounting
- To what extent has sustainability accounting been implemented in emerging economies, and visible and/or potential policy influences.

- Measurement and reporting framework for sustainability accounting
- Accounting for biodiversity
- Material flow cost accounting
- Environmental taxation
- Carbon and other environmental foot-printing and accounting
- Environmental finance
- Green economics

Whilst the focus of this conference is on emerging economies; papers from industrialised nations are very much welcome.

Key Dates

April 30 2011: Submission of abstracts/extended abstracts/full papers

June 30 2011: Notification of acceptance of papers/abstracts/extended abstracts

August 30th: Final submission of extended abstracts and/or full papers.

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