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Journal Corporate Ownership & Control is published four times a year, in September-November, December-February, March-May and June-August, by Publishing House "Virtus Interpress", Kirova Str. 146/1, office 20, Sumy, 40021, Ukraine.

Information for subscribers: New orders requests should be addressed to the Editor by e-mail. See the section "Subscription details".

Back issues: Single issues are available from the Editor. Details, including prices, are available upon request.

Advertising: For details, please, contact the Editor of the journal.

Corporate Ownership & Control

ISSN 1727-9232 (printed version)
1810-0368 (CD version)
1810-3057 (online version)

Certificate № 7881

Почтовый адрес редакции:

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Журнал "Корпоративная собственность и контроль" издается четыре раза в год в сентябре-ноябре, декабре-феврале, марте-мае, июне-августе издательским домом Виртус Интерпресс, ул. Кирова 146/1, г. Сумы, 40021, Украина.

Информация для подписчиков: заказ на подписку следует адресовать Редактору журнала по электронной почте.

Отдельные номера: заказ на приобретение отдельных номеров следует направлять Редактору журнала.

Размещение рекламы: за информацией обращайтесь к Редактору.

Корпоративная собственность и контроль

ISSN 1727-9232 (печатная версия)
1810-0368 (версия на компакт-диске)
1810-3057 (электронная версия)

Свидетельство КВ 7881 от 11.09.2003 г.

EDITORIAL

Dear readers!

This issue of the journal is devoted to several issues of corporate governance.

C. S. Agnes Cheng, Denton Collins and Henry Huang investigate whether the Standard & Poors (S&P) transparency and disclosure (T&D) rankings represented new information to the financial markets when the results of the study were released by S&P on October 15, 2002. The S&P T&D rankings report the relative levels of three disclosure dimensions (ownership structure and investor rights, financial transparency and information disclosure, and board and management structure and process) provided by firms in their annual reports (annual report rankings) and complete regulatory filings (composite rankings).

Putu Anom Mahadwartha and Fitri Ismiyanti argue that disciplinary role exist in debt policy with the use of free cash flow hypothesis. Their research explores the implications of free cash flow hypothesis concerning the disciplinary role of ownership structure in corporate debt policy. Their study uses 1264 observation of 154 listed Indonesian firms between the years 1995 until 2003. The relation between debt and free cash flow are positive, but the relation differs between low-growth firms and high-growth firms. Internal institutional shareholders discourage managerial perquisites using debt. The result of their research support the free cash flow hypothesis and balancing of agency theory through ownership and there is disciplinary role of ownership structure in debt policy.

Faizul Haque, Thankom Arun and Colin Kirkpatrick outline a conceptual framework of the relationship between corporate governance and two important determinants of capital market development namely, a firm's access to finance, and its financial performance. The framework assumes that a firm's corporate governance is simultaneously determined by a group of related governance components and other firm characteristics. The framework is primarily based on the economic approaches to corporate governance, although it recognises part of the assumptions of the stakeholder theory and the political economy aspects of corporate governance.

Jamie D. Collins, Klaus Uhlenbruck and Christopher R. Reutzel explore a potentially significant impediment facing entrepreneurial firms as they attempt to augment and utilize their relationships with other firms. They specifically explore the influence of status differences between firms' representatives. They further discuss factors that moderate this influence. Entrepreneurial firms attempting to convert existing weak ties into strong ties with better established firms are most likely to encounter problems due to social status differences between the firms' representatives. Thus, their ability to rely on the positive aspects of social capital in governing inter-firm relationships is hampered.

Vernon P. Dorweilera and Mehenna Yakhou describe past conduct of corporate officers, in their use of corporate assets, including reputation. The paper uses a literature review to describe corporate officer actions, and identify impacts on the corporate reputation and its leaders. Findings are presented in exhibit form, as (a) assigning criminal liability, and (b) the range and detail of sanctions to be imposed.

Zulkarnain Muhamad Sori, Mohamad Ali Abdul Hamid, Siti Shaharatulfazzah Mohd Saad and Jonathan Gerard Evans investigate the perceptions of senior managers of Malaysian publicly listed companies on issues relating to audit committee authority and effectiveness. Questionnaire survey technique was employed to seek the respondents perceptions on seven issues, namely audit committee appoints the auditor, audit committee determines and reviews audit fees, audit committee determines and reviews the auditor's scope and duties, and audit committee's reports, meetings, charter and roles. The majority of respondents agreed that auditor would be more effective and independent if audit committee assumed the responsibility to appoint the auditor, determine and review the audit fees, and determine and review the external auditor's scope and duties. It is also found that disclosure of audit committee report, quarterly meeting and disclosure charter in annual report would enhance the perceptions of users of financial statement concerning the effectiveness of the committee.

Cláudio R. Lucinda and Richard Saito provide insights on the determinants of the indebtedness of Brazilian companies. Initially, this paper replicates the main empirical tests on the literature. The reduced explanatory power of the results led authors to propose a new methodology using the GMM method of Blundell and Bond (1998), which points out companies with higher proportions of fixed assets on total assets present higher indebtedness. Their results indicate that estimation of the equations implied by the target leverage model tends to generate seriously biased estimates if the endogeneity of the covariates is not explicitly considered in the analysis.

Francisco J. Callado-Muñoz and Natalia Utrero-González add to the recent debate in corporate social responsibility (CSR) and its effects on performance and firm value. By analysing Spanish companies participating in the IBEX-35 stock-exchange index, this paper empirically tests whether there is a significant price reaction to environmental friendly announcements. Using event studies methodology, the distinction among sectors allows for a better understanding of investors reaction. Results show first, that investors do act in response to this kind of practices and second, that the sign of their reaction depends crucially on the business of the firm and the sector where it operates. In this sense, results may help in reconciling the opposite views regarding the effects of CSR policies.

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Volume 5, Issue 2, Winter 2008 (Continued - 2)

CONTENTS

THE MARKET RESPONSE TO THE STANDARD & POORS TRANSPARENCY & DISCLOSURE RANKINGS

C. S. Agnes Cheng, Denton Collins**, Henry Huang****

Abstract

This paper investigates whether the Standard & Poors (S&P) transparency and disclosure (T&D) rankings represented new information to the financial markets when the results of the study were released by S&P on October 15, 2002. The S&P T&D rankings report the relative levels of three disclosure dimensions (ownership structure and investor rights, financial transparency and information disclosure, and board and management structure and process) provided by firms in their annual reports (annual report rankings) and complete regulatory filings (composite rankings). The results suggest that the S&P T&D rankings provided new information to the markets on cross-sectional differences in disclosure, and the market responds unfavorably during the event period to firms with large difference in disclosure levels across annual report and other regulatory filings. Further analyses reveal that the results are driven by the subcategory of ownership structure and investor rights.

Keywords: corporate governance, disclosure, market reaction, annual report, regulatory report

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1. Introduction and Synopsis

This paper examines whether the financial market responded to the October 15, 2002 release of the rankings reported in the Standard and Poors (S&P) Transparency & Disclosure (T&D) Study of the S&P 500 firms. The period from 2001 to 2003 was characterized by intense interest in corporate governance issues. The Enron and WorldCom accounting scandals were sensational not only to the business community but also to the public at large (see, e.g., Ip and Schroeder 2002), and the continuous coverage led to calls for new legislation to establish new standards for corporate behavior and corporate governance and to impose penalties on offending firms and managers (Jain and Rezaee 2006). Given the importance of corporate governance issues at the time, S&P chose to release publicly the rankings of corporate-governance related disclosures [*ownership structure and investor rights* (*OW*), *financial transparency and information disclosure* (*FT*), and *board and management structure and process* (*BS*)] for the S&P 500 firms. We conjecture that these rankings represented new information that differed from the market's assessment of the adequacy of firms' disclosure practices and that the market reacted to these rankings in a systematic fashion.

Two characteristics suggest that the T&D study's release could have triggered market responses. First, the study was conducted under the auspices of Standard & Poors, a highly respected financial services firm, and represented the first post-Enron, objective, publicly available assessment of the S&P 500 firms' disclosure practices as they related to corporate governance. Given the release date, the study's findings were thus very timely. Second, S&P's assessment of disclosure practices included not only rankings of conventional financial disclosures (something other studies had previously examined; see, e.g., Botosan 1997), but it also reported rankings of nonfinancial disclosures (i.e., *OW* and *BS* rankings), with emphasis on disclosures that S&P deemed relevant in evaluating governance practices. Just as interestingly, the S&P study reported much lower rankings for these nonfinancial subcategories and suggested that nonfinancial disclosure practice needed improvement. These two characteristics have implications for the nature of the market's response to the study's release. The timeliness of the release suggests that the market would likely respond to the announcement, but it does not necessarily imply that the report would be informative. However, the novelty of the study's focus on nonfinancial corporate governance-related disclosures, combined with S&P's

call for improvements in these disclosures, enhanced the study's potential to revise analysts' and investors' assessments about the nature of firms' disclosure and corporate governance practices.

S&P released their study results as a way to highlight their own fee-for-service corporate governance scoring system (Patel and Dallas 2002). The published results of the S&P T&D study report three components of information that we use to assess the potential of the rankings to inform market participants. First, the study provides rankings of the relative quantity of the disclosures contained in a given S&P 500 firm's annual report (annual report rankings).[1] Second, similar rankings are reported of disclosures contained in firm's required regulatory filings, which consist of 10-Ks and annual proxy statements (composite rankings). The difference between the two sets of rankings thus represents the difference in disclosure level between the two disclosure vehicles (differential rankings). Third, Patel and Dallas (the study's authors) developed the rankings structured around three dimensions of disclosure that S&P asserts are relevant in assessing firms' corporate governance mechanisms: *financial transparency and information disclosure* (*FT*), *ownership structure and investors rights* (*OW*) and *board and management structure and process* (*BS*). Since these three dimensions are deemed by S&P to be useful in evaluating governance mechanisms, our research empirically examines the information content of (1) the levels of the disclosure rankings, (2) the differences in disclosure rankings between annual reports and required regulatory filings, and (3) the levels and differences in the rankings for the three disclosure subcategories.

We examine risk-adjusted abnormal returns in order to shed light on the information content of ranking levels and differences between composite rankings and annual report rankings for the three disclosure dimensions. Specifically, for the U. S. firms included in S&P's study, we measure firms' risk-adjusted abnormal returns over the four-day window surrounding the October 15, 2002 release date of the T&D rankings. We regress these measures on cross-sectional models that include both the disclosure rankings and the difference in annual report and composite rankings (differential rankings) for the overall and the three dimensions of disclosure. We predict that higher disclosure rankings and lower differential rankings will be associated with more positive risk-adjusted returns.

We find that greater differential rankings are associated with more negative abnormal returns. Further investigation reveals that this association is driven primarily by the subcategory rankings of ownership structure and shareholder rights. This result is robust after controlling for the earnings announcements made during the event period. We conclude that the T&D rankings directed investors' attention to differences in firms' disclosure practices between annual reports and required regulatory filings. The negative reaction suggests that investors penalize firms that engage in this selective disclosure strategy. On the other hand, we generally fail to find an association between the composite rankings and the abnormal returns. This indicates that the market was aware of firms' disclosure levels in these composite filings.

The rest of our study is organized in the following manner. The next section briefly discusses the Patel and Dallas (2002) study, summarizes the relevant literature on disclosure quality and develops our research predictions. Section 3 describes the sample and variable measurements in our paper. Section 4 presents our main results and provides details on our sensitivity tests. Finally, Section 5 presents our concluding remarks.

2. The S&P T&D Study, Disclosure Quantity and Research Hypotheses

2.1 The S&P T&D Study

Standard & Poors developed their study of disclosure as part of an initiative to provide corporate governance information and analytical services to market participants; the study's methodology was developed from S&P's previous work in the area of corporate governance scoring (Patel and Dallas 2002). The study involved measurement/assessment of 98 disclosure attributes that are divided into three basic subcategories: ownership structure and investor rights (28 attributes), financial transparency and information disclosure (35 attributes), and board and management structure and process (35 attributes). Appendix 3 of the S&P T&D study provides a listing of each attribute under each category and subcategory (Patel and Dallas 2002); these are reproduced in our Appendix. These three subcategories represent domains of disclosure that S&P routinely assesses as part of their own corporate governance scoring process (Patel and Dallas 2002). The measurement/assessment was limited to determining if a particular attribute was present or not; the study's

[1] S&P cautioned readers that sole reliance on their disclosure rankings was insufficient to properly evaluate firms' governance practices, since the rankings reflect disclosure quantity and do not directly measure disclosure quality. However, past studies have suggested that the disclosure quantity and quality are highly correlated (see, e.g., Durnev and Kim 2005, Botosan 1997, Botosan, Plumlee and Xie 2004). Our evidence on market responses to the S&P disclosure scores is not premised on the notion that higher scores indicate higher disclosure quality. We instead suggest that S&P objectivity as sponsor of the study enhanced the credibility of the rankings, and thus the rankings were uniquely positioned to influence investor assessments of disclosure quality.

authors specifically ruled out any attempts to assess the quality of the disclosed information.[2]

The published rankings reflect decile ordering for the cross-section of S&P 500 firms, with the overall rankings reflecting the ratio of the number of attributes present to the total number of attributes. Higher ranks therefore reflect the fact that a greater quantity of attributes is present in the disclosure vehicle. Note that the presence or absence of the disclosure attributes was measured for (1) the annual report to the shareholders and (2) the required 10-K and proxy statement regulatory filings. As a result, both *annual report rankings* and *composite rankings* are presented by Patel and Dallas. "Final rankings" reflect an aggregate ranking for all 98 attributes, while "sub-rankings" are reported for each of the three disclosure subcategories. Since the annual report is typically a subset or part of the information provided in the required regulatory filings, then, by construction, the composite ranking should be greater than or equal to the annual report ranking.

Interestingly, Patel and Dallas (2002, p. 3) document a "notable difference between the T&D rankings based on annual reports alone and [the] T&D rankings on a composite basis." Specifically, they find that composite ranking levels were consistently high, while annual report rankings were much more variable. Note that various researchers have concluded that the annual report is the "major reporting document" for analysts (Knutson 1992, 7) and is "one of the most important sources of corporate information" (Botosan 1997, 331). But the observed differences between composite rankings and annual report rankings could imply that a degree of information asymmetry exists between investors, who may focus on the annual report for information disclosures, and managers, who may provide relatively greater information disclosures in the required regulatory filings rather than the annual report (Patel and Dallas 2002; Ely and Stanny 1999). The degree to which observed differences in disclosure between the two vehicles affect shareholder wealth could therefore inform standard setters and regulators of any potential need to improve the consistency of disclosure, and may provide guidance to the firm in setting its optimal disclosure policy.

2.2 The Capital Market Effects of Disclosure Rankings

Lowenstein (1996; p. 1335-6) argues that "good disclosure has been a most efficient and effective mechanism for inducing managers to manage better." The literature on the effects of corporate disclosure tells a fairly consistent story (see Healy and Palepu 2001 for a comprehensive review of this literature; see Core 2001 for a discussion of this review). Recent research suggests a positive association between increased disclosure and positive capital market effects (e.g., Botosan 1997). Specifically, firms' increased disclosures reduce the information asymmetry between managers and investors and thus reduce firms' cost of equity capital (see, for example, Diamond and Verrecchia 1991, Kim and Verrecchia 1994, Botosan 1997). Regarding the S&P T&D rankings specifically, Cheng, Collins and Huang (2006) document that higher financial transparency and information disclosure rankings are associated with lower costs of equity capital, especially when high disclosure occurs in strong shareholder rights environments. However, it is unclear from their study whether the actual release of the rankings was regarded as an "information event" in the sense that the information informed the markets, and that investors were able to interpret and impound the rankings quickly in share prices.

Our study focuses on both the level of the disclosure rankings and the differences between composite rankings and annual report rankings at both the overall and subcategory levels. Interpretation of the level of disclosure ranking seems straight-forward; everything else being equal, a higher (lower) rank implies a higher (lower) level of disclosure, regardless of disclosure vehicle. Release of the composite rankings may or may not reflect new information to the markets. If investors are already aware of the relative disclosure levels, then any reaction would likely be small. However, given the climate of investor suspicion and distrust of managers' communications with the investing public during the release period, investors may react to lower composite ranking levels by bidding shares down (i.e., a negative reaction).

On the other hand, there is relatively little research focusing on disclosure differences between these two disclosure vehicles, although the Patel and Dallas study clearly documents evidence of these differences. Clearly, the annual report is generally considered to be part of the annual 10-K filings, while annual proxy statements are filed in advance of meetings of shareholders. There is some research that the 10-K filings have incremental information when filing format is considered (Qi, Wu and Haw 2000), but there is relatively little research examining the information content of 10-K/proxy statements over the annual report to shareholders. Ely and Stanny (1999) find that firms with lower analyst following are more likely to be less specific in their environmental disclosures in their annual reports than in their 10-Ks and are penalized less for their environmental disclosures than those whose disclosures are consistent. This suggests that

[2] Botosan (1997) adopted a similar approach to developing her DSCORE proxy for disclosure level. The implication of this measurement approach is that disclosure quantity proxies for the relative quality of information disclosed in the given disclosure vehicle.

information asymmetry may exist between annual report users and 10-K users, and managers could take advantage of this information asymmetry by adopting a differential disclosure strategy in annual reports and 10-Ks/proxy statements. In other words, instead of presenting relevant information in the annual report, managers may intentionally choose to disclose this information deep in the body of the 10-K/proxy statements. To the extent that information gathering is costly for investors, such a strategy could give rise to information asymmetry and impose additional costs on investors.[3] Again, given the climate of investor suspicion and distrust of managers' communications with the investing public prevelant during the event period, this suggests that larger differences between annual report rankings and composite rankings will be unfavorable viewed by the markets.

Given that our research focus is on the capital market/shareholder wealth effects, we focus on the risk-adjusted abnormal returns during our event period for the 459 firms in our sample and the associations between returns and the various composite and differential disclosure rankings. Our above discussion leads us to expect that high disclosure ranking levels will be viewed favorably by the market while large differences between composite rankings and annual report rankings will be viewed negatively. By extension, we predict a positive (negative) association between disclosure rankings (differential rankings) and risk-adjusted abnormal returns.

3. Sample and Variable Measurement

3.1 Sample and Descriptive Statistics on T&D Rankings

Our sample in this study consists of 459 firms that were ranked in the S&P T&D ranking study. Patel and Dallas reported in their Appendix 4 the ranks for a total of 460 firms out of the S&P 500 firms.[4] We excluded one of these firms from our study due to missing data; this left a total of 459 firms for our analyses. Summary statistics on the ranks for these 459 firms are reported in Panel A of our Table 1.

Insert Table 1 here

For the final aggregate rankings (i.e., *FR*), the mean (median) composite ranking (*FRC*) for the 459 firms is 7.50 (8.0), while the mean (median) annual report ranking (*FRA*) is 4.66 (5). The mean (median) differential ranking (*FRD*) is 2.84 (3.0). The minimum (maximum) composite rank is 6 (9), the minimum (maximum) annual report rank is 1(8) while the minimum (maximum) differential ranking is 0 (6).

With respect to the rankings of the subcategories, we find relatively high mean/median scores for the financial transparency and information disclosures (*FTC* and *FTA*, respectively, for the composite and annual report rankings), and relatively small differences (*FTD*) between composite and annual report rankings. However, *FTD* has the highest standard deviation among all measures of the differential rankings. Focusing on ownership structure/investor rights (*OWC* and *OWA*, respectively, for the composite and annual report rankings) and board/management structure rankings (*BSC* and *BSA*, respectively, for the composite and annual report rankings), we find relatively lower mean/median scores for both, and relatively larger differential rankings (*OWD* and *BSD*, respectively, for the two categories). These statistics confirm the findings of Patel and Dallas (2002) that there is relatively low disclosure of ownership structure/investor rights and board structure/process in the annual reports and high variation in the financial transparency and information disclosures as contained in the annual reports.

3.2 Variable Measurement and Descriptive Statistics on Firm Characteristics and Market Metrics

We define our event window surrounding the 9:00 am, October 15, 2002, release of the T&D study as the four-day period from October 14 through October 17.[5] Over this window, we collect the daily stock price and the S&P 500 index value from CRSP. S&P 500 industry classifications are obtained from Standard & Poors. All other data are obtained from COMPUSTAT.

In order to compute returns, we use the stock price adjusted for dividends and stock splits. We compute the risk-adjusted abnormal return in the following manner.[6] The raw return for firm *i* is measured as the difference in adjusted stock price of the end of the period in question and the beginning of

[3] Patel and Dallas (2002) note that the Conference Board's Commission on Public Trust and Private Information suggests that corporate disclosures should be more user-friendly. They also quote President George W. Bush's challenge to businesses to disclose details on CEO compensation in their annual reports.

[4] Patel and Dallas examined the companies that were members of the S&P 500 index both on June 30, 2002 and on September 30, 2002. Their study excludes 40 firms for which there may be some regulatory inquiries relating to their public filings or for which they had incomplete information as of June 30, 2002.

[5] We suspect that some market participants may have already learned about the results of the report before October 15. Since October 14 is a Monday, we extend the window to only one day prior to the announcement date.

[6] We examine risk-adjusted returns in part because Patel and Dallas (2002) document a negative association between market beta and disclosure ranking, implying that greater disclosure is associated with lower risk.

the period, divided by the beginning of period price. The market return is measured by the difference of the end of the period and the beginning of the period S&P500 Indices, divided by the beginning of the period index. Firm *i*'s abnormal return is measured by subtracting the product of firm *i*'s beta and the market return from firm *i*'s raw return. Market beta for each firm is the 60 months' beta as of November 30, 2002 as computed and reported by Media General Financial Services. Firm size is measured as the market value of equity. Panel B of Table 1 reports the descriptive statistics of the sample firms for the accounting and market variables.

4. Empirical Analysis

4.1 The Association Between Risk-Adjusted Returns and the T&D Rankings During the Event Period

To evaluate if the market views the release of S&P's report as providing new information to the markets regarding disclosure practices, we evaluate the following models:

$$\text{ABN1:}\quad Abn_i = \alpha + \gamma^{TDX} TDX_i + \varepsilon_i \quad \text{for } TD = FR, OW, FT \text{ or } BS, \text{ and } X = C, A \text{ or } D.$$

$$\text{ABN2:}\quad Abn_i = \alpha + \gamma^{TDC} TDC_i + \gamma^{TDD} TDD_i + \varepsilon_i \quad \text{for } TD = FR, OW, FT \text{ or } BS$$

$$\text{ABN3:}\quad Abn_i = \alpha + \gamma^{OWC} OWC_i + \gamma^{OWD} OWD_i + \gamma^{FTC} FTC_i + \gamma^{FTD} FTD_i + \gamma^{BSC} BSC_i + \gamma^{BSD} BSD_i + \varepsilon_i$$

where:

Abn_i = firm i's abnormal (risk-adjusted) return over four days (Oct.14 to Oct. 17, 2002).

γ = coefficients of the respective T&D rankings.

TDX_i = S&P's T&D composite and annual report rankings and their differences. As defined previously, they include *FRC*, *FRA*, *FRD* (final rankings), *OWC*, *OWA*, *OWD* (ownership structure rankings), *FTC*, *FTA*, *FTD*, (financial transparency rankings), *BSC*, *BSA* and *BSD* (board structure rankings). Suffixes *C*, *A*, and *D* denote composite, annual report, and difference, respectively.

TDC = Composite ranking for *FR*, *OW*, *FT* and *BS*.

TDA = Annual Report T&D ranking for *FR*, *OW*, *FT* and *BS*.

TDD = *TDC* – *TDA*

Table 2 reports the regression results for models ABN1, ABN2 and ABN3.

Insert Table 2 here

If the market perceives cross-sectional differences in TD rankings as conveying new information on firms' disclosure practices, then we should observe a positive association between the disclosure rankings and risk-adjusted returns and a negative association between the differential rankings and risk–adjusted returns. Panel A of Table 2 reports the association between risk-adjusted returns and the overall final rankings (*FR*) and the ownership structure rankings (*OW*). Model ABN1 with *FRA* as the only independent variable indicates that *FRA* has a significant positive effect on abnormal returns, while model ABN1 with *FRD* as the only independent variable indicates that *FRD* has a significant negative effect. Model ABN1 with *FRC* as the only independent variable does not report a significant coefficient of *FRC*. These findings suggest that the market returns are associated with the *FRA* and *FRD*. However, *FRA* and *FRD* are highly correlated as *FRC* = *FRA* + *FRD*. When *FRC* is fixed, an increase in *FRA* results in a decrease in *FRD*. In Model ABN2, we directly test the effect of *FRD* on the abnormal returns after controlling for *FRC*. A significantly negative coefficient on *FRD* in the model ABN2 will indicate that, for firms with the same *FRC*, a higher *FRD* (higher *FRA*) is associated with lower (higher) abnormal returns. The results of the ABN2 model indeed show a significantly negative *FRD*, which is consistent with the results of the ABN1 model in that a higher *FRD* (higher *FRA*) is associated with lower (higher) abnormal returns. *FRC* continues to be insignificant in the ABN2 model. Moreover, Model ABN1 with *FRD* as the independent variable has reports an adjusted R-square (at 0.83%) that is higher than the model ABN2 (0.63%). This indicates that *FRC* does not have additional explanatory power relative to *FRD* for explaining variations in risk-adjusted returns. These findings suggest that the market is concerned mainly about the differential rankings and responds negatively to differences between annual and composite rankings.

Panel A in Table 2 also shows that both *OWA* and *OWD* have significant coefficients in Model ABN1, while only *OWD* has a significant coefficient in Model ABN2 (one-tailed $p = 0.005$). We interpret the results dealing with *OWC* and *OWD* jointly as evidence that the abnormal returns are associated with differences in disclosure rankings between the annual report and the composite reports. Further, these associations are stronger than those for the *FR* variables. Panel B in Table 2 reports the associations between risk-adjusted returns and the remaining two subcategories of *FT* and *BS* rankings, respectively. Panel B reports one-tailed significance for *FTD* across both ABN1 and ABN2 models, with both at the $p < 0.05$ level. We find similar, though weaker, results for the *BSD* variables (one-tailed $p = 0.065$ in Model ABN1 and one-tailed $p = 0.056$ in Model ABN2).

Panel C reports our results for Model ABN3, which includes all three subcategories of rankings. After including all rankings in the three subcategories, we find that *OWC* is very weakly positively related to abnormal returns (one-tailed $p = 0.099$), while *OWD* is significantly negative (one-tailed $p = 0.032$), thus suggesting that *OWD* is the driving force for the

association between *FRD* and the abnormal returns documented in Panel A.

4.2 Controlling for the Earnings Announcements during the Event Period

With respect to earnings announcements, a total of 144 firms announced earnings during our event window of October 14 to October 18. Previous research has suggested that a link exists between disclosure and earnings response coefficients. For example, Gelb and Zarowin (2000) document a positive association between disclosure level and earnings quality. To control for the interaction between disclosure and earnings response coefficients, we interact earnings forecast errors (*FE*) with 0/1 dummy variables to indicate low and high rankings of *TDA* and *TDD* (where *TD* represents a particular disclosure ranking). To maintain the additive feature of *TDC* = *TDA* + *TDD*, we add the dummy measures of *TDA* and *TDD* to derive the dummy measure of *TDC*. Thus, in similar fashion, γ^{OWC}, γ^{OWD}, γ^{FTC}, γ^{FTD}, γ^{BSC} and γ^{BSD} each measure the change in ERC when the level of the composite rankings or the differential rankings is high for the respective subcategory. Given these specifications, we use the following regression models to examine whether the results in the Table 2 are valid after controlling for the coinciding earnings announcements:

$$\text{ERC2: } Abn_i = \alpha + \gamma^{TDC}TDC_i + \gamma^{TDD}TDD_i + \varphi FE_i + \varphi^{TDC}D_{TDCi}*FE_i + \varphi^{TDD}D_{TDDi}*FE_i + \varepsilon_i$$

$$\text{ERC3: } Abn_i = \alpha + \gamma^{OWC}OWC_i + \gamma^{OWD}OWD_i + \varphi FE_i + \varphi^{OWC}D_{OWCi}*FE_i + \varphi^{OWD}D_{OWDi}*FE_i + \gamma^{FTC}FTC_i + \gamma^{FTD}FTD_i + \varphi^{FTC}D_{FTCi}*FE_i + \varphi^{FTD}D_{FTDi}*FE_i + \gamma^{BSC}BSC_i + \gamma^{BSD}BSD_i + \varphi^{BSC}D_{BSCi}*FE_i + \varphi^{BSD}D_{BSDi}*FE_i + \varepsilon_i$$

where:

FE_i = Earnings-per-share forecast error for firm *i* when earnings are announced during the event period. Forecast error is measured as the difference between actual EPS and estimated EPS, divided by the absolute value of estimated EPS.

D_{TDDi} = 1 if TDD_i has a rank higher then the median, zero otherwise.

D_{TDAi} = 1 if TDA_i (i.e., the *TD* rank from annual report) has a rank higher then the median, zero otherwise.

D_{TDCi} = $D_{TDAi} + D_{TDDi}$

φ = ERC (earnings response coefficient) when both D_{TDCi} and D_{TDDi} equal zero (that is, low composite and low differential rankings).

φ^{TDC} = Change in ERC when D_{TDCi} equals 1; in other words, this coefficient indicates the effect of *TDC* on earnings response coefficient when the disclosure rank level is high.

φ^{TDD} = Change in ERC when TDD is high versus when TDD is low, this coefficient indicate the effect of TDD on earnings response coefficient when the disclosure rank difference is high.

TDC = Composite ranking for *FR*, *OW*, *FT* and *BS*.

TDA = Annual report T&D ranking for *FR*, *OW*, *FT* and *BS*.

TDD = *TDC* – *TDA*

The ERC2 model thus incorporates controls for earnings announcements for the previously estimated ABN2 models, while the ERC3 model does the same for the ABN3 models. Though the coefficients on these interaction terms can inform us the effects of disclosures rankings on the ERC, our main purpose here is to test whether the coefficients on *TDC* (*TDD*) continue to be positively (negatively) related to the abnormal returns after controlling for the earnings announcement. Table 3 reports the estimation results for these models.

Insert Table 3 here

By comparing the results from Table 3 with those from Table 2, we can evaluate the effects of adding *FE* variables to the respective ABN2 and ABN3 models. The adjusted R-squared statistics have changed from 0.63% to 2.55% for *FR*, from 1.05% to 1.07% for *OW*, from 0.30% to 1.09% for *FT*, from 0.14% to 0.56% for *BS* and from 0.58% to 6.75% for the combined model (i.e., from ABN3 to ERC3). These results imply that the earnings announcements have significant explanatory power for abnormal returns that are incremental to the release of the disclosure rankings. Table 3 reports results that are very similar to those in Table 2. When the overall level of disclosure is examined (the first column of results), we find the coefficient on *FRD* to be significantly negative (two-tailed $p = 0.027$). In the second column of results, *OWD* has a significantly negative effect (two-tailed $p = 0.010$). The third column documents a significantly negative coefficient on *FTD* (two-tailed $p = 0.079$), while the fourth column reports a negative coefficient on *BSD* that is significant only using a one-tailed test (two-tailed $p = 0.142$). In the ERC3 model with all the sub-rankings included, we find *OWD* to be the only significant disclosure variable ($p = 0.024$). In summary, this section reports the results of our tests controlling for the effect of earnings announcements on the abnormal returns. We continue to find that *FRD* is negatively related to the abnormal returns and *OWD* is the subcategory that driving the relation.

4.3 Robustness Tests

4.3.1 ERC Analyses Only for Firms with Earnings Announcements

We rerun our ERC models by deleting firms without earnings announcements. This leaves us with a total

of 142 firms during the 4-day event window (two firms out of 144 announcing earnings were excluded due to unavailability of forecast errors). The untabulated results document a model adjusted R^2 of 13.66%, higher than when the whole sample was analyzed. Our general conclusion reported in the previous section remains unchanged.

4.3.2 Controls for Industry, Beta and Size Differences

We add industry dummies to all the models to test if the omitted industry variables have any effect on our conclusion. For the ABN and ERC models, adding industry dummies does not change our general conclusions. Previous research also shows that ERCs are affected by firm characteristics such as risk and size. When we add interactive variables of market beta, size and *FE* in the ERC3 model, our results are similar to previously reported.

4.3.5 Use of Different Return Metrics

We use different return metrics including raw returns, market-adjusted return and industry-adjusted return metrics for the ERC models. Since these returns are not risk adjusted, the coefficients of *FT* variables and of *BS* variables behave as though the return metric has not been adjusted for risk. However, the results reported in Section 4.2 remain qualitatively unchanged.

5. Discussions and Conclusion

Accounting frauds, like Enron's and Worldcom's, have resulted in corporate governance being one of the more widely discussed issues in the financial press. In addition to the frauds perpetrated on the investing public, belated disclosures of failed business ventures and reports of excessive executive compensation have dominated much of the public and political discourse and have prompted calls for greater mandated disclosures. The S&P T&D study develops a model of disclosures structured around three dimensions of disclosure: ownership structure and investor rights (*OW*), financial transparency and information disclosures (*FT*) and board and management structure and process (*BS*). Their research results include rankings of the disclosure quantities for three subcategories and a compiled final ranking for both the annual reports (-*A*) and the required regulatory filings (-*C*).

We evaluate whether the release of the disclosure rankings provided new information to the financial markets. Our empirical analysis focuses on the association between the relative disclosure rankings of these three disclosure dimensions and risk-adjusted abnormal returns in the period surrounding the announcement date of the S&P's report. Previous research studies (e.g., Patel and Dallas, 2002, Botosan and Plumlee, 2002, Gelb and Zarowin, 2000) report that higher levels of financial disclosure are associated with reduced firm risk, increased liquidity, higher prices, and higher ERCs. These studies link managers' disclosure decisions to changes in stockholders' wealth through various market mechanisms. Our study of the S&P T&D rankings allows us to extend this research stream to include corporate governance-related disclosures as well.

Based on the two notions that higher disclosure improves liquidity which leads to higher prices and that the post-Enron market favors firms with more transparent disclosure practices, we predict that, when the S&P T&D rankings were made public, they represented new information, and the market would respond to this new information favorably for firms with greater disclosure. This leads us to evaluate the effects of the rankings on the risk-adjusted abnormal return surrounding the announcement date. We hypothesize that the abnormal return will be positively related to the composite rankings and negatively related to the differential rankings. A larger difference in disclosure quantity between the 10-Ks/proxy statements and annual reports would be consistent with managers engaging in a selective disclosure strategy between disclosure vehicles.

Our regression results indicate that the market responds negatively to firms that have larger differences between the annual report rankings and composite rankings. On the other hand, we generally do not find significant associations between the composite rankings and abnormal returns. These results indicate that the composite rankings did not bring new information to the market while the differences between the composite rankings and the annual rankings revealed new information to the market. This may also due to the fact that the high-profile release of the rankings directed the public attention to the differential levels of disclosure by identifying firms that were not disclosing adequately in the annual reports (see Patel and Dallas 2002). The notion of selective disclosure in the prominent annual report appears to have been viewed by the market as an indication of poor disclosure practice, thus resulting in the negative market reaction.

We also find the subcategory of ownership structure and investor rights to be the driving force behind the observed abnormal returns. This might be the case that the other two categories, financial disclosure and information disclosure and board and management structure and process, had been more closely studied by the market; therefore, the market was aware of the differences between annual and composite reports for these two categories. This might also have been caused by the fact that the disclosure items in the subcategory of ownership structure and investor rights are more difficult to identify and assess; as a result, the T& D rankings are able to provide new quantitative information to the market with regard to firms' disclosures in this

subcategory.

References

1. Botosan, C.,1997. Disclosure level and the cost of equity capital. *The Accounting Review* 72(3): 323-350.
2. Botosan, C., and M. Plumlee. 2002. A re-examination of disclosure level and expected cost of capital. *Journal of Accounting Research.*
3. Botosan, C., M. Plumlee, and Y. Xie. 2004. The role of information precision in determining the cost of equity capital. Review of Accounting Studies 9: 233-259.
4. Cheng, A., D. Collins and H. Huang. 2006. Shareholder rights, financial disclosure and the cost of equity capital. Review of Quantitative Finance and Accounting, 27: 175-204.
5. Core, J., 2001, A Review of the Empirical Disclosure Literature: Discussion, Journal of Accounting & Economics, Vol. 31, Nos. 1-3, Sep.
6. Durnev, A., and E. H. Kim. 2005. To steal or not to steal: Firm attributes, legal environment and valuation. *The Journal of Finance* 60(3): 1461-1493.
7. Diamond, D., and R. Verrecchia, 1991, Disclosure, Liquidity, and the Cost of Capital, The Journal of Finance 66, 1325-1355.
8. Ely, K., and E. Stanny, 1999, Is the Way Management Discloses Information on Their PRP Status Related to the Level of Institutional Ownership and Analyst Following, Working Paper, Emory University and Sonoma State University.
9. Gelb, D., and P. Zarowin. 2002. Corporate disclosure policy and the informativeness of stock prices. *Review of Accounting Studies* 7: 33-52.
10. Healy, P., and K. Palepu, 2001, Information Asymmetry, Corporate Disclosure and the Capital Markets: A Review of the Empirical Disclosure Literature, Journal of Accounting & Economics, Vol. 31, Nos. 1-3, September.
11. Ip, G., and M. Schroeder, 2002, Accounting for Rich Paydays – Bush's New Picks for Treasury, SEC Won Corporate Rewards That Raise Questions, By Greg Ip and Michael Schroeder Wall Street Journal, New York, N.Y.; Dec 20, 2002; Eastern edition; pg. A.4.
12. Jain, K. and Z. Reraee. 2006. The Sarbanes-Oxley Act of 2002 and capital-market behavior: early evidence. Contemporary Accounting Research 23 (Fall): 629-654.
13. Kim, O., and R. Verrecchia, 1994, Market Liquidity and Volume around Earnings Announcements, Journal of Accounting & Economics 17, 41-68.
14. Knutson, P., 1992, Financial Reporting in the 1990's and Beyond, Working Paper, AIMR.
15. Lowenstein, L., 1996, Financial Transparency and Corporate Governance, Columbia Law Review, Vol, 96, April.
16. Patel, S., and G. Dallas 2002: Transparency and Disclosure: Overview of Methodology and Study Results – United States, http://governance. standardandpoors.com.
17. Plitch, P. 2005. Tracking the numbers: S&P gets out of rating corporate governance. *Wall Street Journal* (September 13, 2005).
18. Qi, D., W. Wu and I. Haw, 2000, The Incremental Information Content of SEC 10-K Reports Filed under the EDGAR System, Journal of Accounting, Auditing & Finance, Vol 15. No 1. Winter 2000.
19. Standard and Poors, 2002, Corporate Governance Scores – Frequently Asked Questions, http://governance.standardandpoors.com.

Appendix: Individual Transparency and Disclosure Questions

Ownership Structure and Investor Rights (Total of 28 questions)

Transparency of ownership

* Provide a description of share classes?
* Provide a review of shareholders by type?
* Provide the number of issued and authorized but non-issued ordinary shares? (2)
* Provide the par value of issued and authorized but non-issued ordinary shares? (2)
* Provide the number of issued and authorized but non-issued shares of preferred, nonvoting, and other classes? (2)
* Provide the par value of issued and authorized but non-issued shares of preferred, non-voting, and other classes? (2)
* Does the company disclose the voting rights for each class of shares?

Concentration of ownership

* Top 1, 3, 5, or 10 shareholders disclosed? (4)
* Shareholders owning more than 10, 5, or 3 percent is disclosed? (3)
* Does the company disclose percentage of cross-ownership?

Voting and shareholder meeting procedures

* Is there a calendar of important shareholder dates?
* Review of shareholder meetings (could be minutes)?
* Describe procedure for proposals at shareholder meetings?
* How shareholders convene an extraordinary general meeting?
* How shareholders nominate directors to board?
* Describe the process of putting inquiry to board?
* Does the annual report refer to or publish Corporate Governance Charter or Code of Best Practice? (2)
* Are the Articles of Association or Charter Articles of Incorporation published?

Financial Transparency and Information Disclosure (Total of 35 questions)

Business focus

. Is there a discussion of corporate strategy?
. Report details of the kind of business it is in?
. Does the company give an overview of trends in its industry?
. Report details of the products or services produced/provided?
. Provide a segment analysis, broken down by business line?
. Does the company disclose its market share for any or all of its businesses?
. Does the company report basic earnings forecast of any kind? In detail? (2)
. Disclose output in physical terms?

. Does the company give an output forecast of any kind?
. Does the company give characteristics of assets employed?
. Does the company provide efficiency indicators (ROA, ROE, etc.)?
. Does the company provide any industry-specific ratios?
. Does the company disclose its plans for investment in the coming years?
. Does the company disclose details of its investment plans in the coming years?

Accounting policy review
. Provide financial information on a quarterly basis?
. Does the company discuss its accounting policy?
. Does the company disclose accounting standards it uses for its accounts?
. Does the company provide accounts according to the local accounting standards?
. Does the company provide accounts in alternate internationally recognized accounting method?
* Does the company provide each of the balance sheet, income statement, and cash-flow statement by internationally
recognized methods? (4)
. Does the company provide a reconciliation of its domestic accounts to internationally recognized methods?

Appendix: Individual Transparency and Disclosure Questions
Accounting policy details
. . Does the company disclose methods of asset valuation?
. . Does the company disclose information on method of fixed assets depreciation?
. . Does the company produce consolidated financial statements?
Related party structure and transactions
. . Provide a list of affiliates in which it holds a minority stake?
* Does the company disclose the ownership structure of affiliates?
* . Is there a list/register of related party transactions?
. . Is there a list/register of group transactions?
Information on auditors
. . Does the company disclose the name of its auditing firm?
. . Does the company reproduce the auditors' report?
. . Disclose how much it pays in audit fees to the auditor?
. . Disclose any non-audit fees paid to auditor?

Board Structure and Process (Total of 35 Questions)
Board structure and composition
. . Is there a chairman listed?
. . Detail about the chairman (other than name/title)?
. . Is there a list of board members (names)?
. . Are there details about directors (other than name/title)?
. . Details about current employment/position of directors provided?
. . Are details about previous employment/positions provided?
. . Disclose when each of the directors joined the board?
. . Classifies directors as an executive or an outside director?
Role of the Board
. . Details about role of the board of directors at the company?
. . Is there disclosed a list of matters reserved for the board?
. . Is there a list of board committees?
. . Review last board meeting (could be minutes)?
. . Is there an audit committee?
. . Disclosure of names on audit committee?
. . Is there a remuneration/compensation committee?
. . Names on remuneration/compensation committee)?
. . Is there a nomination committee?
. . Disclosure of names on nomination committee?
. . Other internal audit function besides audit committee?
. . Is there a strategy/investment/finance committee?
Director training and compensation
. . Disclose whether they provide director training?
. . Disclose the number of shares in the company held by directors?
. . Discuss decision-making process of directors' pay?
. . Are specifics of directors' salaries disclosed (numbers)?
. . Form of directors' salaries disclosed (cash, shares, etc.)?
. . Specifics disclosed on performance-related pay for directors?
Executive compensation and evaluation
. . List of the senior managers (not on the board of directors)?
. . Backgrounds of senior managers disclosed?
. . Number of shares held by the senior managers disclosed?
. . Disclose the number of shares held in other affiliated companies by managers?
. . Discuss the decision-making of managers' (not board) pay?
. . Numbers of managers' (not on board) salaries disclosed?
. . Form of managers' (not on board) salaries disclosed?
. . Specifics disclosed on performance-related pay for managers?
. . Details of the CEO's contract disclosed?

Note: These questions/attributes were reproduced from Standard & Poor's Transparency and disclosure: Overview of Methodology and Study Results – United States, available at http://www.governance.standandpoor.

Table 1. Descriptive Statistics

Panel A: Descriptive Statistics of S&P T&D Rankings												
Statistics	*FRC*	*FRA*	*FRD*	*OWC*	*OWA*	*OWD*	*FTC*	*FTA*	*FTD*	*BSC*	*BSA*	*BSD*
Mean	7.50	4.66	2.84	5.65	3.04	2.60	8.14	7.14	1.01	8.20	3.54	4.66
Standard deviation	0.53	1.04	0.98	0.89	1.08	1.17	0.65	1.40	1.29	0.57	1.29	1.25
Median	8	5	3	6	3	2	8	8	1	8	4	5
Minimum	6	1	0	4	0	0	6	2	0	5	0	0
1%	7	2	0	4	0	0	7	2	0	7	1	1
25%	7	4	2	5	3	2	8	7	0	8	2	4
75%	8	5	3	6	4	3	9	8	1	9	4	6
99%	8	8	6	8	6	6	10	9	6	9	8	7
Maximum	9	8	6	9	7	7	10	10	6	10	9	8

Panel B: Descriptive Statistics of Earnings, Returns and Selected Variables of Firm Characteristics

	Beta	Market Value (mm $)	*EPS*	*FE*	Raw Return	Beta-Adjusted Return
Mean	0.97	17,147	0.49	0.051	0.059	-0.003
Std. Deviation	0.71	34,332	0.48	0.326	0.084	0.079
Median	0.81	7,137	0.43	0.017	0.060	0.000
Minimum	-0.37	577	-3.05	-2	-0.372	-0.460
1%	-0.09	937	-0.39	-1	-0.201	-0.315
25%	0.50	3,634	0.19	0	0.015	-0.040
75%	1.26	13,832	0.71	0.077	0.107	0.043
99%	3.32	196,607	1.79	1.286	0.322	0.160
Maximum	3.78	308,383	2.02	3	0.471	0.241

Notes to Table 1: There are a total of 459 firms that have all data available. A total of 460 firms in S&P 500 were ranked. The reported ranks range from 1 to 10. *FR* denotes the final ranking for all subcategories combined, and *OW*, *FT*, and *BS* denote the subcategories of *ownership structure and investor rights*, *financial transparency and information disclosure*, and *board and management structure and process*, respectively. The suffixes *-C*, *-A*, and *-D* denote composite, annual report, and difference, respectively. *FRC* represents the composite final rankings based on annual reports, 10-Ks, and proxy statements together. *FRA* represents the final rankings based on the annual report only. The differential "final ranking" is defined as *FRD = FRC – FRA*. Similarly, *OWC* is the sub-ranking for ownership structure and investor rights based on the annual reports, 10-Ks, and proxy statements together; *OWA* is the subcategory ranking based on the annual report only; and *OWD = OWC – OWA*. The other subcategory rankings (*FTC*, *FTA*, *FTD*, *BSC*, *BSA* and *BSD* are measured in a similar fashion. The risk-adjusted returns are calculated over the 4-day event period surrounding the announcement of S&P's T&D scores (i.e., Oct. 14-17, 2002). *FE* is the forecast error. There are a total of 251 firms that made earnings announcements during the period from Oct. 8 to Oct. 23 with 144 announcements issued during our event period (October 14-17), 15 announcements in the four days prior to our event period, and 92 announcements in the four days after our event period. However, due to zero estimated earnings, four observations are dropped.

Table 2. Regressions of Risk-Adjusted Returns on S&P T&D Rankings

Estimated Models:

ABN1: $Abn_i = \alpha + \gamma^{IDX} TDX_i + \varepsilon_i$ for $TD = FR, OW, FT$ or BS, and $X = C, A$ or D.

ABN2: $Abn_i = \alpha + \gamma^{TDC} TDC_i + \gamma^{TDD} TDD_i + \varepsilon_i$ for $TD = FR, OW, FT$ or BS

ABN3: $Abn_i = \alpha + \gamma^{OWC} OWC_i + \gamma^{OWD} OWD_i + \gamma^{FTC} FTC_i + \gamma^{FTD} FTD_i + \gamma^{BSC} BSC_i + \gamma^{BSD} BSD_i + \varepsilon_i$

Panel A: Regression of Risk-Adjusted Returns on Final Rankings (FR) and Ownership Structure Rankings (OW) using Models ABN1 and ABN2									
	Exp. Sign	*Model ABN1 FRA*	*Model ABN1 FRC*	*Model ABN1 FRD*	*Model ABN2 FRC+FRD*	*Model ABN1 OWA*	*Model ABN1 OWC*	*Model ABN1 OWD*	*Model ABN2 OWC+OWD*
Adj. R^2		0.68	-0.22	0.83	0.63	1.21	-0.20	0.76	1.05
Intercept	?	-0.030 (0.051)	0.004 (0.939)	0.022 (0.035)	0.009 (0.854)	-0.024 (0.018)	-0.006 (0.777)	0.016 (0.047)	-0.015 (0.509)
FRA	+	0.007 (0.021)	—	—	—	—	—	—	—

FRC	+	—	-0.000 (0.527)	—	0.002 (0.390)	—	—	—	—
FRD	–	—	—	-0.008 (0.014)	-0.008 (0.014)	—	—	—	—
OWA	+	—	—	—	—	0.008 (0.005)	—	—	—
OWC	+	—	—	—	—	—	0.001 (0.379)	—	0.007 (0.064)
OWD	–	—	—	—	—	—	—	-0.006 (0.017)	-0.009 (0.005)

Notes: The number of observation is 459. The numbers in parentheses represent either the two-tailed significance levels (for the intercepts) or the one-tailed significance levels (for the coefficients on the disclosure variables). Boldface indicates significance at $p < 0.10$. Abn_i is the beta-adjusted abnormal return for firm *i* during our four-event-day window (see the variables section for details). *TDX* = S&P's T&D composite and annual report rankings and their differences. *TD* = *FR*, *OW*, *FT* or *BS*. *FR* denotes the final ranking for all subcategories combined, and *OW*, *FT* and *BS* denote the subcategories of *ownership structure and investor rights*, *financial transparency and information disclosure*, and *board and management structure and process*, respectively. X = suffixes *A*, *C* and *D*, and these suffixes denote composite rankings, annual report rankings, and differences in rankings, respectively. Thus, *FRC*, *FRA* and *FRD* are final rankings; *OWC*, *OWA* and *OWD* are ownership structure and investor rights rankings; *FTC*, *FTA* and *FTD* are financial transparency and information disclosure rankings, and *BSC*, *BSA* and *BSD* are board and management structure and process rankings. Then, *TDC* = Composite T&D rankings for *FR*, *OW*, *FT* and *BS*; *TDA* = Annual Report T&D rankings for *FR*, *OW*, *FT* and *BS*; and *TDD* = *TDC* – *TDA*.

Table 2 (continued)

Regressions of Risk-Adjusted Returns on S&P T&D Rankings

Estimated Models:

ABN1: $Abn_i = \alpha + \gamma^{TDX} TDX_i + \varepsilon_i$ for *TD* = *FR*, *OW*, *FT* or *BS*, and *X* = *C*, *A* or *D*.

ABN2: $Abn_i = \alpha + \gamma^{TDC} TDC_i + \gamma^{TDD} TDD_i + \varepsilon_i$ for *TD* = *FR*, *OW*, *FT* or *BS*

ABN3: $Abn_i = \alpha + \gamma^{OWC} OWC_i + \gamma^{OWD} OWD_i + \gamma^{FTC} FTC_i + \gamma^{FTD} FTD_i + \gamma^{BSC} BSC_i + \gamma^{BSD} BSD_i + \varepsilon_i$

Panel B: Regression of Risk-Adjusted Returns on Financial Transparency Rankings (FT) and Board Structure Rankings (BS) using Models ABN1 and ABN2

	Exp. Sign	*Model ABN1 FTA*	*Model ABN1 FTC*	*Model ABN1 FTD*	*Model ABN2 FTC+FTD*	*Model ABN1 BSA*	*Model ABN1 BSC*	*Model ABN1 BSD*	*Model ABN2 BSC+BSD*
Adj. R^2		0.13	-0.10	0.44	0.30	0.36	-0.19	0.28	0.14
Intercept	?	-0.021 (0.227)	0.031 (0.465)	0.005 (0.239)	0.030 (0.476)	-0.015 (0.140)	-0.016 (0.738)	0.020 (0.135)	-0.009 (0.861)
FTA	+	0.003 (0.104)	—	—	—	—	—	—	—
FTC	+	—	-0.004 (0.765)	—	-0.003 (0.725)	—	—	—	—
FTD	–	—	—	-0.005 (0.041)	-0.005 (0.046)	—	—	—	—
BSA	+	—	—	—	—	0.004 (0.053)	—	—	—
BSC	+	—	—	—	—	—	0.002 (0.365)	—	0.004 (0.276)
BSD	–	—	—	—	—	—	—	-0.004 (0.065)	-0.004 (0.056)

Panel C: Regression of Risk-Adjusted Returns on Ownership Structure Rankings (OW), Financial Transparency Rankings (FT) and Board Structure Rankings (BS) using Model ABN3

	Intercept	*OWC*	*OWD*	*FTC*	*FTD*	*BSC*	*BSD*	Adj R^2
Expected sign	?	+	–	+	–	+	–	
Coefficient	0.031 (0.621)	0.007 (0.099)	-0.009 (0.032)	-0.007 (0.896)	0.001 (0.557)	0.002 (0.357)	-0.002 (0.265)	0.58

Notes: The number of observations is 459. The numbers in parentheses represent either the two-tailed significance levels (for the intercepts) or the one-tailed significance levels (for the coefficients on the disclosure variables). Boldface indicates significance at $p < 0.10$. Abn_i is the beta-adjusted abnormal return for firm *i* during our four-event-day window (see the variables section for details). *TDX* = S&P's T&D composite and annual report rankings and their differences. *TD* = *FR*, *OW*, *FT* or *BS*. *FR* denotes the final ranking for all subcategories

combined, and *OW*, *FT* and *BS* denote the subcategories of *ownership structure and investor rights*, *financial transparency and information disclosure*, and *board and management structure and process*, respectively. X = suffixes *A*, *C* and *D*, and these suffixes denote composite rankings, annual report rankings, and differences in rankings, respectively. Thus, *FRC*, *FRA* and *FRD* are final rankings; *OWC*, *OWA* and *OWD* are ownership structure and investor rights rankings; *FTC*, *FTA* and *FTD* are financial transparency and information disclosure rankings, and *BSC*, *BSA* and *BSD* are board and management structure and process rankings. Then, *TDC* = Composite T&D rankings for *FR*, *OW*, *FT* and *BS*; *TDA* = Annual Report T&D rankings for *FR*, *OW*, *FT* and *BS*; and *TDD* = *TDC* – *TDA*.

Table 3. Regressions of Risk-Adjusted Returns on S&P T&D Rankings: Controlling for Earnings Announcements

Estimated Models:

ERC2: $Abn_i = \alpha + \gamma^{TDC} TDC_i + \gamma^{TDD} TDD_i + \varphi FE_i + \varphi^{TDC} D_{TDCi} * FE_i + \varphi^{TDD} D_{TDDi} * FE_i + \varepsilon_i$

ERC3: $Abn_i = \alpha + \gamma^{OWC} OWC_i + \gamma^{OWD} OWD_i + \varphi FE_i + \varphi^{OWC} D_{OWCi} * FE_i + \varphi^{OWD} D_{OWDi} * FE_i + \gamma^{FTC} FTC_i + \gamma^{FTD} FTD_i + \varphi^{FTC} D_{FTCi} * FE_i + \varphi^{FTD} D_{FTDi} * FE_i + \gamma^{BSC} BSC_i + \gamma^{BSD} BSD_i + \varphi^{BSC} D_{BSCi} * FE_i + \varphi^{BSD} D_{BSDi} * FE_i + \varepsilon_i$

Model	*Model ERC2 (FR)*	*Model ERC2 (OW)*	*Model ERC2 (FT)*	*Model ERC2 (BS)*	*Model ERC3*
Adj. R^2	2.55	1.07	1.09	0.56	6.75
Intercept	0.026 (0.583)	-0.012 (0.572)	0.034 (0.418)	0.002 (0.974)	0.064 (0.301)
FRC	-0.001 (0.924)	—	—	—	—
FRD	-0.008 (0.027)	—	—	—	—
OWC	—	0.006 (0.154)	—	—	0.006 (0.242)
OWD	—	-0.009 (0.010)	—	—	-0.010 (0.024)
FTC	—	—	-0.004 (0.501)	—	-0.008 (0.143)
FTD	—	—	-0.005 (0.079)	—	0.002 (0.656)
BSC	—	—	—	0.002 (0.728)	0.000 (0.976)
BSD	—	—	—	-0.004 (0.142)	-0.002 (0.528)
FE	-0.447 (0.004)	0.018 (0.156)	0.031 (0.072)	-0.586 (0.161)	-0.575 (0.163)
D_{FRC}, *FE*	0.454 (0.003)	—	—	—	—
D_{FRD}, *FE*	0.012 (0.700)	—	—	—	—
D_{OWC}, *FE*	—	0.003 (0.936)	—	—	0.327 (0.000)
D_{OWD}, *FE*	—	0.018 (0.762)	—	—	-0.069 (0.330)
D_{FTC}, *FE*	—	—	0.001 (0.983)	—	-0.029 (0.224)
D_{FTD}, *FE*	—	—	-0.051 (0.176)	—	-0.357 (0.000)
D_{BSC}, *FE*	—	—	—	0.611 (0.142)	0.673 (0.102)
D_{BSD}, *FE*	—	—	—	-0.008 (0.823)	-0.059 (0.339)

Notes: Number of observation is 459. The numbers in parentheses represent the two-tailed significance levels. Boldface indicates significance at $p < 0.10$. FE_i is the forecast error for firm *i* if the firm made an earning announcement during the 4 event days, otherwise, FE_i equals 0. There are a total of 144 firms that made earnings announcements in the 4 event days. D_{TDDi} = 1 if TDD_i has a rank higher than the median, zero otherwise; D_{TDAi} =1 if TDA_i (i.e., the TD rank from the annual report) has a rank higher then the median, zero otherwise; and $D_{TDC} = D_{TDA} + D_{TDD}$.

DEBT POLICY, FREE CASH FLOW HYPOTHESIS, AND BALANCING OF AGENCY THEORY THROUGH OWNERSHIP: EVIDENCE FROM INDONESIA

Putu Anom Mahadwartha*, Fitri Ismiyanti**

Abstract

This research argues that there is conflict of interest between managers and shareholders. The conflict also varies based on growth opportunities. This research argues that disciplinary role exist in debt policy with the use of free cash flow hypothesis. This research explores the implications of free cash flow hypothesis concerning the disciplinary role of ownership structure in corporate debt policy. Managerial ownership and internal institutional are other mechanism to reduce agency conflict also has a significant impact on debt policy (control coalition cohesiveness). The relationship between managerial ownership and debt policy is interdependence, as known as balancing of agency theory. This study uses 1264 observation of 154 listed Indonesian firms between the years 1995 until 2003. Three state least square (3SLS) model will be use for statistical and analytical purposes. This study developed several arguments. The relation between debt and free cash flow are positive, but the relation differs between low-growth firms and high-growth firms. Internal institutional shareholders discourage managerial perquisites using debt. The result of this research support the free cash flow hypothesis and balancing of agency theory through ownership and there is disciplinary role of ownership structure in debt policy.

Keywords: Balancing of Agency Theory, Ownership Structure, Leverage, Free Cash Flow, Agency Conflict

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The revision based on comment and suggestion from 1st ICBMR conference, Faculty of Economics, University of Indonesia, 23-24 August 2006, Bali-Indonesia. Thank you to Dr. Bambang Hermanto, Dr. Adler Manurung, and other distinguished participant and commentators of ICBMR conference, Bali-Indonesia.

1. Introduction

The agency costs of free cash flow arise from a conflict between manager and shareholders. When managers insulate themselves from internal and external governance mechanism, they have incentives to pursue their own interests at the expenses of shareholders, e.g. higher than market salaries, excessive perquisites[7], job security. Managers also tend to value investment even if the investments can not maximize shareholders value since managers gain prestige being the managers of a big firm (this behavior is known as overinvestment problem). Jensen (1986) discussed the agency cost of free cash flow as cash flow in excess that required funding all projects that have positive net present value (NPV). According to Jensen (1986), manager may use free cash flow to invest in negative NPV projects rather than return the free cash flow to the shareholders, for example as dividends. This problem especially worsens in firms with maturity life cycle and has few growth opportunities, as they have few profitable investments. However, using required interest payments, manager is bonding their promise to pay out future cash flows. Jensen (1986) indicates that firms with excess cash flows and low growth opportunities will use more debt financing for monitoring and bonding purposes.

Indonesian evidence regarding the issue of bonding and monitoring from debt are also tested by Mahadwartha (2002a, 2002b, 2003, and 2004), Ismiyanti and Hanafi (2004), and Mahadwartha and Hartono (2003). Majority of findings support Jensen's argument that debt is bonding and monitoring mechanism in agency conflict. Conflict of interest between managers and shareholders will bond by

[7] Perquisites are luxury office building, luxury transportation and accommodation beyond their jobs standard, etc.

fixed interest payment, and monitor by debt covenant that attach to debt agreement.

Shleifer and Vishny (1986) argue that shareholders have an incentive to monitor managers as their investment at stake. Pound (1988) suggests that institutional investors serve as an alternative mechanism to control the overinvestment problem. Agrawal and Mandelker (1990) indicate that institutional investors provide valuable monitoring services and act as a restraint to opportunistic behavior by managers. Thus, institutional investor may help in reducing the firm's agency cost and become a substitute for debt if institutions can monitor managerial activities at a low cost. This research tries to investigate the implications of free cash flow hypothesis on capital structure policy especially debt policy of listed Indonesian firms.

Mahadwartha (2004) introduces the term "internal institutional" as major investors in Indonesia. Indonesia have different investors' demography especially for institutional investor. As Pound (1988), and Agrawal and Mandelker (1990) define institutional investor as investment company, insurance company, and other institutional investors with line of business on investment or managing investment fund from clients. There is no recorded and published data regarding ownership of institutional investors such as insurance companies, mutual funds, etc in Indonesian public firms. Mahadwartha (2004) then define institutional investors in Indonesia as business firm that have portions of ownership in listed firms. Business firms include not only as Pound (1988), and Agrawal and Mandelker (1990) defined, but also usual business firms.

Mahadwartha (2004) argues that internal institutional investors serve as a mechanism to bonding and monitoring managers' perquisites behavior. The findings support the argument that firms with large portions of internal institutional ownerships have better financial performance than firms with small portions of internal institutional ownerships have. Balancing of agency theory argues that ownership structure as bonding will have substitution effect with other bonding mechanism such as debt and dividend. This research argues that managerial ownership will have a substitution on debt but internal institutional will have positive effect. Managers as their ownership increase will consider reducing firms' liabilities in order to decrease firm financial risk. Furthermore, when debt is increasing, then managers will decrease their ownership portions to decrease their personal investment risk.

Internal institutional ownership in Indonesia usually business firm that affiliated closely to founders of the firms. As internal institutional increase, founders have a better chance to control firms' managers regarding cash flow. In Indonesian cases, balancing of agency theory will hold on the relationship between internal institutional ownership and debt policy. Ownership structure such as managerial ownership and internal institutional ownership will have substitution affect, as a mechanism to reduce agency conflict. Balancing of agency theory will also hold on the mechanism through ownership structure. On the contrary, control coalition cohesiveness as oppose to balancing of agency theory will not hold. Regardless, the differences of level of cohesiveness between types of ownership structure, managerial ownership and internal institutional ownership will have partially coherent interest. Other argument is internal institutional ownership as majority parties have superior power to control managers and their perquisites actions.

Free cash flow as sources of manager's perquisites will have a positive effect on debt, because shareholders will bond manager's perquisites to the use of debt. High growth and low growth firm will have different effect on the relationship of free cash flow to debt policy. This research argues that the relationship of free cash flow to debt will have positive effect when firm in low growth conditions and negative effect when firms in high growth conditions. Firms with lower level of growth will have redundant cash flow that could be use by managers for perquisites. Then, shareholders will bind manager's perquisites using debt policy. On the contrary, high growth firms if they have lower level of cash flow, shareholders will use debt to finance their investment opportunity.

This research focuses on relations between debt, free cash flow, managerial ownership, institutional internal ownership, and growth. This research also examines the relationship between different types of ownership to debt policy; both are serving as monitoring mechanism for agency conflict. The interest in studying Indonesian firms stems from some factor. The ownership structure of Indonesian firms is quite different from other countries. Indonesian firms dominated with family firms and conglomerate with significant portions of ownership and only small portions of other shareholders.

Two features distinguish this study. First, it provides evidence consistent with free cash flow hypothesis predictions in a legal and regulatory environment that is different from the United States. Second, previous research such as Mahadwartha (2004) is focus only on the degree of institutional ownership. However, the characteristics and intensity of monitoring may vary across institutional investors to affect corporate debt policy. Given the prevalence of internal institutional ownership in Indonesian firms (Mahadwartha, 2004), the research focuses on the bonding and monitoring mechanism of free cash flow to debt on two separable conditions, low growth and high growth firms.

This study also enhances our understanding on the effect internal institutional ownership structures to debt policy, the interdependence of managerial ownership and debt policy, and the relationship of internal institutional ownership to managerial

ownership. Balancing of agency theory argues that ownerships as mechanism for reducing agency conflict have a substitute effect on debt policy, dividend policy, and on different type of ownership (which is also the mechanism of agency conflict). Mahadwartha (2002) confirm the balancing model of agency theory, and support such relationship. Ismiyanti and Hanafi (2004) also find a significant relationship to support the balancing of agency theory between debt policy, dividend policy, and ownership structure.

1.1. Research Problems

Four research problems will describe based on the research argument. The research problems are as follows:

a. Is balancing of agency theory hold on the relationship between managerial ownership and debt policy?
b. Is free cash flow affect debt policy?
c. Is the effect of free cash flow to debt policy differing between high growth firm and low growth firm?
d. Is balancing of agency theory hold on the relationship of internal institutional ownership to debt policy?
e. Is balancing of agency theory hold on the relationship of internal institutional ownership to managerial ownership?

1.2. Research Original

The research has two original ideas. Firstly, the originality of the research is on testing the low and high growth condition on the effect of free cash flow to debt policy. This research argues that the relationship of free cash flow to debt policy moderates by growth level. The research also develops new argument regarding this matter based on agency theory perspective. Secondly, the research argues that the balancing of agency theory will hold on the interdependence relationship between managerial ownership to debt policy, on the relationship between institutional ownership to debt policy, and on the relationship between internal institutional ownership to managerial ownership. The argument based on unique agency problems in Indonesia, which this research introduces as control coalition cohesiveness.

1.3. Research Contribution

This research has three major contributions on empirical, methodology, and policy. The research support previous empirical research in Indonesia regarding balancing of agency theory, and enhance the argument to test growth and low growth conditions. The research also tests the effect of ownership structure issues to debt policy in Indonesia and introduce control coalition cohesiveness hypothesis.

The research findings contribute to investors' decision on their personal investment policy. Investor will have sufficient information regarding firm's agency conflict that can jeopardize their investment decision. Regulators will have better understanding on free cash flow as source of perquisites and will regulate such matters accordingly.

2. Literature Review and Hypotheses

The research tests three main arguments with regard to free cash flow, balancing of agency theory, control coalition cohesiveness, and growth hypothesis. This research will divide the argument into two parts and four hypotheses.

2.1. Free Cash Flow Hypothesis and Growth Hypothesis

Jensen (1986) identified the conflict between the shareholders' interests and the managers' individual agendas and suggested the debt is a remedy againts this form of agency cost, as debt forces the company to pay out the excessive cash flow; it decreases the free cash flow, which is at managers' discretion and thus in danger of being sub optimally invested. Stulz (1990) shows that optimal for shareholders to increase leverage when managers have personal objectives.

There are some previous studies investigates the free cash flow issues. One strain of empirical work examines the overinvestment problem by analyzing the relation between growth opportunities and free cash flow on the one hand, and free cash flow with leverage on the other hand. They showed negative relationship between debt and growth opportunities (Smith and Watts, 1992; and Lang, Ofek and Stulz, 1996) and changes in free cash flow lead to positive changes in leverage (Crutchley and Hansen, 1989). Another approach to the implications of the free cash flow hypothesis in corporate capital structure policy is to study specific events regarding capital structure policies. Several researches in general showed that the firms acted according to free cash flow theory (Denis and Denis, 1993; and Blanchard, Silanes, and Shleifer, 1994). Shareholders will bind manager's perquisites action with increase on debt. They will "invite" such parties (debtholders) to monitor and control managers' perquisites using debt covenant. This argument calls free cash flow hypothesis.

H1a: Free cash flow will positively affect debt policy

This research also argues the differences between low growth and high growth firms on the relationship of free cash flow to debt policy. Lang, Ofek and Stulz (1996) showed negative relationship between growths to debt policy. Firms with high growth firms will have lower debt policy because growth firm usually

inherited higher risk than low growth firms did. High-risk levels will reluctant debtholders to finance firms' investment. This research has rather different argument than Lang, Ofek and Stulz (1996).

This research argues that firm with low level of cash flow and on the stage of high growth will have high debt level to finance their growth opportunities. Firms with high growth level will have negative relationship between free cash flow to debt policy. Firms with high growth level will finance their growth using internal cash flow before debt. Firms with low growth level will have positive relationship between free cash flow to debt policy. Shareholders will bind free cash flow with debt policy, explicitly through debtholders using debt covenant. Therefore, shareholders of low growth firms will have higher interest to bind free cash flow from manager's perquisites using debt policy. The argument also holds for debt policy as monitoring mechanism for manager's actions. This argument calls growth hypothesis.

H1b: High growth firms will have negative relationship between free cash flow to debt policy, on the contrary to low growth firms.

2.2. Balancing of Agency Theory and Control Coalition Cohesiveness

Managers hired by the stockholders through the Board of Directors to run the firm in the shareholders' best interests. Thus, owners (shareholders) differ from the agent (management) engaged in the day-to-day decision-making regarding the allocation of firm's resources. The advantages of such separation are that shareholders can specialize in risk bearing while managers specialize in managing the corporation. Owners unnecessarily have to know regarding how to manage a firm thus resulting in a wider spreading of ownership since the option to buy shares is available to everybody. Major disadvantages are that managers tend to strive for goals that are sometimes inconsistent with the shareholder goals. This results in the arousal of agency problems where agents do not maximize their effort or do not use all of their skills and resources[8]. Furthermore, adverse selection is taking place, meaning that agents misrepresent their abilities to their principals.

Jensen and Meckling (1976) argue that managerial ownership reduces managerial incentives to engage in such no optimal behavior describe above. As managerial ownership increases, managers bear more of the wealth effects on their divergent behaviors. As agency theory argued that ownership structure (managerial ownerships, institutional ownership, etc), debt policy, and dividend policy are main mechanism in controlling managers' action (Mahadwartha, 2004). Such mechanism will have substitution effect as each mechanism has substantial cost.

Balancing of agency theory predict that shareholders concerns about the cost occur from conducting such mechanism to control agency conflict. Thus, the disciplinary pressures of debt and managerial ownership are substitutes. Some previous studies found significant negative relation between debt and managerial ownership (Friend and Lang, 1988; Jensen, Solberg, and Zorn, 1992; Chen and Steiner, 1999; Mahadwartha, 2004; and Ismiyanti and Hanafi, 2004). Tandelilin (2003) showed significant interdependence relationship between managerial ownership and debt policy, which is conclude that balancing of agency theory hold.

H2: There is an interdependence negative relationship between managerial ownership and debt policy

Shleifer and Vishny (1986), and Pound (1988) suggest that institutional investors serve as an alternative mechanism to control the overinvestment problem. Institutional investors have greater expertise mechanism to control the overinvestment problem. Institutional investors have greater expertise in gathering and interpreting information on firms, and have more incentives closely oversee managerial activities with an increase in their equity ownership. This implies that institutional investors impose their managerial preferences through the governance process. Some evidence suggests that there is a negative relationship between institutional ownership and debt policy (Crutchley and Hansen, 1989; Bathala, Moon and Rao, 1994).

However, Mahadwartha (2004) argues that Indonesia have a unique agency problems especially regarding institutional ownership. In Indonesia, institutional ownership usually own by founding family ownership through business firm (PT-Ltd; *perseroan terbatas*-limited) and they dominate the ownership structure with average of 48% from 1995 until 2002. Mahadwartha (2004) introduced the term "internal institutional ownership" to comply with the evident of Indonesian firms.

This research argues from coalition control cohesiveness point of view that the level of cohesiveness of ownership will affect the magnitude of influences each ownership structure to other agency conflict mechanism. Indonesian firms as describe by Mahadwartha (2004) shows several differences on ownership issues than developed countries firms. Mahadwartha (2004) to overcome such differences and test it in scientific research introduced the term internal institutional ownership. This research argues that firms with high level of internal institutional ownership will have low debt level. Internal institutional shareholders will have more control on managers' action and will conduct effective control mechanism. Firms will concern on

[8] Sometime refer as moral hazard

cost of such mechanism therefore balancing of agency theory will holds on such situation.

H3: Internal institutional ownership will negatively affect debt policy

This research also tests other balancing of agency theory especially on ownership structure. Ownership structure as control mechanism will also have substitution relationship between other ownership structures. This research tests the relationship between institutional ownership to managerial ownership. Crutchley, Jensen, Jahera, and Raymond (1999) examine such relationship and found a negative affect or support balancing of agency theory.

H4: Internal institutional ownership will negatively affect managerial ownership.

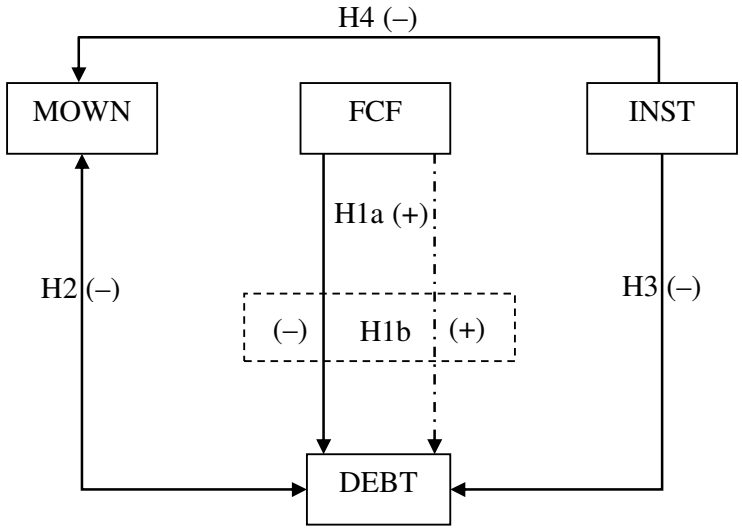

Figure 1. Research Framework

Note:
⟶ = High growth firm (D=1)
- - - -▶ = Low growth firm (D=0)
MWON = managerial ownership
FCF = free cash flow
INST = internal institutional ownership
DEBT = debt policy

3. Research Methods

3.1. Sample and Data

This research uses secondary data. The data collected from financial statements for periods of analysis of 1995 – 2003. Sources of data are Jakarta Stock Exchange library, Indonesian Capital Market Directory (ICMD), and Indonesian Securities Market Database (ISMD) Gadjah Mada University. This research employs 147 listed firms from Jakarta Stock Exchange (JSX) and geographically operates in Indonesia.

3.2. Operational Definition and Variables Measurement

This research employs two endogenous variables, three exogenous variables, and three control variables. Endogenous variables are:

1. Debt policy (DEBT) is proxy from long-term debt to total asset (Mahadwartha, 2004).

$$DEBT_{it} = \frac{Total.Debt_{it}}{Total.Assets_{it}}$$

2. Managerial ownership (MWON) is proxy from proportions of ownership managers' own (in percentage basis).

Three exogenous variables are use for this research based on conceptual arguments of agency theory and support by several empirical researches. Such variables are as follows:

1. Dummy low and high growth (D): this research employ interaction between dummy (D) with free cash flow variables to test growth hypothesis. D=1 for high growth firms and D=0 for low growth firms. Growth proxies from asset growth:

$$Growth.Assets_{it} = \frac{Asset_{it} - Asset_{it-1}}{Asset_{it-1}}$$

Asset data for 1994 will need to fulfill the growth level in 1995. Median of growth level will use as divider for low growth (D=0) and high growth firms (D=1).

2. Free cash flow (FCF): This study used Hackel, Livnat, and Rai (1996) modified and divided by total assets.
   MFCF = (OCR – OCO) – CEX
   MFCF = modified free cash flow
   OCR = operating cash inflows
   OCO = operating cash outflows
   CEX = capital expenditures

$$FCF_{it} = \frac{MFCF_{it}}{Total.Assets_{it}}$$

3. Internal institutional ownership (INST): Internal institutional ownership proxies from proportions of ownership internal institution own (in percentage basis).

Four control variables are use for this research based on several previously Indonesian empirical researches. Such variables are as follows:

1. Crisis period (DCrisis): Miller (1998), and Hahm and Mishkin (2000) shows that micro variables could predict crisis period in Asia with more accurate level than macro variables. Dummy crisis period proxies from 1995-1997 (D=0) and 1998-2003 (D=1). Several previous empirical researches in Indonesia such as Mahadwartha (2002a), Mahadwartha (2002b), Mahadwartha (2003), Mahadwartha and Hartono (2002), Tandelilin (2003), and Mahadwartha (2004) support the use of crisis period as control variable.
2. Firm size (SIZE): Gaver and Gaver (1993), Tandelilin (2003), and Mahadwartha (2004) show a positive relationship between size and debt policy. Size proxies as follows:

$$SIZE_{it} = \frac{Fixed.Assets_{it}}{Total.Asset_{it}}$$

3. Dividend policy (DIV): dividend payout ratio proxies with dummy variable (D=1 for paying dividend; and D=0 for non-paying dividend). Tandelilin (2003), and Mahadwartha (2004) showed significant relationship of dividend with debt policy. As one of control mechanism for agency conflict, dividend supposedly has substitutive relationship with debt policy (balancing of agency theory).
4. Return on Asset (ROA): Bathala, Moon dan Rao (1994), and Ismiyanti and Hanafi (2004) examine the relationship of return on asset to debt policy and found a significant relationship. This research uses ROA as control variables on managerial ownership. This research argues that managers' will concern on return on asset rather than return on equity (shareholders side) as agency theory assume self interest behavior in managers actions.

$$ROA_{it} = \frac{Net.Income_{it}}{Total.Asset_{it}}$$

3.3. Methods of Analysis

This research uses three stage least squares (3SLS) to test the relationship of endogenous and exogenous variables. Three-stage least squares (3SLS) is the two stage least squares (2SLS) version of the Seemingly Unrelated Regression (SUR) method. It is an appropriate technique when right-hand side variables correlated with the error terms, and there is both heteroskedasticity, and contemporaneous correlation in the residuals. 3SLS require the problems identification for research equation (Gujarati, 2003: 735). Wald test also implement to test the differences between coefficient of free cash flow to debt policy and the interaction coefficient of free cash flow with growth level. Wald test will confirm the hypothesis H1b.

The research equations are:

Equation 1:

$$DEBT_t = \alpha_1 + \beta_{11}FCF_t + \beta_{12}FCF_t * D + \beta_{13}MOWN_t + \beta_{14}INST_t + \beta_{15}SIZE_t + \beta_{16}DcCrisis_t + \beta_{17}DIV_t + \varepsilon_t$$

Equation 2:

$$MOWN_t = \alpha_2 + \beta_{21}DEBT_t + \beta_{22}DIV_t + \beta_{23}SIZE_t + \beta_{24}DCrisis_t + \beta_{25}ROA_t + \beta_{26}INST_t + \varepsilon_t$$

Identification problem conduct as follows:

K = all variables from the equation (endogenous and exogenous) including control variables (total of eight variables).

k = variables on the equation;
Equation 1: k = DEBT, FCF, D, MOWN, INST, SIZE, DCrisis, and DIV;
Equation 2: k = MOWN, DEBT, DIV, SIZE, DCrisis, ROA, and INST.

m = endogenous variable = DEBT, and MOWN.

The rules for identification problems:
$K - k \geq m - 1$: over identified
$K - k = m - 1$: exactly identified
$K - k \leq m - 1$: unidentified

Results from identification problems:
Equation 1: $9 - 8 = 2 - 1$; exactly identified
Equation 2: $9 - 7 \geq 2 - 1$; over identified

As the two equations are exactly and over identified then 2SLS can be employ on these equations properly.

4. Result and Discussion

Table 1 shows a descriptive of nine endogenous and exogenous variables that shape the 3SLS regression. Hundreds and forty-seven (147) samples were included with total 1323 observations from 1995 until 2003. Internal institutional ownership has the highest mean than other main variables. This result suggests that internal institutional ownership is the majority in Indonesia listed firms. Majority of the observation have negative free cash flow, and more than 50% debt ratio.

Table 1. Descriptive Statistics

Samples are 147 listed firms in Jakarta Stock Exchange from 1995 – 2003. Nine endogenous and exogenous variables will be included in Three Stage Least Square regression (including four control variables).

Variables	Mean	Standard Deviation	Standard Error of Mean
DEBT	0.631382	0.294969	0.008110
MOWN	0.006233	0.023872	0.000656
FCF	-0.387535	0.393609	0.010821
D	0.053666	0.225442	0.006198
INST	0.642958	0.201757	0.005547
Control Variables			
DCRISIS	0.666667	0.471583	0.012965
DIV	0.578231	0.494029	0.013582
SIZE	0.581672	0.537825	0.014786
ROA	0.016481	0.129043	0.003548

Note:
DEBT = debt policy
MOWN = managerial ownership
FCF = free cash flow
D = dummy for low and high growth firms
INST = internal institutional ownership
Control Variables:
DCRISIS = dummy crisis period (D=0; 1995-1997, and D=1; after 1997)
DIV = dividend policy
SIZE = size of the firm
ROA = return on assets

Table 2. Regression Result for 3SLS

Two equation are examine using 3SLS which much more powerfull than 2SLS. Identification problems were conduct and support the use of 3SLS.

Variables	Coefficient	t-Statistic	
Equation 1: DEBT			
Coefficient	0.868888	24.32590	***
FCF	0.008590	0.432512	
FCF*D	-0.718154	-4.194948	***
MOWN	-1.055258	-1.845578	*
INST	-0.075442	-1.817699	*
SIZE	-0.028828	-2.062239	**
DCRISIS	-0.017765	-0.923167	
DIV	-0.272830	-15.31577	***
R^2	15.5%		
Adjusted R^2	15%		
Equation 2: MOWN			
Coefficient	0.036208	11.01414	***
DEBT	-0.006309	-2.454866	**
DIV	-0.003109	-1.895820	*
SIZE	-0.000353	-0.299297	
DCRISIS	-0.004730	-2.986053	***
ROA	-0.003932	-0.699362	
INST	-0.032305	-10.26630	***
R^2	8.5%		
Adjusted R^2	8.1%		

Significant level: ***) 1%; **) 5%; and *) 10%

This result also suggests that listed firms in Indonesian have small portions of share hold by managers. Internal institutional ownership on the other hand owned more than 50% of ownership. This result supports Mahadwartha (2004) that argues internal institutional ownership as majority shareholders and hold superior control of manager's actions.

The Three Stage Least Square (3SLS) regression result will show in Table 2. Table 2 divides into two panels, which represent equation one and two for 3SLS.

Free cash flow have positive coefficient but insignificant. Hypothesis 1a (H1a) said that free cash flow would positively affect debt policy. High level of free cash flow will support managers' perquisites therefore; shareholders will bind the behavior using debt policy. Agency theory argues such activity as bonding mechanism on perquisites action. Debt will obligate firms (managers) to pay certain amount of their income for interest payment. The result shows practically significant positive relationship between free cash flow to debt policy but statistically insignificant.

The interaction coefficient is statistically significant and shows confirmation on hypothesis 1b (H1b). Firms with high growth level will have negative relationship on free cash flow to debt policy, but firms with low growth level will have positive relationship on free cash flow to debt policy. For high growth firm the coefficient is 0.00859 + (-0.718154) = -0.709564; which is confirm the hypothesis practically and statistically. Tabel 3 shows the differences of the coefficient between high and low growth firm on the relationship of free cash flow to debt policy. The Wald test shows significant result and support H1b hypothesis.

Table 3. Wald Test of Interaction Effect

Wald test implements to test the effect of growth level on the relationship between free cash flow to debt policy.

Null Hypothesis:	C(FCF) = C(FCF)+C(FCF*D)	
Chi-square	17.59759	***

C: coefficient
Significant level: ***) 1%; **) 5%; and *) 10%

High growth firm will need more cash flow to finance their growth both internally (in case of high level of cash flow) or externally using debt (in case of low level of cash flow). This research argues that debt will be use as bonding if the level of growth is low, and there is enough cash flow to prevent from perquisites of managers.

The result also confirms the interdependence of managerial ownership and debt policy with negative sign therefore hypothesis 2 (H2) confirms balancing of agency theory. Firms concerns on the trade off to implement control mechanism through managerial ownership structure, and debt policy. The result also shows confirmation on balancing of agency theory from the relationship of internal institutional ownership to debt policy (H3), and internal institutional ownership to managerial ownership (H4). The coefficients for both relationships are negative

and statistically significant. The result support previous empirical research such as Mahadwartha (2003), Mahadwartha and Hartono (2002), Tandelilin (2003), and Ismiyanti and Hanafi (2004).

References

1. Agrawal, A., and Mandelker, G., 1990, Large Shareholders and the Monitoring of Managers: The Case of Antitakeover Charter Amendments, *Journal of Financial and Quantitative Analysis* 25: 143-162.
2. Bathala C.T., K.P. Moon, and R.P. Rao, 1994, Managerial Ownership, Debt Policy, and the Impact of Institutional Holding: an Agency Perspective, *Financial Management*, 23, 38-50.
3. Blanchard, O. J., Lopes-de-Silanes, and Florencio, Shleifer, Andrei, 1994, What do firms do with Cash Windfalls?, *Journal of Financial Economics* 36: 337-361.
4. Chen, R.Carl and Steiner T., 1999, "Managerial Ownership and Agency Conflict: a Nonlinier Simultaneous Equation Analysis of Managerial Ownership, Risk Taking, Debt Policy, and Dividend Policy," *Financial Review*, Vol.34, 119-137.
5. Crutchley, C.E., and Hansen, R. S., 1989, A Test of the Agency Theory of Managerial Ownership, Corporate Leverage, and Corporate Dividends, *Financial Management*, 36-46.
6. Crutchley C.E., M.R.H. Jensen, J.S. Jahera Jr., and J.E. Raymond, 1999, Agency Problems and The Simultaneity of Financial Decision Making: The Role of Institutional Ownership, *International Review of Financial Analysis 8/2*, 177-197
7. Denis, D., and D. Denis, 1993, Managerial Discretion, Organizational Structure, and Corporate Performance, *Journal of Accounting and Economics 16*: 209-236.
8. Friend, I. and L.H.P. Lang, 1988, An Empirical *Test* of the Impact of Managerial Self-Interest on Corporate Capital Structure, *The Journal of Finance 43*, 271-282.
9. Gaver, J.J., and K.M. Gaver, 1993, Additional Evidence on the Association Between the Opportunity Set and Corporate Financing, Dividend, and Compensation Policies, *Journal of Accounting and Economics* 16, pp. 53-81.
10. Gujarati, Damodar N., 2003, *Basic Econometrics*, 5st International edition, McGraw-Hill International.
11. Hackel, K., S., Livnat, J., and Rai, A., 1996, A Free Cach Flow Investment Anomaly, *Journal of Accounting, Auditing and Finance*, 1-24.
12. Hahm, J.H., and Mishkin, F.S., 2000, The Korean Financial Crisis: An Symetric Information Perspective, *Emerging Market Review 1*, 21-52.
13. Ismiyanti, F. and Hanafi, M., 2004, Struktur Kepemilikan, Risiko, dan Kebijakan Keuangan: Analisis Persamaan Simultan, *Jurnal Ekonomi dan Bisnis Indonesia*, Fakultas Ekonomi Universitas Gadjah Mada.
14. Jensen, G.R., D.P. Solberg and T.S. Zorn, 1992, Simultaneous Determination of Insider Ownership, Debt and Dividend Policies, *Journal of Financial and Quantitative Analysis*, 247-263.
15. Jensen, M. C., 1986, The Agency Cost of Free Cash Flow, Corporate Finance and Takeover, *American Economic Review*, pp. 323-329.
16. Jensen, M. C., and W. H. Meckling, 1976, Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure, *Journal of Financial Economics* 3, pp. 305-60.
17. Lang, L., Ofek, E., and Stulz, R. M., 1996, Leverage, Investment, and Firm Growth, *Journal of Financial Economics* 40, 3-29.
18. Mahadwartha, P.A. (2002a), "Interdependensi antara Kebijakan Pembiayaan dengan Kebijakan Dividen: Perspektif Teori Keagenan," *Simposium 6 April 2002 Jurnal Riset Akuntansi, Manajemen, Ekonomi*, STIE – Yogyakarta.
19. Mahadwartha, P.A. (2002b), "The Association of Managerial Ownership with Dividend policy and Leverage Policy: A Logit Model," Proceeding Simposium *Surviving Strategies to Cope with The Future*, September 13th 2002, Atmajaya Yogyakarta University.
20. Mahadwartha, P.A. and Jogiyanto, H.M., (2002), "Uji Teori Keagenan dalam Hubungan Interdependensi antara Kebijakan Hutang dengan Kebijakan Dividen," *Simposium Nasional Akuntansi,* 5-6 September, Universitas Diponegoro, Semarang.
21. Mahadwartha, P.A., 2003, Predictability Power Of Dividend Policy And Leverage Policy To Managerial Ownership: An Agency Theory Perspective, *Jurnal Ekonomi dan Bisnis Indonesia* 18/3.
22. Mahadwartha, P.A., 2004, Pengawasan dan Pengikatan berbasis Kepemilikan Institusional Internal, *Gadjah Mada University*, dissertation, unpublished.
23. Miller, M.H., 1998, The Current Southeast Asia Financial Crisis, *Pasific-Basin Finance Journal 6*, 225-233.
24. Pound, J., 1988, Proxy contests and the efficiency of shareholder oversight, *Journal of Financial Economics* 20: 237-265.
25. Shleifer, A., and Vishny, R.W., 1986, Large Shareholders and Corporate Control, *Journal of Political Economy 94*, 461-488.
26. Smith, C.W. and R.L. Watts, 1992, The Investment Opportunity Set and Corporate Financing, Dividend and Compensation Policies, *Journal of Financial Economics 32/3*, 263-292.
27. Stulz, R., 1990, Managerial Discretion and Optimal Financing Policies, *Journal of Financial Economics* 26: 3-27.
28. Tandelilin, E., 2003, Analisis Interdependensi Kebijakan Leverage, Dividen dan Kepemilikan Manajerial: Perspektif Keagenan, *Working paper*, QUE Manajemen, Universitas Gadjah Mada, 1-61.

CORPORATE GOVERNANCE AND CAPITAL MARKETS: A CONCEPTUAL FRAMEWORK

Faizul Haque, Thankom Arun*, Colin Kirkpatrick**

Abstract

This paper outlines a conceptual framework of the relationship between corporate governance and two important determinants of capital market development namely, a firm's access to finance, and its financial performance. The framework assumes that a firm's corporate governance is simultaneously determined by a group of related governance components and other firm characteristics. Whilst the capital markets play a crucial role in enhancing corporate governance standards, the effectiveness and credibility of such effort might be constrained by poor firm-level corporate governance. Moreover, the cause and effect relationship can work in the opposite direction e.g. firm-level corporate governance quality can enhance both the firm's ability to gain access to finance and its financial performance, which eventually lead to capital market development. The framework is primarily based on the economic approaches to corporate governance, although it recognises part of the assumptions of the stakeholder theory and the political economy aspects of corporate governance.

Keywords: Corporate Governance, Capital Markets, Conceptual Framework

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1. Introduction

The capital market[9] of a country can exert considerable influence on the firm by imposing certain rules and regulations relating to the firm's governance practices. Whilst the legal and regulatory structures are essential, the capital market, with adequate transparency and accountability in place, can ultimately reward or punish firms for their governance practices[10] (Drobetz *et al.* 2004). The capital market can wield its governance role in mitigating the agency problems through disciplining the management and improving the firm's overall governance. Gugler *et al.* (2003) argue that the strength of a country's external capital market determines the degree of a firm's investment performance regardless of how closely managers' and owners' interests match[11].

However, the corporate governance role of the capital is less likely to be effective in a developing economy. As Iskander and Chamlou (2000) observe, the capital markets in developing countries provide little incentive for better corporate governance (either in the real sector or in the financial sector), primarily because of the dominance of a few large firms, low trading volumes and liquidity, absence of long-term debt instruments and inactivity of institutional shareholders. Moreover, the cause and effect relationship can work in the opposite direction e.g. the state of country as well as firm level corporate governance might have a significant influence on the development of the capital market. Shleifer and Vishny (1997) argue that a firm is likely to get external finance not only because of the reputation of the capital market and excessive investor optimism, but also due to assurances provided by the corporate governance system.

This paper presents a conceptual framework of the linkage between corporate governance and capital markets. It is based on a review of the theoretical and empirical literature on the influence of corporate governance on two important issues of capital market development: a firm's access to finance and financial performance. The paper is structured as follows: section 2 provides a conceptual framework of the theoretical linkage between corporate governance and capital markets. Section 3 reviews the institutional and firm-level corporate governance issues. Section 4 explains the relationship between corporate governance and the firm's access to finance. Section 5 reviews the literature on corporate governance and financial performance. Finally, section 6 concludes the paper.

2. A Conceptual Framework

This section develops a conceptual framework in relation to the influence of corporate governance on a firm's access to finance and financial performance,

[9] The terms capital market, equity market or stock market are used interchangeably in this paper.

[10] Gompers *et al.* (2003) also make a similar observation.

[11] It is, however, mentioned that the investment performance is likely to be constrained by the critical issues of transparency and disclosures.

and thus on capital market development. Figure 1 shows that a firm's corporate governance quality is largely dependent on the institutional mechanisms of a country including the political economy factors, the legal and regulatory standards and the markets. The framework however, recognises that the firm's legal compliance as well as voluntary activism in corporate governance matters, can reduce the expropriation costs in the governance process and partly compensate for the inefficiency in the institutional arrangements in a developing economy[12].

According to the economic approaches to corporate governance[13], better firm-level corporate governance not only reduces the agency costs[14], but also enhances the investors' optimism in the firm's future cash-flow and growth prospects[15]. This in turn, reduces the rate of return expected by the investors, leading to low cost of equity capital to the firm. Likewise, a reduction in the agency costs is likely to cause improved operating and investment performance of the better governed firms. The reduced cost of equity and the improved operating performance eventually enhance both the firm's ability to access equity finance, and the firm value. This eventually enhances the process of capital market development[16].

3. Institutional and Firm-Level Issues of Corporate Governance

This section discusses the relevance of the legal, regulatory and other institutions to the development of a corporate governance system. It also explains the firm-specific issues of corporate governance.

3.1. Institutional Issues of Corporate Governance

The Legal System

Whilst firms rely on external finance (e.g. equity or debt) in meeting their investment needs, the pattern of relationship between the firm as a distinct legal entity and the shareholders or creditors, tends to be determined by a complex contractual arrangement, which in turn is influenced by the legal system within which the firm operates. The legal system of a country determines the corporate governance structure in relation to the rules regarding the ownership and board structures, mergers and liquidations and shareholders' rights (Gugler *et al.* 2003; Shleifer and Vishny 1997). Similarly, debt contracts help creditors to protect and exercise their rights through liquidation or bankruptcy process (Shleifer and Vishny 1997). Nevertheless, unlike developed economies, the legal protection of the firm's external financiers (shareholders or creditors) in many developing economies tends to be very low because of the differences in interpretation in the legal systems and poor legal enforcement (Shleifer and Vishny 1997).

The Political Economy Issues

In response to the economic interests of the different stakeholders of a society, the political process creates or changes laws, and thus acts as a link between legal rules and economic outcomes (Pagano and Volpin 2005; Bebchuk and Neeman 2005). Pagano and Volpin (2005) put forward a political economy model of corporate governance based on cross-country data on political determinants of investor and employment protection. The model assumes that the political process determines the motives as well as the timing of changes in corporate laws by formalising the behaviour of voters. Bebchuk and Neeman (2005) propose a similar model to analyse how political interplay of the three different interest groups (e.g. corporate insiders, institutional shareholders and entrepreneurs) affects the level of investor protection or private benefits of control. Turnbull (1997) regards the political model as a macro framework of political, legal or regulatory systems, within which an allocation of corporate power, privileges and profits (among owners, managers and other stakeholders) takes place at a micro level.

Markets and Competition

Aside from working as a source of financing investment (Samuel 1996), a capital market tends to have both direct and indirect influence on the governance practices of the listed firms (Singh 2003). The direct governance measures include: tightening listing requirements, controlling insider dealing arrangements, imposing disclosure and accounting rules, ensuring protection of minority shareholders and attracting reputational agents (Claessens 2003; Singh *et al.* 2002). Conversely, a capital market can exert indirect influence through pricing mechanisms, which include both allocative and disciplinary measures and the takeover mechanisms (Singh 2003; Samuel 1996).

[12] Klapper and Love (2004), however, argue that better firm level governance mechanisms can improve the investors' protection to a certain degree, but firms alone cannot fully compensate for the absence of a strong legal system.

[13] See also, Drobetz *et al.* (2004); LLSV (2002); Gompers *et al.* (2003); Claessens (2003)

[14] Better governance quality reduces the agency costs to the external providers of funds in relation to their monitoring and auditing costs, and other forms of controlling shareholders' and insiders' expropriations.

[15] With better investor protection and lower expropriation by controlling shareholders, outsider investors intend to invest more or pay higher share prices in the hope that more of the firm's profits would come back to them as interest or dividends (LLSV 2002).

[16] Claessens (2003) identifies several channels, through which corporate governance frameworks affect the growth and development of economies, financial markets and firms. These include, greater access to financing, lower cost of capital, better firm performance, reducing risks of financial distress and financial crisis, and more favourable treatment of all stakeholders.

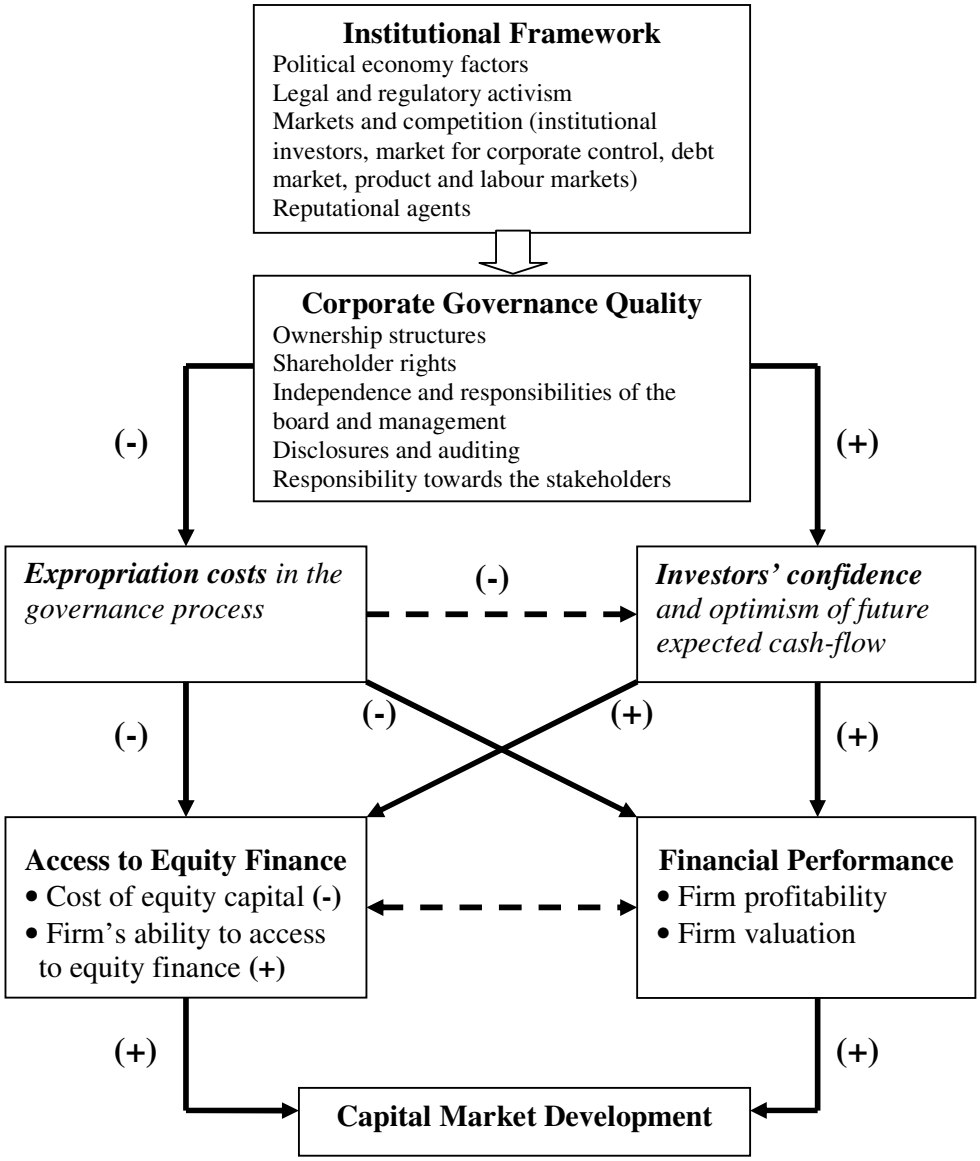

Figure 1. Corporate Governance, Access to Finance and Financial Performance: A Conceptual Framework

Tobin (1984), cited in Singh (2003), distinguishes between the two concepts of share price efficiency of the stock market namely, information arbitrage efficiency through which all currently available market information is incorporated into the share price, and fundamental valuation efficiency, where share prices accurately reflect the future discounted earnings of the firm. Singh (2003) also mentions that the stock market, with the help of the market for corporate control[17], can improve the efficiency and performance of a firm by replacing inefficient managers and transferring the firm assets to those who can manage it more efficiently.

However, several studies[18] observe that the effectiveness of the pricing (e.g. both allocative and takeover) mechanisms in a developing economy tends to remain rudimentary because of poor corporate governance associated with transparency and disclosures[19]. Alba *et al.* (1998) argue that the

[17] The market for corporate control includes hostile takeovers, management buy-outs, and leveraged buy-outs (Prowse 1994).

[18] For example, Claessens (2003); Morck *et al.* (2000); Singh (2003); Demirag and Serter (2003)

[19] Singh (2003) and Prowse (1994) criticise the takeovers mechanism as being an inherently flawed and expensive method of solving corporate governance problems. Claessens (2003) states that, in a capital market with a weak property rights environment, insider investors including the analysts, might be involved in the trading of private information available to them before it is disclosed to the public. Iskander and Chamlou (2000) also state that the signalling measure is likely to be diluted if the capital market is not transparent, investments are costly to exit and

governance role of a developing economy capital market is being constrained by an absolute family dominance, weak incentives to improve disclosure and governance, poor protection of minority shareholders, and weak accounting standards and practices. Demirag and Serter (2003) also mention that the majority of family-based business groups in developing countries appear to own and control banks (through pyramidal or complex shareholding) that act as a substitute for external capital market. Likewise, Prowse (1994) argues that the managers of firms with less reliance on external finance are unlikely to be disciplined by the capital market.

The institutional investors[20], being an important part of the capital market, tend to influence the process of corporate governance. For example, Samuel (1996) argues that institutional investors tend to be more efficient than individual investors in collecting, analysing and acting on objective, firm-specific fundamental information, and thus influence a firm's investment and other financial decisions. The Institutional Shareholders' Committee (ISC), the FRC (2003) and Mallin (2004), outline several governance roles of the institutional investors in solving the agency problems, which include (Mallin 2004): (i) engaging in dialogue with the firm based on mutual understanding of objectives, (ii) evaluating overall governance disclosures with particular emphasis on board structure and composition, (iii) evaluating and monitoring the performance relating to shareholder value and shareholder activism, (iv) exercising voting power (either direct or proxy voting) on all major corporate decisions, and (v) intervening whenever necessary, particularly in the issues like corporate and operational strategies, investment decisions, acquisition or disposal strategy, internal control mechanism, and board and management contracts.

Increased institutionalisation seems to improve the efficiency of the governance role of the capital market with which the firms are valued and governed. Samuel (1996) argues that the monitoring and disciplinary activities of institutional investors may act as a viable alternative to debt finance as well as the market for corporate control[21]. This is particularly important for developing country firms, because they appear to rely more on debt than equity. However, as Iskander and Chamlou (2000) and Samuel (1996) argue, institutional investors in developing economies generally represent only a small part of a diversified portfolio and also may not be strong enough to impose fairness, efficiency, and transparency. Therefore, the institutional investors are less likely to play a strong governance role in a developing economy.

Stiglitz (1985, cited in Prowse 1994) and Gul and Tsui (1998), argue that the debt market can mitigate the agency problem by providing the debt holders with the incentives and power to monitor and control insiders' expropriation. Shleifer and Vishny (1997) also state that the concentration of debt in the hands of few creditors tends to help the latter exercise significant cash flow as well as control rights[22], and thus reduce the firm's agency costs (by preventing the managers from investing in unworthy investment projects or extracting private benefits). It is further commented that creditors can liquidate a firm (if it is unable to run efficiently or pay its debts), acquire the assets used as collateral, and participate in the voting process on major corporate decisions[23] (e.g. reorganisation of the firm or removal of the managers). Nonetheless, irrespective of the nature of creditor rights, the effectiveness of the country's legal system seems to remain crucial.

Friedman (1953, cited in Singh *et al.,* 2002) says that perfect competition in product markets solves the associated problems of corporate governance in modern corporations including the problems of separation of ownership and control. Because competitive market would ensure natural selection through which profit maximising firms with optimal ownership patterns and corporate governance structures would survive. Gillan (2006) refers to the theoretical perspectives on the link between product market competition and different aspects of corporate governance, including compensation structure and CEO turnover. However, different researchers suggest that competition alone can not eliminate the above mentioned problems. In the real world both capital and product markets suffer from fundamental market imperfections and therefore it is easier for larger profitable firm to take over a small profitable firm than the other way around (Singh *et al.,* 2002). It is also mentioned that the probability of survival for a large unprofitable firms are relatively higher than

institutional investors are poorly governed. Others (e.g. Keynes 1936; Singh 2003) also suggest that the pricing mechanism is often dominated by speculation, herding, myopia and fad, that all weaken the capacity of the stock market to ensure the allocation of resources in a more efficient way. The real world stock prices tend to be simulated by the information arbitrage efficiency, as Keynes (1936, cited in Singh 2003) argues that successful investors anticipate the likely movements of other stock market participants rather than appreciating the fundamental values of the firm.

[20] Such as, insurance companies, pension funds, non-pension bank trusts and mutual funds

[21] However, Samuel (1996) does not find any evidence of the impact of institutional ownership on investment performance. Sarker and Sarker (2000), cited in Claessens and Fan (2002), also find no evidence that institutional investors are active in corporate governance.

[22] The relative power and domination of creditors are much higher for multiple creditors, because each of the individual creditors can take legal action against the firm, and it is reasonably difficult for the firm to renegotiate with several creditors rather than a single one (Shleifer and Vishny 1997).

[23] Creditors can use short term lending and take the equity ownership of the firm in order to be involved in the investment and other corporate decisions (Shleifer and Vishny 1997).

those for a smaller, relatively profitable firm. Likewise, Shleifer and Vishny (1997) and Kar (2000) argue that product market competition is probably the most powerful force towards economic efficiency in the world but this doesn't deny the place for the mechanisms for corporate governance.

Available literature also refers to the influence of the labour markets (for the board members, CEOs and others executives) on the firm's corporate governance. Jensen and Meckling (1976) argue that labour market forces and reputation concerns have a disciplining effect on both managers and board members. Gillan (2006) also mentions that the governance and organisational structure are associated with the employment relationship and the labor market for executives.

The reputational agents[24] can play important roles in enhancing better corporate governance. Iskander and Chamlou (2000) mention that the reputational agents can exert pressure on companies as well as government to disclose relevant information, improve human capital, recognise the interests of the outsiders, and otherwise behave as good corporate citizens.

3.2. Firm-level Corporate Governance Issues

This sub-section explains the components of firm level corporate governance, which include structure of ownership and control, shareholder rights, board and management diversity, disclosures and auditing, and responsibility towards the stakeholders.

Structure of Ownership and Control

The structure of ownership defines the nature of the principal-agent problems, e.g. the extent to which a manager's goals are closely aligned with those of the owners of a firm (Gugler *et al.* 2001; Claessens 2003). The agency problems can be mitigated through large or concentrated shareholding, because this gives investors the incentives and abilities to acquire information on the firm's operations and to monitor and control opportunistic behaviour of the manager at the expense of the firm's long term value creation activities (Shleifer and Vishny 1997; Claessens 2003). The ownership of a firm can be concentrated in the hands of different shareholders such as, family, individual or a group of individuals, foreign investors or institutions like banks, non-bank financial institutions, non-financial institutions, and the state (Shleifer and Vishny 1997). The types of shareholding tend to have different governance implications[25], since different controlling shareholders might possess different incentives, skills and abilities to monitor the activities of management and board (Prowse 1994). For example, management ownership is a popular device to reduce the agency costs since managers, as owners, are likely to act in the best interest of the firm (Tsui and Gul 2000).

Shareholder Rights and Equitable Treatment

Shleifer and Vishny (1997) mention that shareholders can exercise their basic rights by being involved in the voting process of a firm, especially on several important corporate decisions such as, election of the board of directors, and mergers and liquidations. However, the inefficiency in the legal system in many developing economies seems to cause the poor state of minority shareholder rights in relation to their participation in the governance process or receiving dividends. The presence of multiple classes of shares also causes discriminatory practices among different types of shareholders (e.g. some shareholders can exercise more voting rights than their cash-flow rights in the firm) (Claessens *et al.* 2000). Moreover, the opportunistic behaviour of the controlling board, coupled with the informational asymmetries between managers and minority shareholders, makes it difficult for the latter to exercise their rights (Caprio and Levine 2002). In spite of the possibility that a large group of small shareholders can concentrate their voting rights, it does not seem to be financially and practically feasible because of the free rider problem, where most individual shareholders are small and dispersed and are unlikely to have the motivation to organise themselves (Shleifer and Vishny 1997). In this connection, the OECD (2004) mention that a well-structured corporate governance framework and the codes of good governance might help in protecting shareholder rights and ensuring equitable treatment.

Board and Management Diversity

The board of directors and executive management are two important components of a firm's governance process. Several closely related governance issues of the board and management include the responsibility, structure and independence of the board, and the management contract.

The board seems to be an important internal mechanism for resolving the agency problems, since it is primarily responsible for recruiting and monitoring the executive management to protect the interests of the shareholders and other stakeholders. Mallin (2004) mentions that the board makes a bridge between managers and investors by taking a leadership role[26]. Mallin also suggests that an

[24] Among others, the reputational agents include, accounting and auditing professionals, lawyers, investment bankers and analysts, credit rating agencies, consumer activists, environmentalists, and the media in monitoring the performance of the firms in the process of corporate governance.

[25] Nonetheless, a country's legal structures tend to determine the power and scope of the governance role played by different types of shareholders.

[26] Available literature (e.g. Mallin 2004, McColgan 2001; Solomon *et al.* 2003) also emphasises the presence of board sub-committees such as remuneration committee, audit

evaluation of the board (or board sub-committees) can help establish performance criteria that can be used to achieve the corporate objective and to align the performance of the directors with the interest of the shareholders. A related literature also refers to board structure and independence as important governance components. Denis and McConnell (2003) regard a smaller board as an important determinant of corporate governance and firm performance. Solomon *et al.* (2003) and Tsui and Gul (2000) opine that the outside or non-executive directors play an important governance role in relation to the welfare of the investors, especially non-controlling shareholders. The presence of outside directors improves the degree of corporate accountability and creates a balance of power between the CEO and the board[27] (Denis and McConnell 2003; Ricart *et al.* 1999). Likewise, the OECD (2003) observes that independent non-executive directors can exercise impartial judgement in relation to the conflicts of interest among different stakeholders. This presence of independent non-executive directors seems to have an important implication in family-based governance, as Solomon *et al.* (2003) consider founding family dominance as a negative aspect of corporate governance[28].

The issue of CEO duality (the CEO and board chairperson being the same individual) appears to constrain board independence, because there is a possibility of conflict of interests. Daily and Dalton (1997) and Kesner and Dalton (1986) mention that separate board structure can enhance board independence and shareholder value. However, a separate board does not necessarily ensure better governance, as Daily and Dalton (1997) argue, the chairperson in a separate board structure might possess his/her own interest in the firm's governance[29]. Corporate interlocking[30] is another inter-organisational strategy for managing the resource interdependencies such as, strategic alliances, mergers and acquisitions (Ong *et al.* 2003). Whilst the presence of the same individual on the boards of several firms can create firm value, it can yield a negative influence on the firm's governance because of the potential for conflicts of interests between firms. Aside from monitoring the executive management, the board is also responsible for designing the management contract that minimises the degree of agency conflicts. Several studies (e.g. Prowse 1994; Becht *et al.* 2002; McColgan 2001) mention that a management contract aligns personal interest of the managers with that of the shareholders and provides managers with the incentives to maximise firm value. It is suggested that a value-enhancing management contract should include: basic salary components, performance-based cash bonuses and profit-based salary revisions, stock participation plan[31] (e.g. stock options), outright ownership of the firm's equity, pension rights, performance-based dismissal provisions, and long-term incentive plans.

Transparency and Accountability

Transparency and accountability[32] are two closely related issues that are crucial, not only in enhancing the disclosure and auditing standards of a firm, but also in developing the regulatory organ's capacity to monitor and discipline the firm's governance practices. Therefore, it is imperative for a firm to make its financial and non-financial information available and easily accessible to outsiders in order that everyone can make informed decisions. Effective disclosures enable existing as well as prospective investors, to evaluate the management's past performance, forecast the firm's future cash flow (Gilson 2000), and to decide whether the risk profile of a firm is within an acceptable level (Fok 2000). As Mallin (2002:253) notes, "… information to shareholders is one of the most important aspects of corporate governance, as it reflects the degree of transparency and accountability of the corporations towards its shareholders". The quality of a firm's disclosures tends to be determined by the development of the capital market and the standards of accounting and auditing practices of a country. Whilst Claessens and Fan (2002) emphasise the quality auditing and professional integrity of the external auditors, it is commented that weak enforcement of accounting and auditing standards restrains quality auditing.

Responsibility towards the Stakeholders

As mentioned earlier, an effective corporate governance system enhances corporate transparency and accountability, and maintains a balance between the shareholders' wealth maximisation and the diverse interests of various stakeholders. Kar (2000) observes that a fundamental objective of corporate governance

committee, nomination committee and risk committee, to oversee specific governance matters and to maintain transparency and accountability.

[27] Ricart *et al.* (1999), however, suggest that the quality rather than the quantity of non-executive directors is important for effective corporate governance.

[28] A non-executive director is said to be independent in his judgement, and is not at all influenced by any financial, family or other form of tie, with the company or its management (Mallin 2004).

[29] For example, the chairperson might be a firm's former CEO, or holds large shares of the firm or have a close relationship with the founding family or executive management.

[30] Ong *et al.* (2003) define board interlocking in two different ways: (i) the total number of firms in which the directors of a firm sit as the board members, and (ii) the number of total directorships held by the directors of a firm.

[31] McColgan (2001) regards the use of an equity-based management compensation plan as an effective measure to mitigate agency problems and maximise shareholder value.

[32] *Transparency* can be defined as a process by which information about existing conditions, decisions and actions is made accessible, visible and understandable, whereas *accountability* refers to the discipline and need to justify and accept responsibility for the decisions taken (Sheng 2000).

is the enhancement of shareholder value, whilst protecting the interests of other stakeholders. Mallin (2004) suggests that a preferential treatment to the shareholders[33], whilst taking into account the interests of the stakeholders, can enhance both shareholder and stakeholder values. The OECD (2004) outlines several principles of corporate governance that acknowledge the roles and rights of the stakeholders, such as the employees and society as a whole. It is stated that the stakeholders' rights as established by the legal system of the country (or through mutual agreements and co-operation), need to be recognised by a firm for maximising the well-being of its employees, creating wealth and welfare for society, and maintaining sustainability of the enterprises and financial systems. This section has reviewed the concept of corporate governance from the perspective of institutional and firm-level components. The effectiveness of corporate governance mechanisms tends to be dependent on the legal and regulatory framework of a country, variations in the market practices and regulation of the stock exchanges, and differing societal values. An appropriate governance framework requires an optimal mix of these mechanisms that in turn, can resolve corporate governance problems. However, as several studies (e.g. Prowse 1994; Tsui and Gul 2000; Cuervo 2002) suggest, the effectiveness of this optimal mix may vary depending on the institutional development of a country, its corporate governance system and the company in question.

4. Corporate Governance and Access to Finance

A related literature (LLSV 1997, 1998; Gilson 2000; Claessens 2003) observes that corporate governance influences the firm's access to external finance and capital market development through controlling the insiders' and/or controlling shareholders' expropriation, and thus enhancing the investors' confidence[34]. The firm's access to external finance seems to be influenced, among others, by the cost of capital[35] to a firm and the firm's financing (or capital structure) decisions. In this connection, this section reviews how corporate governance is linked with the firm's cost of equity capital and its financing pattern.

4.1. Corporate Governance and Cost of Equity Capital

In a fully integrated world of capital market with no transaction or agency costs, the Capital Asset Pricing Model[36] (CAPM) predicts that the cost of equity capital (or the investors' expected return on equity) only depends on the level of covariance risks of the world market portfolio, and that the country as well as firm-specific corporate governance differences, have no explanatory power (Drobetz *et al.* 2004). However, a recent literature suggests that corporate governance influences the cost of capital because of the potential for the principal-agent problems i.e. the agency costs. As Drobetz *et al.* (2004) argue, apart from the systematic risks embedded in the beta[37], corporate governance could be treated as an additional risk factor for which investors require an adequate compensation in terms of higher expected returns[38]. Therefore, the classical CAPM approach should be combined with the firm-specific corporate governance issues. Gugler *et al.* (2003) also mention that the effectiveness of the capital market in influencing the rate of return is more likely to be constrained by the critical issue of transparency and disclosures.

The summary of the empirical studies shown in Table 1 reveals that better corporate governance quality reduces a firm's cost of equity capital, which in turn enhances the firm's access to equity finance. Claessens (2003) and LLSV (2000) also support the prediction of the agency theory that better corporate governance helps firms to reduce their cost of equity capital. This is probably because outsiders are likely to provide more finance and expect lower rates of return if they are given greater assurance (through better governance) of a return on their investment. Gompers *et al.* (2003) observe that poor corporate governance provisions cause agency costs to the firms in the form of inefficient investment and other capital expenditure decisions. Singh (2003) also argues that more efficient and dynamic firms can obtain capital from the stock market at a lower cost, whereas firms with less efficiency and dynamism have to acquire capital at a higher cost.

[33] It is argued that shareholders, being the recipients of a firm's residual cash-flow, have a vested interest in the proper utilisation of the firm's resources.

[34] LLSV find the quality of investors' legal protection having significant positive effect on the valuation as well as breadth of both debt and equity markets. Claessens (2003) also considers shareholder and creditor rights important in developing the capital markets and the banking sector.

[35] For example, as Pal (2001) suggests, increased cost of capital, lack of investors' confidence and favourable bank lending rates tend to encourage firms to move away from costly equity finance to alternative cheaper sources, which ultimately lead to a decline in the activities of capital market.

[36] The Capital Assets Pricing Model (CAPM) determines the required rate of return of a firm or a project as the sum of the risk free rate of interest and the market risk premium. The market risk premium is calculated by multiplying the difference between the market return and the risk free rate of interest with the Beta of the project. Beta is the measure of the extent of systematic risk in the project e.g. the higher the beta (or systematic risks) the greater the required rate return (or cost of capital) (Parasuraman 2002).

[37] See, the CAPM approach above.

[38] Lombardo and Pagano (2002) and Drobetz *et al.* (2004) argue that expected stock returns compensate investors for their expected monitoring and auditing costs, and other forms of expropriations associated with the firm's governance process.

Table 1. Summary of the literature on the relationship between corporate governance (CG) and cost of equity capital

Author(s)	Sample (Period)	Focus of the Study	Key Findings
Black et al. (2006)	515 Korean firms (2001)	CG and firm value	* Better governed firms tend to enjoy lower cost of capital
Drobetz et al. (2004)	91 German firms (2002)	CG and stock returns	* CG is negatively related with the expected stock returns
Lombardo and Pagano (2002)	1,183 firms, 21 developed economies (1997)	Legal determinants of the return on equity	* Shareholder rights is negatively associated cost of equity capital * Accounting standards are positively linked with excess returns
Ashbaugh et al. (2004)	995 non-fin S&P 1500 firms (1996-02)	CG and cost of equity capital (COE)	* Firms with better CG have lower COE * Firms with more transparency and more independent audit committee have lower COE * Ownership concentration is positively linked with COE * Board independence and % of board that own stock are negatively linked with COE
Chen et al. (2003)	545 firm-yr obs., 9 Asian economies (2000-01)	CG and cost of equity capital (COE)	* Disclosure and non-disclosure CG have negative effect on COE * Strengthening overall CG is more important than adopting better disclosure policy

Source: Compiled by the authors based on a review of the literature

Table 2. Summary of the literature on the relationship between corporate governance (CG) and capital structure

Author(s)	*Sample (Period)*	*Focus of the Study*	*Key Findings*
Wen *et al.* (2002)	60 Chinese firms (1996-98)	CG and capital structure	* CEO tenure and outside directors are negatively linked with leverage * No evidence on the effect of board size and CEO compensation on debt ratio
Suto (2003)	375 non-fin Malaysian firms (1995-99)	CG and investment behaviour	* Ownership concentration (OC) and firm size (FS) are negatively linked with the debt ratio
Du and Dai (2005)	1,473-1,484 East Asian firms (1994-96)	Ownership and capital structure	* Controlling owners with little shareholding choose higher debt * Weak CG and crony capitalism contributes to risky capital structure
Kumar (2005)	2,000 Indian firms (1994-00)	CG and firm financing	* Firms' with dispersed shareholding have higher leverage * Firms' with higher FS and lower institutional shareholding have lower debt * No relationship between directors shareholding and debt
Jiraporn and Gleason (2005)	4,638 firm-yr obs. from IRRC (non-fin) (1993-02)	Shareholder rights and capital structure	* Firms with more restricted shareholder rights have higher leverage * Supports the view that leverage helps alleviate agency problems
Alba *et al.* (1998)	357 Thai firms (1994-97)	Corporate fin. and CG	* OC is positively linked with leverage

Source: Compiled by the authors based on a review of the literature

4.2. Corporate Governance and Firm Financing

The seminal works of Fama and Miller (1972) and Jensen and Meckling (1976) are widely credited with forwarding the agency theory-based explanation of capital structure. The definition of corporate governance also relates corporate governance with the firm's financing pattern[39]. Available literature suggests that debt finance can resolve agency problems through increased management shareholding, reduced cash-flow problems and increased probability of bankruptcy risks and job losses[40].

Several studies empirically examine how capital structure is associated with individual governance issues such as ownership and board structures or shareholder rights. The summary of literature presented in Table 2 shows that firms with higher ownership concentration or weak shareholder rights tend to have a higher level of debt finance (Alba *et al.* 1998; Jiraporn and Gleason 2005). The literature (e.g. Suto 2003; Du and Dai 2005) also suggests that the controlling shareholders' fear of diluting the shareholding dominance, along with their close links with (or increased reliance on) the banks, causes firms to have risky capital structure (e.g. higher leverage).

[39] Shleifer and Vishny (1997:737) define corporate governance "as the ways in which suppliers of finance to corporations assure themselves in getting a return on their investment".

[40] Increased debt finance and subsequent higher management shareholding appear to mitigate agency conflicts by aligning the interests of the shareholders and managers (Jensen and Meckling 1976); the obligation of paying debt along with its interest reduces free cash flow and thus restrains managers from using the free cash for non-optimal activities (Jensen 1986); debt finance increases the probability of costly bankruptcy and subsequent job losses, and thus encourages managers to work harder, consume fewer perquisites, and make better investment decisions (Grossman and Hart 1982, cited in Harris and Raviv 1991).

Table 3. Summary of the literature on the relationship between corporate governance (CG) and financial performance

Author(s)	*Sample (Period)*	*Focus of the Study*	*Key Findings*
Black *et al.* (2006)	515 firms, Korea (2001)	CG and firm value	* CG has a positive influence on firm value * Better CG is less likely to predict higher firm profitability
Drobetz *et al.* (2004)	91firms, Germany (2002)	CG and expected stock returns	* CG is positively associated with firm value and stock returns
Klapper and Love (2004)	374 firms, 14 emerging econ. (2000)	Determinants of CG and performance	* Better CG is highly correlated with better profitability and firm valuation
Gompers *et al.* (2003)	1,500 large firms (S&P) (1990s)	CG and equity prices	* Firms with stronger shareholder rights have higher firm value, higher profits and higher sales growth
Thompson and Hung (2002)	83 firms, Singapore (2001)	CG and corporate performance	* Positive relationship between ownership concentration (OC) and profitability * Both CGI and non-executive chairman are negatively associated with profitability
Gugler *et al.* (2003)	19,010 non-fin S&P firms (1996-01)	CG and investment returns	* Firms in countries with strong CG systems, strong accounting standards and strong enforcement have higher returns on investments
Gugler *et al.* (2001)	19,000 firms, 61economies (1996-01)	CG and investment returns	* Managers' shareholding and cross-shareholding are negatively linked with investment performance
LLSV (2002)	539 large firm, 27 wealthy economies	Investor Protection and Valuation	* Firms in countries with better minority shareholder protection, and firms with higher cash-flow rights by controlling owners have higher value
Yurtoglu (2000)	126 Turkish non-fin firms (1998)	Ownership, control and performance	* OC and pyramidal shareholding (PS) are negatively linked with profitability and firm value
Lemmon and Lins (2003)	800 non-fin firms, East-Asian (1997)	CG and firm value	* Firms with higher managerial control (MC) and PS have lower stock returns
Mitton (2002)	398 East Asian firms (1997-98)	CG and performance	* Disclosure quality and outside OC are positively linked with stock returns
Gedajlovic and Shapiro (2002)	334 firms in Japan (1986-91)	Ownership and profitability	* Positive association between OC and profitability
Hovey *et al.* (2003)	100 firms, China (1997-99)	Valuation and ownership	* No relationship between OC and firm value * Institutional shareholding is positively linked with firm value
Alba *et al.* (1998)	357 firms, Thailand (1994-97)	Corporate financing and CG structure	* Firms with higher OC have lower profitability
Claessens (1997)	287-1,198 Czech and Slovak firms (1992-93)	CG and equity prices	* OC and domestic shareholding is positively related with firm value * Bank-sponsored investment funds is not related with prices
Farrer and Ramsay (1998)	180 firms, Australian (1995)	Directors' ownership and performance	* Positive link between directors' shareholding (DS) and performance, although to some extent, inconclusive
Morck *et al.* (1988)	370 firms, Fortune500 (1980)	Management ownership and firm value	* Non-monatomic relationship between firm value and DS * Family managed older firms have lower value than outsider managed firms
Bøhren and Ødegaard (2003)	1,057 firms in Norway (1989-97)	CG and performance	* Insider ownership (IO) improves valuation unless the stake is unusually big * Direct (individual) own. is better than indirect (or institutional) ownership * OC, dual-class shares and board size (BS) are negatively liked with firm value
Agarwal and Knoeber (1996)	Forbes 800 firms (1987)	Performance and control	* Presence of non-executive directors is negatively linked with firm value * Relationship between IO and firm value is inconclusive
Kiel and Nicholson (2003)	348 firms, Australia (1996)	Board comp. and Performance	* BS and non-executive directors are positively related with firm value
Ong *et al.* (2003)	295 firms, Singapore (1997)	Board interlocks	* BS and profitability are positively linked with board interlocks
Craven and Marston (1997)	325 top UK firms	Investor relations and CG	* Investor relations activities are positively linked with non-executive chairman, but not related with non-executive directors
Brickley *et al.* (1997)	737 large US firms (1988)	Separation of CEO and Chairman	* No evidence that CEO duality has inferior performance * Cost of dual leadership is higher in large firms

Source: Compiled by the authors based on a review of the literature

The literature on the association between corporate governance and the firm's equity finance appears to be limited. Shleifer and Vishny (1997) argue that the presence of large investors (such as, family or banks) might have a negative effect on equity financing because of the possibility of expropriation of minority shareholders' rights, which prevents the latter from investing in the capital market. Gugler *et al.* (2003) and Gilson (2000) also argue that good governance practices associated with better accounting standards and credible disclosures, seem to influence higher equity investment, regardless

of a country's legal institutions[41]. Overall, the evidence suggests that firms with poor governance quality are inclined to have a higher level of financial leverage.

This section considered the influence of corporate governance on the cost of equity capital and the financing pattern of a firm. The next section reviews available literature on the relationship between corporate governance and financial performance.

5. Corporate Governance and Financial Performance

There seems to be a growing disagreement amongst researchers on whether corporate governance components should be analysed together rather than separately. Whilst a majority of corporate governance literature centres on individual governance components, a recent literature is based on corporate governance index or rating, considering all related issues of corporate governance. Table 3 summarises the empirical studies on how individual governance components (e.g. ownership structures, shareholder rights, board and management diversity and disclosure quality) and overall governance standards (e.g. corporate governance index) are associated with the firm's valuation as well as operating performance.

The table shows that the empirical evidence of the influence of individual corporate governance mechanisms[42] on financial performance is highly inconclusive[43]. Whilst several studies (for example, LLSV 2002) find a positive relationship between ownership concentration and financial performance, and thus support the prediction of the agency theory, others (e.g. Hovey *et al.* 2003) find inconsistent or contrasting evidence in this regard. Among others, Bøhren and Ødegaard (2003) support the notion of the agency theory with respect to the negative relationship between outside (e.g. institutional, foreign or state) ownership concentration and firm performance. However, Mitton (2002) finds institutional and outside ownership concentration being positively associated with financial performance. Also, the influence of family as well as board and management ownership on firm performance tends to be indecisive (Morck, *et al.* 1988).

The table also shows that that the empirical relationships between different board and management issues (e.g. board size, board interlocks and CEO duality) and financial performance are largely inconsistent[44]. A related literature (e.g. LLSV 2002; Gugler *et al.* 2003) supports the prediction of the agency theory in relation to the positive influence of investors' legal protection on financial performance. Mitton (2002) also finds disclosure quality having a positive influence on firm performance.

A growing body of recent literature[45] combines all related corporate governance components (e.g. corporate governance index or rating) to investigate a firm's overall governance quality. These studies support the prediction of the agency theory in relation to the positive influence of corporate governance quality on valuation as well as profitability of the firm. Claessens (2003) argues that better corporate governance can enhance firm value as well as operational performance, through more efficient management, better allocation of assets, better stakeholder management and other improved mechanisms.

6. Conclusions

The paper outlined a conceptual framework of the relationship between corporate governance and two important determinants of capital market development namely, a firm's access to finance, and its financial performance. Although the capital market plays a crucial role in enhancing corporate governance standards, it was revealed that the effectiveness and credibility of such effort might be constrained by poor firm-level corporate governance.

The framework is based on the assumption that a firm's corporate governance is simultaneously determined by a group of related governance components and other firm characteristics. Therefore, all of these factors need to be considered together (rather than taking a single component like ownership or board) to capture a holistic picture.

Whilst the framework is primarily based on the economic approaches to corporate governance (e.g. the agency theory and the internal governance structures), it recognises part of the assumptions of the stakeholder theory in relation to a firm's responsibility towards the stakeholders. Moreover, the political economy model's assumption of the influence of the political interplay of powerful interest

[41] Gugler *et al.* (2003), however, acknowledge that the existence of strong accounting standards alone is not sufficient to produce a strong external capital market for equity.

[42] Available literature (e.g. Klapper and Love 2004; McGuire 2000; Thompson and Hung 2002; Craven and Marston 1997; Kiel and Nicholson 2003; Cremers and Nair 2003) also suggests that corporate governance is influenced by several firm-specific characteristics including, growth opportunities, intangibility of assets, firm size, profitability and capital structure pattern.

[43] In response to these inconclusive findings, Farrer and Ramsay (1998) argue that the empirical evidence appears to be varied depending on the performance measures used, the firm size, the type of industry in which the firm operates, whether directors are executive or non-executive, or whether director share ownership is measured in dollar value or as a percentage of the firm's total outstanding shares.

[44] See Kiel and Nicholson (2003); Bøhren and Ødegaard (2003); Craven and Marston (1997); Thompson and Hung (2002)

[45] For example, Gompers *et al.* (2003); Black *et al.* (2006); Drobetz *et al.* (2004); Klapper and Love (2004)

groups is acknowledged. Altogether, it was explained that firm-level corporate governance quality can enhance both the firm's ability to gain access to finance and its financial performance, which eventually lead to capital market development.

References

1. Agrawal, A. and Knoeber, C. R. (1996) Firm Performance and Mechanisms to Control Agency Problems between Managers and Shareholders. *Journal of Financial and Quantitative Analysis*, 31 (3), pp. 377-397.
2. Alba, P., Claessens, S. and Djankov, S. (1998) Thailand's Corporate Financing and Governance Structures: Impact on Firm's Competitiveness. *Proceedings of the Conference on 'Thailand's Dynamic Economic Recovery and Competitiveness'*, May 20-21, 2006, UNCC, Bangkok. Retrieved on January, 26, 2006, from: http://wb-cu.car.chula.ac.th/papers/corpgov/wps2003.pdf
3. Ashbaugh, H., Collins, D. W. and LaFond, R. (2004) Corporate Governance and the Cost of Equity Capital. Paper presented at Emory, University of Iowa. Retrieved on January, 26, 2006, from: http://w4.stern.nyu.edu/accounting/docs/speaker_papers/fall2004/Hollis_Ashbaugh_10-20-04-nyu-emory.pdf
4. Bebchuk, L. and Neeman, Z. (2005) A Political Economy Model of Investor Protection, Incomplete Working Draft, Retrieved October 13, 2005, from http://www.law.nyu.edu/clep/Bebchuk1.pdf
5. Becht, M., Bolton, P. and Roell, A. (2002) Corporate Governance and Control. ECGI Working Paper Series in Finance No. 02/2002. Retrieved on January, 26, 2006, from: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=343461
6. Black, B. S., Jang, H. and Kim, W. (2006) Does Corporate Governance Predict Firm's Market Value? Evidence from Korea. *Journal of Law, Economics, and Organization*, 22 (2), Fall.
7. Bøhren, Ø. and Ødegaard, B. A. (2003) Governance and Performance Revisited. Norwegian School of Management BI, Unpublished Working Paper. Retrieved on December 15, 2004, from: http://finance-old.bi.no/~bernt/governance_performance
8. Brickley, J.A., Coles, J. L. and Jarrell, G. (1997) Leadership Structure: Separating the CEO and Chairman of the Board. *Journal of Corporate Finance*, 3, pp. 189-220.
9. Caprio, G. Jr. and Levine, R. (2002) Corporate Governance and Finance: Concepts and International Observations. In: R. E. Litan, M. Pomerleano and V. Sundararajan (eds), *Building the Pillars of Financial Sector Governance: The Roles of the Private and Public Sectors*. Washington, D.C.: Brookings Institution Press, pp. 17-50.
10. Chen, K. C. W., Chen, Z. and Wei, K. C. J. (2003) Disclosure, Corporate Governance, and the Cost of Equity Capital: Evidence from Asia's Emerging Markets. *Proceedings of the 3rd Asian Corporate Governance Conference*, Korea University and the Hong Kong University of Science and Technology. Retrieved on December 15, 2005, from: http://biz.korea.ac.kr/~aicg/data/cp3/cgcoc_paper_2003-05-10.pdf
11. Claessens, S. (1997) Corporate Governance and Equity Prices: Evidence from the Czech and Slovak Republics. *Journal of Finance*, 52 (4), pp. 1641-1658.
12. Claessens, S. (2003) Corporate Governance and Development: Review of the Literatures and Outstanding Research Issues. *Proceedings of the Global Corporate Governance Forum Donors Meeting*, March 13, The Hague, The Netherlands.
13. Claessens, S. and Fan, J. P. H. (2002) Corporate Governance in Asia: A Survey. *International Review of Finance*, 3, pp. 71-103.
14. Claessens, S., Djankov, S. and Lang, L. (2000) The Separation of Ownership and Control in East Asian Corporations. *Journal of Financial Economics*, 58, pp. 81-112.
15. Craven, B. M. and Marston, C. L. (1997) Investor Relations and Corporate Governance in Large UK Companies. *Corporate Governance: An International Review*, 5 (3), pp. 137-151.
16. Cremers, K. J. M. and Nair, V. B. (2003) Governance Mechanisms and Equity Prices. Working Paper No. 03-15, International Centre for Finance, Yale School of Management, USA.
17. Cuervo, A. (2002) Corporate Governance Mechanisms: A plea for Less Code of Good Corporate Governance and More Market Control. *Corporate Governance: An International Review*, 10 (2), pp. 84-93.
18. Daily, C. M. and Dalton, D. R. (1997) Separate but not Independent: Board Leadership Structures in Large Corporations. *Corporate Governance: An International Review*, 5 (3), pp. 126-136.
19. Demirag, I. and Serter, M. (2003) Ownership Patterns and Control in Turkish Listed Companies. *Corporate Governance: An International Review*, 11 (1), pp. 40-51.
20. Denis, D.K. and McConnell, J. J. (2003) International Corporate Governance. ECGI Working Paper Series in Finance No. 05/2003.
21. Drobetz, W., Schillhofer, A. and Zimmermann, H. (2004) Corporate Governance and Expected Stock Returns: Evidence from Germany. *European Financial Management*, 10 (2), pp. 267-293.
22. Du, J. and Dai, Y. (2005) Ultimate Corporate Ownership Structures and Capital Structures: Evidence from East Asian Economies. *Corporate Governance: An International Journal*, 13 (1), pp. 60-71.
23. Fama, E. F. and Miller, M. H. (1972) *The Theory of Finance*. New York: Holt, Rinehart, and Winston.
24. Farrer, J. and Ramsay, I. M. (1998) Director Share Ownership and Corporate Performance – Evidence from Australia. *Corporate Governance: An International Review*, 6 (4), pp. 233-248.
25. Fok, L. (2000) The Relationship between Disclosure and Governance. *Proceedings of the Asian Roundtable on Corporate Governance*, OECD. Retrieved on December 15, 2004, from: http://www.oecd.org/dataoecd/7/27/1931404.pdf
26. FRC (2003) The Combined Code on Corporate Governance. The Financial Reporting Council, Department of Trade and Industry, London. Retrieved on December 15, 2004, from: http://www.frc.org.uk/asb/publications/
27. Gedajlovic, E. and Shapiro, D. M. (2002) Ownership Structure and Firm Profitability in Japan. *Academy of Management Journal*, 45 (3), pp. 565-576.
28. Gilson, R. J. (2000) Transparency, Corporate Governance and Capital Markets. *Proceedings of the Latin American Corporate Governance Roundtable,*

São Paulo, Brazil, 26-28, April. Retrieved on December 15, 2004, from: http://www.oecd.org/dataoecd/55/45/1921785.pdf
29. Gompers, P. A., Ishii, J. and Metrick, A. (2003) Corporate Governance and Equity Prices. *Quarterly Journal of Economics*, 118 (1), pp. 107-155.
30. Grossman, S. J. and Hart, O. (1982) Corporate financial structure and managerial incentives. In: J. McCall, (ed.), *The Economics of Information and Uncertainty*. Chicago: University of Chicago Press.
31. Gugler, K., Mueller, D. C. and Yurtoglu, B. B. (2001) Corporate Governance, Capital Market Discipline and the Returns on Investment. Discussion Paper FS IV 01-25, Wissenschaftszentrum Berlin, Retrieved on December 15, 2004, from: http://skylla.wz-berlin.de/pdf/2001/iv01-25.pdf
32. Gugler, K., Mueller, D. C. and Yurtoglu, B. B. (2003) The Impact of Corporate Governance on Investment Returns in Developed and Developing Countries. *The Economic Journal*, 113 (November), pp. F511-F539.
33. Gul, F. A. and Tsui, J. (1998) A Test of the Free Cash Flow and Debt Monitoring Hypotheses: Evidence from Audit Pricing. *Journal of Accounting and Economics*, 24 (2), pp. 219-237.
34. Harris, M. and Raviv, A. (1991) The Theory of Capital Structure. *Journal of Finance* 46(1), pp. 297-355.
35. Hovey, M., Li, L. and Naughton, T. (2003) The Relationship Between Valuation and Ownership of Listed Firms in China. *Corporate Governance: An International Review*, 11 (2), pp. 112-121.
36. Iskander, M. R. and Chamlou, N. (2000) Corporate Governance: A Framework for Implementation. The World Bank, Washington DC.
37. Jensen, M.C. (1986) Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. *American Economic Review*, 76, pp. 323-329.
38. Jensen, M.C. and Meckling, W. (1976) Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3 (4), pp. 305-360.
39. Jiraporn, P. and Gleason, K. C. (2005) Capital Structure, Shareholder Rights, and Corporate Governance. Retrieved on December 27, 2005, from: http://ssrn.com/abstract=792604
40. Kar, P. (2000) Corporate Governance and the Empowerment of the Investors. *Proceedings of the 2nd Asian Corporate Governance Round Table Discussion*, ADB/OECD/World Bank. Retrieved on March 20, 2005, from: http://www.oecd.org/dataoecd/5/50/1930766.pdf
41. Kesner, I. F. and Dalton, D. R. (1986) Boards of Directors and the Checks and (Im)balances of the Corporate Governance. *Business Horizons*, 29 (5), pp. 17-23.
42. Keynes, J.M. (1936) *The General Theory of Employment, Interest and Money*. New York: Harcourt, Brace & Co.
43. Kiel, G. C. and Nicholson, G. J. (2003) Board Composition and Corporate Performance: How the Australian Experience Informs Contrasting Theories of Corporate Governance. *Corporate Governance: An International Review*, 11 (3), pp. 189-205.
44. Klapper, L. F. and Love, I. (2004) Corporate Governance, Investor Protection, and Performance in Emerging Markets. *Journal of Corporate Finance*, 10, pp. 703-728.
45. Kumar, J. (2005) Corporate Governance Mechanisms and Firm Financing in India. Proceedings of the International Conference on Emerging Securities Market: Challenges and Prospects, The Securities Exchange Board of India (SEBI) and the ICFAI University, Mumbai. Retrieved on March 20, 2006, from: http://ideas.repec.org/p/wpa/wuwpfi/0502003.html#download
46. La Porta, L., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R. (2002) Investor Protection and Corporate Valuation. *Journal of Finance*, 57, pp. 1147-1170.
47. La Porta, L., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R. (1998) Law and Finance. *Journal of Political Economy*, 106, pp. 1113-1155.
48. La Porta, L., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R. (1997) Legal Determinants of External Finance. *Journal of Finance*, 52 (3), pp. 1131-1150.
49. La Porta, L., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R. (2000) Investor Protection and Corporate Governance. *Journal of Financial Economics*, 58, pp. 3-27.
50. Lemmon, M. L. and Karl, V. L. (2003) Ownership structure, corporate governance, and firm value: evidence from the East Asian financial crisis. *The Journal of Finance*, 58, pp. 1445-1468.
51. Lombardo, D. and Pagano, M. (2002) Legal Determinants of the Return on Equity. Stanford Law and Economics Olin Working Paper No. 193, Retrieved on June 25, 2005 from: http://ssrn.com/abstract=209310
52. Mallin, C. (2002) The Relationship Between Corporate Governance, Transparency and Financial Disclosure (Editorial). *Corporate Governance: An International Review*, 10, pp. 253-255.
53. Mallin, C. A. (2004) *Corporate Governance*. New York: Oxford University Press.
54. McColgan P. (2001) Agency Theory and Corporate Governance: A review of the literature from a UK perspective. Working Paper No. 06/0203, Department of Accounting and Finance, University of Strathclyde, UK.
55. McGuire, J. (2000) Corporate Governance and Growth Potential: An Empirical Analysis. *Corporate Governance: An International Review*, 8 (1), pp. 32-42.
56. Mitton, T. (2002) A Cross-firm Analysis of the Impact of Corporate Governance on the East Asian Financial Crisis. *Journal of Financial Economics*, 64, pp. 215-241.
57. Morck, R, Yeung, B. and Yu, W. (2000) The Information Content of Stock Markets: Why Do Emerging Markets Have Synchronous Stock Price Movements? *Journal of Financial Economics*, 58, pp. 215-260.
58. Morck, R., Shleifer, A. and Vishny, R. (1988) Management Ownership and Market Valuation: An Empirical Analysis. *Journal of Financial Economics*, 20, pp. 293-315.
59. OECD (2003) *Corporate Governance in Asia*, OECD White Paper. The OECD, France.
60. OECD (2004) *OECD Principles of Corporate Governance*, The OECD, France.
61. Ong, C, Wan, D. and Ong, K. (2003) An Exploratory Study on Interlocking Directorates in Listed Firms in Singapore. *Corporate Governance: An International Review*, 11 (4), pp. 323-333.
62. Pagano, M. and Volpin, P. F. (2005) The Political Economy of Corporate Governance, *The American Economic Review*, September, pp. 1005-1030.

63. Pal, P. (2001) Stock Market Development and Its Impact on the Financing Pattern of the Indian Corporate Sector. Research Paper, National Stock Exchange of India. Retrieved on March 25, 2004, from: http://www.eldis.org/static/DOC11467.htm
64. Parasuraman, N. R. (2002) Ascertaining the divisional Beta for project evaluation – the Pure Play Method: A discussion. *The Chartered Accountant*, November, pp. 546-549.
65. Prowse, S. (1994) Corporate Governance in an International Perspective: a survey of corporate control mechanisms among large firms in the United States, the United Kingdom, Japan and Germany. BIS Economic Papers No. 41 (July), Bank for International Settlements, Basle.
66. Ricart, J. E., Álvarez, J. L. and Gallo, M. A. (1999) Corporate Governance for Effective Leadership: The Case of Spain. *Corporate Governance: An International Review*, 7 (3), pp. 266-285.
67. Samuel, C. (1996) Stock Market and Investment: Governance Role of the Market. Policy Research Working Paper No. 1578, The World Bank, Washington DC.
68. Sarker, J. and Sarker, S. (2000) Large Shareholder activism in Corporate Governance in Developing Countries: Evidence from India. *International Review of Finance*, 1, pp. 161-194.
69. Sheng, A. (2000) Transparency, Accountability and Standards in Global Markets. *Proceedings of the OECD 2nd Asian Roundtable on Corporate Governance*, Retrieved on March 25, 2004, from: http://www.oecd.org/dataoecd/6/30/1930855.pdf
70. Shleifer, A. and Vishny, R. W. (1997) A survey of Corporate Governance. *Journal of Finance*, 52 (2), pp. 737-783.
71. Singh, A. (2003) Corporate Governance, Corporate Finance and Stock Markets in Emerging Countries. Working Paper No. 258, ESRC Centre for Business Research, University of Cambridge, UK.
72. Singh, A., Singh, A. and Weisse, B. (2002) Corporate Governance, Competition, the New International Financial Architecture and Larger Corporations in Emerging Markets. Working Paper No. 250, ESRC Centre for Business Research, University of Cambridge, UK
73. Solomon, J. F., Lin, S. W., Norton, S. D. and Solomon, A. (2003) Corporate Governance in Taiwan: Empirical Evidence from Taiwanese Company Directors. *Corporate Governance: An International Review*, 11 (3), pp. 235-248.
74. Stiglitz, J. E. (1985) Capital Markets and the Control of Capital. *Journal of Money, Credit and Banking*, 17 (2), pp. 133-52.
75. Suto, M. (2003) Capital Structure and Investment Behaviour of Malaysian Firms in the 1990s: A Study of Corporate Governance before the Crisis. *Corporate Governance: An International Review*, 11 (1), pp. 25-39.
76. Thompson, P. and Hung, A.C. (2002) Cracking the Singapore Code of Corporate Governance: A Step Towards World-Class Corporate Governance and Superior Performance. Research Paper Series No. 09, Centre for Europe-Asia Business Research (CEABuR), Nottingham University Business School, United Kingdom.
77. Tobin, J. (1984) On the Efficiency of the Financial System. *Lloyds Bank Review*, July, pp. 1-15.
78. Tsui, J. and Gul, F.A. (2000) Corporate Governance and Financial Transparencies in the Hong Kong - Special Administrative Region of The People's Republic of China. *Proceedings of the 2nd Asian Roundtable on Corporate Governance*, Retrieved on March 25, 2004, from: http://www.oecd.org/dataoecd/57/58/33919929.pdf
79. Turnbull, S. (1997) Corporate Governance: Its Scope, Concerns, and Theories. *Corporate Governance: An International Review*, 5 (4), pp. 180-205.
80. Wen, Y., Rwegasira, K. and Bilderbeek, J. (2002) Corporate Governance and Capital Structure Decisions of the Chinese Listed Firms. *Corporate Governance: An International Review*, 10 (2), pp. 75-83.
81. Yurtoglu, B. B. (2000) Ownership, Control and Performance of Turkish Listed Firms. *Empirica*, 27, pp. 193-222.

STATUS DIFFERENCES AS AN IMPEDIMENT TO BUILDING ENTREPRENEURIAL RELATIONAL CAPITAL

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Abstract

We explore a potentially significant impediment facing entrepreneurial firms as they attempt to augment and utilize their relationships with other firms. Social capital has often been argued to be an alternative to contracts for governing inter-firm relationships. We extend existing research by arguing that significant differences in the quality of social capital can exist for entrepreneurial firms with similar sets of capabilities and initial structural connections to potential exchange partners. We specifically explore the influence of status differences between firms' representatives. We further discuss factors that moderate this influence. Entrepreneurial firms attempting to convert existing weak ties into strong ties with better established firms are most likely to encounter problems due to social status differences between the firms' representatives. Thus, their ability to rely on the positive aspects of social capital in governing inter-firm relationships is hampered.

Keywords: social capital, firms, contracts

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We are thankful to Bert Cannella, Mike Hitt, Elizabeth Umphress and Chris Tuggle for their feedback on earlier versions of this paper.

Introduction

Gaining access to limited resources which enable the pursuit of their endeavors is a fundamental challenge facing entrepreneurial firms (Freeman et al. 1983; Stinchcombe 1965). Entrepreneurship represents a process whereby individuals and collections of individuals creatively combine and leverage resources to develop new processes, goods or services, or entire businesses. The most successful entrepreneurs tend to be those who have an ability to leverage the limited resources their firms possess as well as procure those necessary to create a competitive advantage (Starr and Macmillan 1990). An important means enabling new ventures to conserve their own resources are inter-organizational relationships that allow access to resources of their partners (Lu and Beamish 2006). Consequently, the ability to establish and develop relationships with existing firms and potential partners can be crucial for competitive success of new ventures (Alvarez et al. 2006; Busenitz, et al. 2005). This suggests that factors which influence the breadth of opportunities for forming new inter-firm relationships are of particular importance to new firms. Moreover, factors that may limit the value of social capital as a inter-firm governance mechanism between entrepreneurial firms warrant additional theoretical explanation.

Recent research confirms that the relationships held by entrepreneurs and top managers of new ventures represent a form of social capital, which can be highly valuable due to their idiosyncratic, difficult-to-imitate nature (BarNir and Smith 2002; Bruton, et al. 2005). The notion that individual-level relationships provide access to economic opportunities is intuitively appealing and has received significant research efforts (Baron and Markman 2003).

Social capital researchers agree that relational capital (the relational dimension of social capital) is fundamental to accessing the potential benefits of firm-to-firm connections (Adler and Kwon 2002; Collins and Hitt 2006; Podolny and Baron 1997). Integral to the development of relationships between organizations is the development of a relationship between firms' boundary-spanning representatives

(Bartel 2001; Tushman 1977). Especially when firms have not previously engaged in transactions with each other, relationship development between individuals is essential.

Our emphasis is on the influence of social differences between firm representatives in the early developmental stages of firm-to-firm relationships. This focus allows us to complement prior research, which suggests that similar configurations of structural ties differ in the utility they provide (Emirbayer and Goodwin 1994; Larson 1992; Nahapiet and Ghoshal 1998; Rangan 2000). We build upon and extend prior research by Baron and Markman (2003) which identifies social competence as a contingency to the development of entrepreneurial relational capital. In a similar vein we contribute to the extant literature by identifying and elucidating the influence of status differences on the value entrepreneurial firms derive from their social ties.

A number of entrepreneurship researchers have demonstrated the positive influence of social factors on multiple desirable outcomes in the new venture context, including partnership formation, access to capital and improved long-term survival prospects (Alverez et al., 2006; BarNir and Smith 2002; Bruton, et al. 2005; Jensen 2003). Our work focuses on the negative impact social factors can have on the development of the relational capital by entrepreneurial firms. We focus on small businesses and new ventures because the negative effect of status differences is expected to be most evident in the formation of new exchange relationships when a new firm still needs to establish its trustworthiness and demonstrate its capabilities to potential partners.

The extent to which entrepreneurs and new venture top managers are successful is frequently dependent on their ability to garner and leverage their social capital resources (Bouty 2000; Bruton, et al. 2005; Busenitz, et al. 2005; Dubini and Aldrich 1991). New ventures capable of effectively leveraging social capital are more capable of integrating complementary resources to achieve a sustained competitive advantage (Collins and Hitt 2006; Hitt, et al. 2006; Lechner, Dowling and Welpe 2006). Relationships between entrepreneurs frequently develop as a result of shared experiences and through interpersonal exchanges. When entrepreneurs possess high levels of social capital with other entrepreneurs and important institutional actors outside the organization, there will also tend to be high levels of trust between these actors. This trust increases the ease of communication and cooperation between parties to an exchange. It also makes governance of the inter-firm relationships less costly. Social capital enables entrepreneurs to share information (Greve and Salaff 2003) which, in turn, accelerates knowledge transfer (Adler and Kwon 2002; Brass et al. 2004). Further, social capital is vital for the firm as it provides influence with stakeholders, is a key source of connections to the environment and essential for acquiring resources from external sources (Certo 2003; Stuart et al. 1999). Additionally, social capital is associated with higher levels of innovation within firms (Ahuja 2000; Stuart 2000; Tsai and Ghoshal 1998).

In numerous competitive contexts, entrepreneurial firms may have strong ties to a central firm, but only weak ties to most other firms. Under these circumstances, entrepreneurial firms often have not yet developed strong relationships with other potential exchange partners and have yet to establish their trustworthiness and demonstrate their capabilities to potential partners. This provides a challenge to the entrepreneurial firm for reasons unrelated to its fitness (Barabasi 2002) or legitimacy (Meyer and Rowan 1977; Pfeffer and Salancik 1978), i.e., unrelated to the firm having objectively met the general standards of acceptability.

Accordingly, our work attempts to emphasize the role of individual attributes—and the social dynamics they engender—into the realm of the development of relational capital by entrepreneurial firms. This effort is consistent with social capital's original formulations, which emphasized the importance of inter-personal relationships (Bordieu 1985; Coleman 1988). It is also compatible with the relatively recent surge of interest in factors influencing social capital's relational dimension (Joshi 2006; Kostova and Roth 2003; Labianca and Brass 2006).

Dimensions of Social Capital

The structural dimension of firm social capital basically refers to the structure of a firm's social ties as well as its position within a social structure. The relational dimension refers to the nature of the dyadic relationships between organizations derived from personal relationships between firm representatives developed through a history of interactions (Hitt, et al. 2006; Nahapiet and Ghoshal 1998). New ventures that establish strong ties to a central firm in a network typically generate numerous weak ties, yet relational qualities of these ties still need to be developed.

Social network theorists almost universally recognize that social structure creates economic opportunities. The benefits of social capital originating from social network structure (Burt 1997; Shaw, et al. 2005; Zaheer and Bell 2005) have been demonstrated in numerous organizational settings including: new alliance formation and subsequent inter-firm relationships (Gulati 1995a, b), network formation and industry growth (Walker, Kogut and Shan 1997), knowledge transfer, innovation and firm performance (Ahuja 2000; Burt 1997; Haunschild and Beckman 2002; Reagans and McEvily 2003; Stuart 2000; Tsai 2001).

Yet there seems to be agreement that even though firms may be identical in terms of the structural dimension of their social capital, the value they derive from their ties may vary substantially. Some researchers argue that although two actors may

occupy equivalent positions in similar configurations of connections, they may engage in significantly different actions and utilize connections quite differently (Emirbayer and Goodwin 1994; Nahapiet and Ghoshal 1998). In support of this view research by Baron and Markman (2003) demonstrates that social competence represents a contingency to the value entrepreneurs receive from their social ties. Specifically, the results of their study suggest that entrepreneurs' accuracy in perceiving others, as well as social adaptability increase the value derived from the social ties entrepreneur possess. We extend the work of Baron and Markman in this paper by identifying status differences among social actors as an additional contingency to the value social actors derive from their existing social ties.

Larson's (1992) research, in particular, underscores the effect of social forces such as behavioral expectations and personal relationships on the development of dyadic firm-level exchange relationships. She argues that while economic rationales for exchange are obviously important in the development of exchange relationships, social factors are also integral to this process. In fact, a number of entrepreneurship researchers have demonstrated the positive influence of social factors on multiple desirable outcomes in the new venture context, including partnership formation, access to capital and improved long-term survival prospects (Alverez et al. 2006; BarNir and Smith 2002; Bruton, et al. 2005; Jensen 2003).

The Human Condition

The tendency to make comparisons and draw distinctions between one's self and others is nearly universal in societies, organizations and networks (Chattopadhyay et al. 2004; Konrad and Gutek 1987). Individuals tend to classify themselves and others into social categories (Tajfel 1978; Tajfel and Turner 1986; Turner 1987). People perceive themselves and similar others as a positively valued in-group, while they perceive dissimilar others as a less valued out-group (Chattopadhyay et al. 2004). Similarity among firms' representatives is likely to produce trust between these representatives; lack of similarity is likely to cause, at least initially, a lack of trust between them (Brewer 1981; Burt 1992). Likewise, out-groups or dissimilar people are more likely to be the target of negative behavioral expectations than in-group members (Hamilton et al. 1990). In-group versus out-group status distinctions can be drawn in any number of ways, such as social class, race, age, gender, education, religion, occupation, geographic origins and other personal characteristics.

The notion that people tend to like people who are similar to them has been demonstrated in a wide range of organizational settings (Williams and O'Reilly 1998), including organizational attraction-selection-attrition (Chatman 1991; Schneider 1987), relational demography (Tsui and O'Reilly 1989), in-group homophily (Mollica et al. 2003) and in economic exchanges between ethnic groups (Portes and Sensenbrenner 1993; Waldinger 1995). Social differences often serve as barriers to the development of any substantive interaction and relationships among people and determine whether or not those people engage in economic exchange and the development of social capital.

Effects on Entrepreneurial Relational Capital

Assuming that a given grouping of firms has developed as a natural result of competitive decisions and market conditions, firms have a significant amount of discretion regarding which other firms they choose to actually exchange resources. These exchanges require interaction between individuals serving as representatives for each organization. Bartel, (2001) and Friedman and Podolny (1992) demonstrate that these representatives in boundary-spanning roles are unlikely to be completely systematic and rational in their evaluation of potential exchange partners. Because the actions of organizations are often the direct result of individuals' actions, we place emphasis on the role of individual-level status differences in influencing the firm-level decision by an established firm of whether or not to engage in economic exchanges with an entrepreneurial firm. Any transaction that involves personal interaction will be influenced, at least partially, by individual-level social factors. That is, economic relations are embedded in social contexts (Granovetter 1985; Uzzi 1996).

The biases deeply rooted in society influence individuals' information processing, attitudes and behaviors toward other people, especially during the period in which impressions are being formed (Bargh and Chen 1996; Fazio and Jackson 1995). Individuals in boundary-spanning roles acquire information from outside their respective organizations, interpret and distribute the information and influence firm-level decisions that incorporate such information (Au and Fukuda 2002; Tushman 1977; Tushman and Scanlan 1981). Especially when these representatives are empowered with a great deal of role autonomy, such as is the case for venture founders or members of a firm's top management team, individual preferences are likely to influence firm level decisions (Bouty 2000; Perrone et al. 2003). Because these representatives play a crucial role in identifying exchange opportunities (Eisenhardt and Schoonhoven 1996), individuals in these boundary spanning positions exert a critical influence on the likelihood of established firms engaging in economic exchanges with entrepreneurial firms. As boundary-spanning representatives form impressions of other firms—in an unconscious attempt to reduce uncertainty—based to a large extent on their perceptions of the other firms' representatives, a potential barrier to exchange emerges (Certo 2003; Shrum 1990). Thus, the

preferences/biases of the representative(s) involved in the decision whether to engage in an exchange influence these firm-level decisions.

Both inter-firm and inter-personal dynamics govern the development of exchange relationships between firms (Larson 1992). Inter-firm relationships typically begin with individual relationships between the firms' representatives (boundary spanners). Although the preferences and biases are held at the individual level of boundary spanning representatives, this phenomenon directly influences firm-level actions and opportunities. Decisions regarding whether to engage in transactions with entrepreneurial firms ultimately become firm-level decisions (Larson 1992). This is because relationships between organizations cannot be developed and sustained without significant influence from individuals representing their respective firms. The relationships between individual representatives can make or break partnerships or trust between firms (Marchington and Vincent 2004: 1031). This is consistent with research findings that lower levels of trust at the individual level lead to lower levels of organizational-level trust (Currall and Inkpen 2002) and that exchange partners tend to be similar (Portes and Sensenbrenner 1993; Uzzi 1996).

We do not suggest that boundary spanners are incapable of choosing to set aside their preferences and biases, only that they will often be either unaware or unconcerned that these preferences and biases exist. In fact, it is a broadly accepted view in social cognition psychology that "social behavior often operates in an implicit or unconscious fashion" (Greenwald and Banaji 1995: 4). We argue that some of the executives of established firms will make attributions regarding entrepreneurial firms based on their evaluation of those firms' representatives. Moreover, whenever a significant difference in these representatives' status exists, the executives from established firms will be unwilling to even explore whether or not they share norms with their counterpart at the entrepreneurial firm (Greenwald and Banaji 1995). While it could be manifested in explicit behavior, this unwillingness will not necessarily be blatant or outwardly obvious to the organization represented or to potential exchange partners. These issues are likely to have the greatest influence on entrepreneurial firms when the firm is new and/or small, a period in which most entrepreneurial firms tend to occupy a relatively lower status position than more well-established firms. This effect is expected to be less problematic over time as inter-firm relationships become broadly established between numerous members of the transacting organizations.

Several studies lead to the conclusion that newcomer firms have difficulty establishing exchange relationships with established firms (Batjargal and Liu 2004; Hitt et al. 2006; Ravlin and Thomas 2005; Shane and Stuart 2002). In particular, firms making their initial entry into markets as well as young firms and smaller firms are likely to be most vulnerable to challenges to establishing strong ties with larger firms and older firms. Social dynamics between individuals representing their respective firms can also serve as obstacles to the process of developing weak ties into stronger, denser and more valuable ties. Such weak ties often characterize the networks of entrepreneurial firms during their start-up phase. For example, Batjargal and Liu (2004) found that personal relationships between individual entrepreneurs and venture capitalists have a significant direct effect on the success of their firms in acquiring financial backing. The firms in this study attracting less funding from venture capital firms were those whose founders failed to develop strong ties with venture capitalists. In addition, Shane and Stuart (2002) found that new ventures with founders having established relationships with venture investors were most likely to receive venture funding and are less likely to fail. Further, Hitt and colleagues (2006) found that the internationalization of large U.S.-based professional service firms built only indirectly on the firms' relational capital with their corporate clients. Rather, establishing foreign offices depended on the ability of individual partners to exploit firm-level social capital. Thus, the ability to successfully establish new operations in an international market was influenced by the degree to which firm-level relationships were institutionalized and the ability of key individual firm representatives to leverage positive relationships with client representatives.

Research clearly indicates that social biases lead people to assign lower status to some individuals (Ravlin and Thomas 2005). We argue that these biases affect the status established firms assign the entrepreneurial organization represented by these individuals, although there may be intervening circumstances as discussed below. In turn, the status assigned to entrepreneurial firms affects the likelihood and quality of exchange with the established firms. The explicit preferential status given in US federal government contracting to organizations owned and managed by minorities and women clearly indicates a concern that social biases hinder the development of resources and economic exchange opportunities at firms represented by members of these social groups.

Proposition 1: The greater the status differences between the boundary-spanning representatives of an entrepreneurial firm and those of its existing and potential exchange partners, the more difficulty the firm will have developing relational capital with other firms.

The extent to which entrepreneurs and new venture top managers are successful is frequently dependent on their ability to garner and leverage their relational capital resources (Bouty 2000; Busenitz, et al. 2005; Dubini and Aldrich 1991). New ventures capable of effectively leveraging relational capital are more capable of integrating complementary resources to achieve a sustained competitive advantage (Hitt, et al. 2006; Lechner et al. 2006). When entrepreneurs possess high levels of relational capital with other

entrepreneurs and important institutional actors outside the organization, there will also tend to be high levels of trust between these actors. This trust increases the ease of communication and cooperation between parties to an exchange. Relational capital enables entrepreneurs to share information (Greve and Salaff 2003) which, in turn, accelerates knowledge transfer (Adler and Kwon 2002; Brass et al. 2004). Further, relational capital is vital for the firm as it provides influence with stakeholders, is a key source of connections to the environment and essential for acquiring resources from external sources (Certo 2003; Stuart et al. 1999). Unfortunately, entrepreneurial firms' ability to effectively develop relational capital can be muted by status differences between the individuals representing the focal firm and potential exchange partners. We now turn to explaining some factors that potentially moderate this influence.

Status-Related Contingencies

The effect of social individual boundary spanners' biases affecting the likelihood and quality of exchange between organizations is contingent on a variety of conditions. Specifically, we focus on those conditions identified by previous research as salient to firm-level decisions regarding inter-firm exchange. Three moderating factors that we believe to be important to the influence of status differences are the level of uncertainty associated with potential transactions, firm representative role autonomy (e.g. boundary spanners) of the prospective and existing partner firms and the reputation developed (if any) by the entrepreneurial firm. We discuss each of these separately below.

Uncertainty Surrounding the Transaction

According to Beckman, Haunschild and Phillips (2004), the level of uncertainty faced by a firm significantly influences exchange partner choice. At the same time, uncertainty reduction is a primary motivating force for social categorization (Chattopaydhyay et al. 2004a and 2004b). Because many entrepreneurial firm representatives are likely unknown to their counterparts at more well-known firms, boundary-spanning representatives of established firms will attempt to deal with this uncertainty by categorizing the potential exchange partner's representatives. Further, under conditions of uncertainty, expectations of the established firms will be derived from those built for the potential exchange partners' representatives (Certo 2003; Shrum 1990). Thus, uncertainty regarding a potential transaction—for instance, regarding the quality of products and services of the entrepreneurial firm—is reduced by using information regarding the exchange partner's representatives. Likewise, as Kollock (1994) and Podolny (1994) have shown, trust between potential partners is an especially important predictor of whether or not an exchange occurs when uncertainty is high. Since trust between entrepreneurial firms and established firms is not yet developed, trust between individuals becomes crucial for firm-level decisions regarding potential transactions (Currall and Inkpen 2002; Larson 1992). Yet this trust is negatively affected by status differences between the boundary-spanners of the firm, as argued above.

Proposition 2: The effect of status differentials on entrepreneurial firms' ability to develop relational capital is contingent on the uncertainty surrounding new venture inter-organizational exchanges, such that the greater the uncertainty, the greater the influence of boundary spanners' status differences.

Role Autonomy of Boundary Spanners

Perrone et al., (2003) present a view of trust in boundary spanners as explained by the extent of their role autonomy. Autonomy reflects the discretion that boundary spanners have in interpreting and enacting their roles. Firm representatives will be trusted to a greater extent by potential exchange partners when they are free from constraints that limit their ability to interpret their boundary-spanning roles. Role autonomy permits boundary spanners to engage in discretionary behaviors that allow their counterparts to learn about their underlying motives and intentions and thus may limit the effect of social biases. Representatives of entrepreneurial firms who have significant latitude to interpret and implement their role as boundary spanners are expected to be more responsive to potential problems in developing trust with their counterparts (Bouty 2000). Examples of role autonomy in this setting would include the ability of the firm's representative to provide additional information about the firm and its capabilities, or the ability to modify the approach taken to build market awareness of the firm. When firm representatives utilize role autonomy to demonstrate trustworthiness, their efforts tend to be successful at eliciting trust (Perrone, et al. 2003). Therefore, the effect of individual status differences is weakened by increased role autonomy on behalf of the entrepreneurial firm representative(s).

On the other hand, the degree of role autonomy among representatives of larger and older firms in their roles as boundary spanners may strengthen the effect of individual status differences. Reduced role autonomy delimits the decision making latitude of individuals (Griffin and McMahan 1994; Perrone et al 2003) and thus the influence of individual preferences and biases on firm decisions. Increased role autonomy instead reduces the effect of organizational norms, which may have limited the influence of individual biases, on the representative's behavior.

Proposition 3: The lower the role autonomy held by boundary spanners of entrepreneurial firms, the lower the likelihood entrepreneurial firms will be able to develop relational capital with established firms.

Proposition 4: The greater the role autonomy held by boundary spanners of established firms, the lower the likelihood entrepreneurial firms will be able to develop relational capital with established firms.

Reputation Effects

The interaction between a firm's reputation and firm-level status is especially useful in considering the influence of boundary spanners' status differences. Podolny (1999) argued that firm reputation and status are complementary concepts with a positive relationship existing between firm reputation and firm status. More recently, Washington and Zajac (2005) have drawn a helpful distinction between reputation and status which provides useful insight. They argue that status is "fundamentally a sociological concept that captures differences in social rank that generate privilege or discrimination (not performance-based awards), while reputation is fundamentally an economic concept that captures differences in perceived or actual quality or merit" (Washington and Zajac 2005: 283). Whereas status-related differences between individual boundary spanners influence the development of firm-level relational capital, we expect that firm-level reputation will moderate this influence.

The status of an organization is determined by the patterns of affiliations and previous exchanges and argued to be a very strong predictor of which firms engage in exchange with each other. Overall, the firm's status and the status of its exchange partners strongly influence the perception developed by potential exchange partners of the firm's capabilities and product/service quality (Benjamin and Podolny 1999; Podolny 2001). Because newcomer firms have engaged in less previous exchanges with any partner, their status is uncertain, further limiting the development of exchange relationships. If the reputation of the entrepreneurial firm is uncertain, established firms' representatives likely assign a status to the entrepreneurial firm based on their perception of the firm's representatives, as discussed earlier.

Prior inter-firm relationships, if any, reduce uncertainty and increase the likelihood of exchange between firms. Whereas Granovetter (1985) argued that ongoing experience of exchange relationships is likely to be a key source of trust, ongoing interaction is a necessary but insufficient factor in the development of trust when firms are faced with uncertainty. A degree of risk is always present in interorganizational relationships (Kollock 1994), because both parties are potentially exposed to risks. However, firms considering exchanges with new ventures are especially exposed due to their lack of knowledge about the potential new exchange partner's capabilities and behavior. Firms with higher reputations and thus, whose product and service quality have been deemed superior, are generally expected to be reliable partners in regard to obligations, predictability of behavior and fairness in actions (Zaheer, et al. 1998; Zaheer and Venkatraman 1995). To the extent that prior inter-firm interactions help establish a perception of the quality of a firm's goods and services and thus contributes to the firm's reputation (Washington and Zajac 1995), status differentials between boundary spanners likely will be less important to new firms' ability to establish strong connections with established firms.

Since firm reputations can alternatively either enhance or reduce the possibility for economic exchange, reputation effects are particularly important for small and/or young firms (Larson 1992). Firms with better reputations tend to be favorable exchange partners (Dollinger et al. 1997; Blois 1999) because firms with positive reputations desire to protect those reputations (Houston and Johnson 2000). A common sociological perspective is that potential exchange partners reduce uncertainty in market-related behavior by predicting others' potential future behavior, based on their prior behavior (Podolny 1994; Stuart 1998). In circumstances where a given firm's reputation is not well established and potential partners may rely on their evaluation of the social status of the entrepreneurial firm to evaluate it trustworthiness, social biases may be especially important in determining how the firm is perceived by other firms.

Proposition 5: The lower the reputation of the entrepreneurial firm, the higher the likelihood the entrepreneurial firm's efforts to develop relational capital will be hindered by boundary-spanners' status differences.

Conclusion

Our paper contributes to the entrepreneurship literature by emphasizing the detrimental effect of status differences between firm representatives on the formation and development of inter-firm relationships with new ventures. Whereas Uzzi (1996) argues that trust is a required antecedent to fine-grained information sharing and joint-problem solving arrangements between partners, we emphasize that neither trust nor quality of relationships are uniform across dyadic relationships. We argue that all equally qualified entrepreneurial firms are not equally likely to develop strong ties to well-established firms. The effect of status differences between firms' representatives is manifested when the social biases of the representatives of established firms influence the decision within their organization of how much energy and how many resources should be committed to developing strong ties with a young, smaller firm.

One promising area for future research includes evaluating the influence of inter-firm homogeneity on the influence of status differences on the development of firm-level relational capital. Whenever a network is homogeneous in terms of member characteristics, in-group identification is most prevalent (Chattopadhyay et al. 2004b; Mollica et al. 2003; Tsui and O'Reilly 1989). This identification among actors

who are similar has an effect on individual (Riordan and Shore 1997) and group-level outcomes (Baugh and Graen 1997; Chatman et al. 1998). Status differences are likely to be most salient when a group of firms is homogeneous in nature. Homogeneity can be in terms of any number of socio-cultural characteristics. Examples of such networks include ethnic minority business communities in major U.S. metropolitan regions and industries with very little diversity among participants including: diamond dealers in New York's Diamond District, Asian business associations and Wall Street investment firms and exclusive management consulting firms. Even though these groupings may be open to new member firms, new members are likely to be especially vulnerable to the pernicious effects of status considerations in this kind of homogeneous network. Thus, efforts to further explicate the process by which firms overcome initial barriers to the development of relational capital are warranted.

A further extension might consider biases of established firms' representatives on the firm level. In this paper we have focused on status differences between the representatives of two organizations at the individual level. However, boundary-spanning representatives may also have biases against newcomers at the firm level. For instance, boundary spanners may be biased against foreign firms or new industry entrants and avoid exchange although no social biases exist towards the representatives of the newcomers. Furthermore, some firms' representatives who possess pre-existing stereotypes about certain types of firms may exert an undue influence on the selection of newcomers as exchange partners.

The more relationships the new firm forms with a potential exchange partner, the less effect a specific boundary-spanning representative is likely to have on the perception formed by his/her firm about the entrepreneurial firm. By forming relationships with multiple other boundary spanners, the new firm can create an alternative perception of itself than the one espoused by a specific boundary spanner. The level of investment in cultivating relationships is reflected in the amount of money, time and effort spent to develop and nurture such multiple points of contact between individuals representing these firms. Examples of such investments include: hiring employees from well-respected firms who are similar to boundary spanners at other organizations, seeking out firms with boundary spanners most similar to the focal firm's and, most importantly, intentionally cultivating relationships with numerous employees and executives from multiple reputable firms. The greater the amount of time, effort and resources the new firm invests in enhancing these relationships, the more likely the firm will be chosen as an exchange partner by established firms. This is consistent with Haunschild and Beckman's (2002) argument that firms which have multi-faceted relationships with partners tend to have stronger relationships with those partners. They argue that multiple points of contact between firms are likely to strengthen firm-to-firm relationships. Our argument is that firms that specifically focus on cultivating relationships across multiple levels and with multiple executives within a given counter-party firm are likely to be able to strengthen the firm-level relationship. In conclusion, recent research identifies the value of relational capital in the entrepreneurial context (De Carolis and Saparito 2006; Lechner et al. 2006). However, this argument is often driven by an economic perspective, treating relational capital as an objective resource (Adler and Kwon 2002). We identify status-related social biases of individuals as a hindrance to the development and leveraging of relational capital by entrepreneurial firms.

References

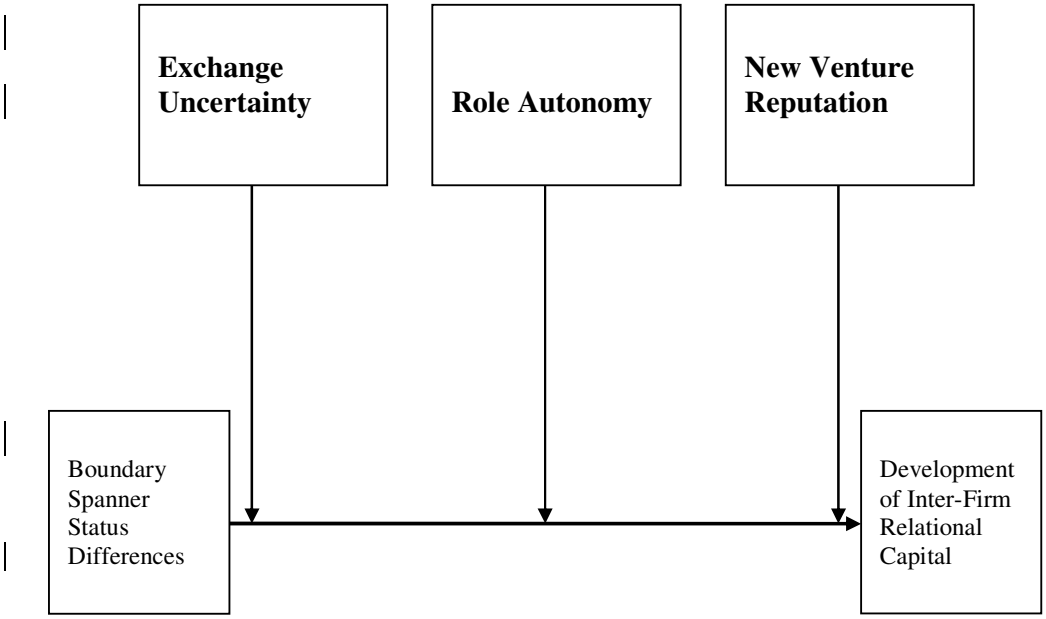
1. Adler, P. S. and Kwon, S. K. 2002 'Social capital: Prospects for a new concept'. *Academy of Management Review* 27/1: 17-40.
2. Ahuja, G. 2000 'Collaboration networks, structural holes and innovation: A longitudinal study'. *Administrative Science Quarterly* 45: 425-455.
3. Allport, G. W. 1954. *The nature of prejudice*. Reading, MA: Addison-Wesley.
4. Alvarez, S. A., Ireland, R. D. and Reuer, J. J. 2006 'Entrepreneurship and strategic alliances'. *Journal of Business Venturing* 21/4:401-404.
5. Au, K. Y. and Fukuda, J. 2002 'Boundary spanning behaviors of expatriates'. *Journal of World Business*, 37: 285-296.
6. Baker, W. 1990 'Market networks and corporate behavior'. *American Journal of Sociology*, 96: 589-625.
7. Barabasi, A. L. 2002 *Linked: The new science of networks*. Cambridge, MA: Perseus.
8. Bargh, J. A. and Chen, M. 1996 'Automaticity of social behavior: Direct effect of trait construct and stereotype activation on action'. *Journal of Personality and Social Psychology*, 71: 230-244.
9. BarNar, A. and Smith, K. A. 2002 'Interfirm alliances in the small business: The role of social networks'. *Journal of Small Business Management*, 40/3: 219-232.
10. Baron, R. A., and Markman, G. D. 2003 'Beyond social capital: the role of entrepreneurs' social competence in their financial success'. *Journal of Business Venturing* 18: 41-60.
11. Bartel, C. A. 2001 'Social comparisons in boundary spanning work: Effects of community outreach on members' organizational identity and identification'. *Administrative Science Quarterly* 46: 379-413.
12. Batjargal, B and Liu, M. 2004 'Entrepreneurs' access to private equity in China: The role of social capital'. *Organization Science* 15: 159-163.
13. Baugh, S. G., and Graen, G. B. 1997 'Effects of team gender and racial composition on perceptions of team performance in cross-functional teams'. *Group and Organization Management* 22: 366-383.
14. Beckman, C. M., Haunschild, P. R. and Phillips, D. J. 2004 'Friends or strangers? Firm-specific uncertainty, market uncertainty and network partner selection'. *Organization Science* 15: 259-276.

15. Benjamin, B. A. and Podolny, J. M. 1999 'Status, quality and social order in the California wine industry'. *Administrative Science Quarterly* 44: 563-589.
16. Blois, K. J. 1999 'Trust in business to business relationships: An evaluation of its status'. *Journal of Management Studies* 36: 197-213.
17. Bouty, I. 2000 'Interpersonal and interaction influences on informal resource exchanges between R&D researchers across organizational boundaries'. *Academy of Management Journal* 43: 50-65.
18. Brass, D. J., Butterfield, K. D. and Skaggs, B. C. 1998 'Relationships and unethical behavior: A social network perspective'. *Academy of Management Review* 23/1: 14-31.
19. Brewer, M B. 1981 'Ethnocentrism and its role in interpersonal trust'. In M. B. Brewer, B. E. Collins and D. T. Campbell (eds.), *Scientific inquiry and the social sciences* 345-360. San Francisco: Jossey-Bass.
20. Brewer, M. B. and Brown, R. J. 1998 'Intergroup relations'. In D. T. Gilbert, S. T. Fiske and G. Lindzey (Eds.), *The handbook of social psychology*, Vol. II (4th ed.): 554-594. Boston, MA: McGraw-Hill.
21. Bruton, G. D., Fried, V. H. and Manigart, S. 2005 'Institutional influences on the worldwide expansion of venture capital'. *Entrepreneurship Theory and Practice* 29/6: 737–760.
22. Burt, R. S. 1992 *Structural holes: The social structure of competition*. Cambridge, MA: Harvard University Press.
23. Burt, R. S. 1997 'The contingent value of social capital'. *Administrative Science Quarterly* 42: 339-365.
24. Busenitz, L. W., Fiet, J. O. and Moesel, D. D. 2005 'Signaling in venture capitalist—new venture-team funding decisions: Does it indicate long-term venture outcomes?'. *Entrepreneurship Theory and Practice* 20/1: 1-12.
25. Certo, S. T. 2003 'Influencing initial public offering investors with prestige: Signaling with board structures'. *Academy of Management Review* 28/3: 432-446.
26. Chatman, J. A. 1991 'Matching people and organizations: Selection and socialization in public accounting firms'. *Administrative Science Quarterly* 36: 459-484.
27. Chatman, J. A., Polzer, J. T., Barsade, S. G., and Neale, M. A. 1998 'Being different yet feeling similar: The influence of demographic composition and organizational culture on work processes and outcomes'. *Administrative Science Quarterly* 43: 749-780.
28. Chattopadhyay, P., Tluchowska, M. and George, E. 2004a 'Identifying the ingroup: A closer look at the influence of demographic dissimilarity on employee social identity'. *Academy of Management Review* 29/2: 180-202.
29. Chattopadhyay, P., George, E., and Lawrence, S. 2004b 'Why does dissimilarity matter? Exploring self-categorization, self-enhancement and uncertainty reductions'. *Journal of Applied Psychology* 89/5: 892-900.
30. Coleman, J. S. 1988 'Social capital in the creation of human capital'. *American Journal of Sociology* 94: 95-120.
31. Collins, J. D. and Hitt, M. A. 2006 'Leveraging tacit knowledge in alliances: The importance of using relational capabilities to build and leverage relational capital'. *Journal of Engineering and Technology Management*, 23/3: 147-167.
32. Currall, S. C. and Inkpen, A. C. 2002 'A multilevel approach to trust in joint ventures'. *Journal of International Business Studies*, 33: 479-496.
33. De Carolis, D. M., and Saparito, P. 2006 'Social capital, cognition and entrepreneurial opportunities: A theoretical framework'. *Entrepreneurship Theory and Practice*, 30: 41-56.
34. Dollinger, M. J., Golden, P. A. and Saxton, T. 1997 'The effect of reputation on the decision to joint venture'. *Strategic Management Journal* 18/2: 127-140.
35. Dubini, P., and Aldrich, H. 1991 'Personal and extended networks are central to the entrepreneurial process'. *Journal of Business Venturing*, 6: 305-313.
36. Eisenhardt, K. M., and Schoonhoven, C. B. 1996 'Resource-based view of strategic alliance formation: Strategic and social effects in entrepreneurial firms'. *Organization Science* 7: 136-150.
37. Emirbayer, M. and Goodwin, J. 1994 'Network analysis, culture and the problem of agency'. *American Journal of Sociology*, 99: 1411-1454.
38. Fazio, R. H. and Jackson, J. R. 1995 'Variability in automatic activation as an unobtrusive measure of racial attitudes: A bona fide pipeline?' *Journal of Personality and Social Psychology*, 69: 1013-1027.
39. Freeman, J., Carroll, T. N., and Hannan, M. 1983 'The liability of newness'. *American Sociological Review*, 48: 692 - 710.
40. Friedman, R. A. and Podolny, J. 1992 'Differentiation of boundary spanning roles: Labor negotiations and implications for role conflict'. *Administrative Science Quarterly*, 37: 28-47.
41. Granovetter, M. S. 1973 'The strength of weak ties'. *American Journal of Sociology*, 78: 1360-1380.
42. Granovetter, M. S. 1985 'Economic action and social structure: The problem of embeddedness'. *American Journal of Sociology*, 78: 1360-1380.
43. Greenwald, A. G. and Banaji, M. R. 1995 'Implicit social cognition: Attitudes, self-esteem and stereotypes'. *Psychological Review* 102: 4-27.
44. Greve, A., and Salaff, J. W. 2003 'Social networks and entrepreneurship'. *Entrepreneurship Theory and Practice* 28: 1-22.
45. Griffin, R. W. and McMahan, G. C. 1994 'Motivation through job design'. In J. Greenberg (Ed.), *Organizational behavior. The state of the science*: 23-43. Hillsdale, NJ: Lawrence Erlbaum Assoc.
46. Gulati, R. 1995a 'Social structure and alliance formation patterns: A longitudinal analysis'. *Administrative Science Quarterly*, 40: 619-652.
47. Gulati, R. 1995b 'Does familiarity breed trust? The implications of repeated ties for contractual choice in alliances'. *Academy of Management Journal*, 38: 85-112.
48. Hamilton, D. L., Sherman, S. J., and Ruvolo, C. M. 1990 'Stereotype-based expectancies: Effects on information processing and social behavior'. *Journal of Social Issues* 46/2: 35-60.
49. Haunschild, P. R. and Beckman C. M. 2002 'Network learning: The effects of partners' heterogeneity of experience on corporate acquisitions'. *Administrative Science Quarterly* 47: 92-124.
50. Hitt, M.A., Bierman, L., Uhlenbruck, K., Shimizu, K.
51. 2006 'The importance of resources in the internationalization of professional service firms: the

good, the bad and the ugly'. ***Academy of Management Journal*** 49/6: 1137-1157.
52. Houston, M. B. and Johnson, S. A. 2000 'Buyer-supplier contracts versus joint ventures: Determinants and consequences of transaction structure'. *Journal of Marketing Research* 17/Feb.: 1-15.
53. Jensen, M. 2003 'The role of network resources in market entry: Commercial banks' entry into investment banking 1991–1997'. *Administrative Science Quarterly* 48: 466-497.
54. Joshi, A. 2006 'The influence of organizational demography on the external networking behavior of teams'. *Academy of Management Review* 31/3: 583-595.
55. Knoke, D. 1999 'Organizational networks and corporate social capital'. In R. Leenders and S. Gabbay (Eds.), *Corporate social capital and liability*. Norwell, MA: Kluwer Academic Publishers.
56. Kollock, P. 1994 'The emergence of exchange structures: An experimental study of uncertainty, commitment and trust'. *American Journal of Sociology* 100: 313-345.
57. Konrad, A. and Gutek, B. 1987 'Theory and research on group composition: Applications to the status of women and ethnic minorities'. In S. Oskamp and S. Spacapan, (Eds.), *Interpersonal processes*: 85-121. London: Sage.
58. Kostova T. and Roth K. 2003 'Social capital in multinational corporations and a micro-macro model of its formation'. *Academy of Management Review* 28(2): 297-317.
59. Labianca, G. and Brass, D. J. 2006 'Exploring the social ledger: Negative relationships and negative asymmetry in social networks in organizations'. *Academy of Management Review* 31/3: 596-614.
60. Larson, A. 1992 'Network dyads in entrepreneurial settings: A study of the governance of exchange relationships'. *Administrative Science Quarterly* 37: 76-104.
61. Lechner, C., Dowling, M., and Welpe, I. 2006 ,'Firm networks and firm development: The role of the relational mix'. *Journal of Business Venturing* 21: 514-540.
62. Levinthal, D. and Fichman, M. 1988 'Dynamics of interorganizational attachments: auditor-client relationships'. *Administrative Science Quarterly* 33: 345-369
63. Lu, J. W., and Beamish, P. W. 2006 'Partnering strategies and performance of SMEs' international joint ventures'. *Journal of Business Venturing* 21: 461-486.
64. Major, B., Quinton, W. J., McCoy, S. K. and Schmader, T. 2000 'Reducing prejudice: The target's perspective'. In S. Oskamp (Ed.), *Reducing prejudice and discrimination* 211-238. Mahwah, NJ: Lawrence Erlbaum.
65. Marchington, M. and Vincent, S. 2004 'Analyzing the influence of institutional, organizational and inter-personal forces in shaping inter-organizational relations'. *Journal of Management Studies* 41: 1029-1056.
66. McEvily, B. Perrone, V. and Zaheer, A. 2003 'Trust as an organizing principle'. *Organization Science* 14: 91-103.
67. Meyer, J. W. and Rowan, B. 1977 'Institutionalized organizations: Formal structure as myth and ceremony'. *American Journal of Sociology* 83(2): 340-363.
68. Mizruchi, M.
69. 1996 'What do interlocks do? An analysis, critique and assessment of research on interlocking directorates'. In J. Hagan and K. Cook (Eds.), *Annual Review of Sociology* 22: 271-298. Palo Alto, CA: Annual Reviews
70. Mollica, K. A., Gray, B. and Trevino, L. K. 2003 'Racial homophily and its persistence in "newcomers" social networks'. *Organization Science* 14(2): 123-136.
71. Nahapiet, J. and Ghoshal, S. 1998 'Social capital, intellectual capital and the organizational advantage'. *Academy of Management Review* 23: 242-266.
72. Palmer, D. and B.M. Barber. 2001 'Challengers, elites and owning families: A social class theory of corporate acquisitions in the 1960s'. *Administrative Science Quarterly* 46: 87-120.
73. Parkhe, A. 1998 'Understanding trust in international alliances'. *Journal of World Business* 33: 219-240.
74. Perrone, V., McEvily, B. and Zaheer, A. 2003 'Free to be trusted? Organizational constraints on trust in boundary spanners'. *Organization Science* 14: 422-439.
75. Pfeffer, J. and Salancik, G. R. 1978 *The external control of organizations*. New York: Harper and Row.
76. Podolny, J. M. 2001 'Networks as the pipes and prisms of the market'. *American Journal of Sociology* 107: 33-60.
77. Podolny, J. M. 1994 'Market uncertainty and the social character of economic exchange'. *Administrative Science Quarterly* 39: 458-483.
78. Podolny, J. M. and Baron, J. N. 1997 'Resources and relationships: Social networks and mobility in the workplace'. *American Sociological Review* 62: 673-693.
79. Portes, A. 1998 'Social capital: its origins and applications in modern sociology'. *Annual Review of Sociology* 24: 1–24.
80. Portes, A. and Sensenbrenner, J. 1993 'Embeddedness and immigration: Notes on the social determinants of economic action'. *American Journal of Sociology*, 98: 1320-1350.
81. Rangan, S. 2000 'The problem of search and deliberation in economic action: When social networks really matter'. *Academy of Management Review*. 25/4: 813-828.
82. Ravlin, E. C., and Thomas, D. C. 2005 'Status and stratification processes in organizational life'. *Journal of Management*, 31: 9666-9987.
83. Reagans, R. and McEvily, B. 2003 'Network structure and knowledge transfer: The effects of cohesion and range'. *Administrative Science Quarterly*, 48: 240-267.
84. Riordan, C., and Shore, L. M. 1997 'Demographic diversity and employee attitudes: An empirical examination of relational demography among work units'. *Journal of Applied Psychology*, 82: 342-358.
85. Schneider, B. 1987 'The people make the place'. *Personnel Psychology* 40: 437-453.
86. Seabright, M., Levinthal, D. and Fichman, M. 1992 'Role of individual attachments in the dissolution of interorganizational relationships'. *Academy of Management Journal* 35: 122-160.
87. Shane, S., T. Stuart. 2002 'Organizational endowments and the performance of university start-ups'. *Management Science* 48(1): 154-170.
88. Shaw, J. D., Duffy, M. K., Johnson, J. L. and Lockhart, D. E. 2005 'Turnover, social capital losses and performance'. *Academy of Management Journal* 48/4: 594-606.
89. Shrum, W.

90. 1990 'Status incongruence among boundary spanners: Structure, exchange and conflict'. *American Sociological Review* 55/4: 496-511.
91. Starr, J. A., and Macmillan, I. C. 1990 'Resource cooptation via social contracting - Resource acquisition strategies for new ventures'. *Strategic Management Journal* 11: 79-92.
92. Stinchcombe, A. L. 1965 'Social structure and organizations'. In J. G. March (Ed.), *Handbook of Organizations*: 153-193. Chicago, IL: Rand McNally.
93. Stuart, B. C. 2000 'Interorganizational alliances and the performance of firms: A study of growth and innovation rates in a high technology industry'. *Strategic Management Journal* 21: 791-811.
94. Stuart, T. E., Hoang, H., and Hybels, R. C. 1999 'Interorganizational endorsements and the performance of entrepreneurial ventures'. *Administrative Science Quarterly* 44: 315-349.
95. Tajfel, H. 1978 *Differentiation between social groups*. London: Academic Press.
96. Tajfel, H., and Turner, J. C. 1986 'The social identity theory of intergroup behavior'. In S.Worchel and W. G. Austing (Eds.), *Psychology of intergroup relations*. Chicago:Nelson Hall.
97. Tsai, W. 2001 'Knowledge transfer in intraorganizational networks: Effects of network position and absorptive capacity on business unit innovation and performance'. *Academy of Management Journal*, 44/5: 996-1004.
98. Tsai, W. and Ghoshal, S. 1998 'Social capital and value creation: The role of intrafirm networks'. *Academy of Management Journal* 41/4: 464-476.
99. Tsui, A. S. and O'Reilly, C. A., III. 1989 'Beyond simple demographic effects: The importance of relational demography in superior subordinate dyads'. *Academy of Management Journal* 32: 402-423.
100. Turner, J. C. 1987 'A self-categorization theory'. In M. Hogg, P. Oakes, S. Reicher, and M. S. Wetherell (Eds.), *Rediscovering the social groups: A self-categorization theory*: 17-32. London: Harvester Wheatsheaf.
101. Tushman, M. L. 1977 'Special boundary roles in the innovation process'. *Administrative Science Quarterly* 22: 587-605.
102. Tushman, M. L. and Scanlan, T. J. 1981 ,'Characteristics and external orientations of boundary spanning individuals'. *Academy of Management Journal* 24/1: 83-99.
103. Uzzi, B. 1996 'Embeddedness and economic performance: The network effect'. *American Sociological Review* 61: 674-698.
104. Waldinger, R. 1995 'The "other side" of embeddedness: A case study of the interplay between economy and ethnicity'. *Ethnic and Racial Studies* 18/3: 555-573.
105. Walker, G., Kogut, B. and Shan, W. 1997 'Social capital, structural holes and the formation of an industry network'. *Organization Science*, 8/2: 109-125.
106. Washington, M. and Zajac, E. J. 2005 'Status evolution and competition: Theory and evidence'. *Academy of Management Journal*, 48/2: 282-296.
107. Williams, K. Y. and O'Reilly, C. A., III. 1998 'Demography and diversity in organizations: A review of 40 years of research'. *Research in Organizational Behavior* 20: 77-140.
108. Zaheer, A. and Venkatraman, N. 1995 'Relational governance as an interorganizational strategy: An empirical test of the role of trust in economic exchange'. *Strategic Management Journal* 16: 373-392.
109. Zaheer, A. and Bell, G. G. 2005 'Benefiting from network position: Firm capabilities, structural holes and performance'. *Strategic Management Journal* 26/9: 809-825.
110. Zaheer, A., McEvily, B. and Perrone, V. 1998 'Does trust matter? Exploring the effects of inter-organizational trust and inter-personal trust on performance'. *Organization Science* 9/2: 141-159.

Figure 1


Exchange Uncertainty
Role Autonomy
New Venture Reputation
Boundary Spanner Status Differences
Development of Inter-Firm Relational Capital

CRIMINAL ASPECTS OF BUSINESS
A Need for Corporate Governance Reform

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Abstract

The purpose of this research is to describe past conduct of corporate officers, in their use of corporate assets, including reputation. This is beyond lawful use of their corporate positions. The paper uses a literature review to describe corporate officer actions, and identify impacts on the corporate reputation and its leaders. Findings are presented in exhibit form, as (a) assigning criminal liability, and (b) the range and detail of sanctions to be imposed.

Keywords: Corporate Governance Manipulation Business Crime Corporate Reputation Criminal Liability

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Introduction

Development of Criminality of the Corporation

While there is consideration that the corporation should be on the same legal basis as individuals, the legislatures consider the economic-basis of the corporation. As corporations are driving the national economy, some latitude should be provided to corporate actions. So criminality was set apart from corporations.

Two reasons are given for that action/protection: One is that a corporation is a legal entity, not a real person. The other was the distinct nature of the corporation, as an entirely created entity for productivity, and for protection of the employees in the interest of the corporation.

As corporations were at the same time seen by the public as "bad actors", there was public interest to ascribe criminality to the corporation. That interest grew as inferior products were marketed to the public. Also, plants were recognized as "unsafe" for workers. From an accumulation of individual actions, the development of criminality of corporations was adopted in the late twentieth century.

The word adopted is wisely used. When the U.S. was a target of actions against corporation, Congress and state legislatures were urged, by consumers, to hold corporations broadly to the same standards as individuals. Congress began in the early 1970s, to protect the public in the antirust arenas. By numerous antitrust violations, judged as misdemeanors to felonies, and imprisonment of corporate officials, some immunity to corporations was recognized. As a result, a corporate shield was authorized, under a number of statutes, to allow legal methods by corporations, but to protect them from incidental legal attacks.

Corporate Liability

A corporation is exposed to criminal liability in several ways (Brickey, 1991):(a) direct commission of a criminal act;(b) attribution of criminality, due to corporate position;(c) imputation of criminality, to corporate officers.

Note that the corporate entity is properly treated due to the approach in which its leaders seek to avoid liability. With this broad exposure, recognized as "direct liability" and "derivative liability", doctrines were needed to cover this exposure. Two specific procedures evolved are imputation and attribution (see Exhibit 1).

Note that criminal acts require intent to be proven. The method of showing intent is found in the "tail wagging the dog"; that is, the other elements must be proven, but if intent is not proven, there is no crime. For example, can a person steal his own property?

Where the property is totally owned by the person, there is no criminal intent, and therefore no crime. Congress has enacted criminal laws pertaining to business. Several corporations have disappeared under the charges, and others have made payouts of fines, for these criminal charges. The need is to maintain a system of accounting control to bar corporate criminal acts, as illustrated by the Foreign Corrupt Practices Act (15USC78).

Purpose of the Research

Business crime is not a recent action. Beginning in the 19th century, corporate conduct was determined as criminal. Laws were passed, with the purpose to

control conduct in the securities area (Securities Act, Securities & Exchange Act, and Sarbanes-Oxley Act). See Exhibit 2. Sanctions were considered needed, given actions by corporate officers.

This research analyses conduct of corporations that leads to deterioration of the organization. Corporate officers mistake their position as owners, rather than as managers. The business press on a regular basis chronicles that conduct. Consequences are easy to record as crimes.

There has been a renewal of manipulation termed as scandalous practices. Recently rational has changed; now the main rational is to achieve personal wealth of corporate officers. While it could be argued that was the basis earlier, the degree of wealth enhancement currently has led to criminal use of corporate property (including securities funds, currency, and reputation).

The rationale of this research is to identify effective mechanisms to control organizational conduct.

Corporate Officer Actions

Actions of individual officers can become systematic. This is done as: manage or influence unfairly; adapt or change to suit one's purpose, or advantage.

It is clear that those in "control" of assets have the power to determine an outcome. Indeed, corporate officers have both physical custody of corporate property, and legal control. The legal control derives from their positions as officers. Corporate officers are in a position to "take" corporate property for non-corporate purposes (Smith, 2003).

Who in the corporation has such power? The corporate charter identifies persons with power over assets: officers of the corporation. Note that officers are also directors where appointed to be part of the Board of Directors. Directors are not synonymous with officers; they may have a specialized role in the corporation, for example, as outside directors. So then officers are empowered to perform acts for their own purposes. Under corporate governance, officers can make such decisions. Where officers conduct corporate decisions, for their own purposes, this is referred to as *manipulation*. Note that legal terminology and general terms are consistent with the meaning of manipulation. As a consequence, regulation of corporations has tightened. Regulation has been enforced by an inferential method, that is, imputation and attribution (see Exhibit 1). This is an opening for a charge of manipulation.

Duties of the Board

The prime interest above also introduces the need for a realignment of duties within the corporation. The array of duties, duty of care, duty of loyalty, and usurping of corporate opportunity, multiplies many times the opportunity to perform and control the corporation. There is little need to define duties or to describe their coverage in the corporation. The rationale for imposing duties is to establish standards as a mode of control. A positive approach is given by the Business Judgment Rule. That approach anticipates that officers of a corporation will have the expertise and interests that is in the best interests of the shareholders.

Note that the shareholders are investors, and are primarily focused on profitability of the corporation.

Breaches of Board Members

Individual members of the Board can breach their duties. The issue addressed here deals with that individual action, rather than a collective action of the Board. Members of a board can make collective breaches.

Some of these corporations have suffered gigantic financial losses: ENRON, Worldcom, and Global Warming.

The issue here is to determine the causes of breach, in particular for corporations that have taken such action. In most situations, it is not the business that is the cause. Clearly those earnings are gained positively and statutorily, and invested in the business. So then the fall from such position comes from fraud (mismanagement), in taking funds from corporate earnings.

It must be recognized that the "taking" is not for corporate purchases. Illustrations (above) show that the purpose of the "taking" is for (1) officer wealth, and (2) non-corporate purposes. These appear primarily for officers in control of corporate assets.

Control signifies that the transfer of ownership is established. The corporate role, for control purpose, is usually more than one officer.

Prosecution is against all officers involved, not solely against the leader, but against each individual involved. The main officers in corporations are the Chief Executive Officer and the Chief Financial Officer. As noted above, these officers have control of the assets, fixed and fluid. Prosecutions are against them. As leaders of the corporation, it is clear that their interests are involved in the main criminal charge. An underlying connection is the wealth of the CEO and the CFO. This "taking" of corporate funds and assets are needed to maintain the "style of living" to which these officers have become accustomed. An interesting showing also is that the wives of the officers are caught in the effort, and are living in the benefits of the taking. Their companionship of the charged officer is beyond a showing, but is true spirit of owners.

Criminal Acts

Manipulation

As noted above, not all non-business actions of officers are criminal. Manipulation is not necessarily criminal. Manipulation is defined as to change by

artful or unfair means, to serve one's own purpose. It is recognized as artful management or control of operations, often in an unfair or fraudulent way. The artful connotation included shrewd use of influence as officers. That relation to ordinary management makes manipulation difficult to detect. (Note that manipulation may be a first step toward criminal action inside the corporation.)

Property Offenses

As property is fixed, as well as liquid, the "taking" by officers to acquire for personal purposes may be difficult to determine based on appearance. Fixed property is readily determined for a "taking". Fluid property is less readily determined as to ownership. This is particularly true for certain classes of that property: commercial paper, as checks, notes, mortgages. Commercial paper has intrinsic property value, to facilitate exchange. As a consequence, "taking" of commercial paper may be difficult to determine, separate from the person of ownership.

Crimnal Offences

Where an officer takes property, under proof of wrongfulness, legislation has defined the offense as a crime: a misdemeanor or as a felony (Brickey, 1991). The difference is the time of imprisonment, the amount of fine, and the need for restitution.

As sanctioning quantities differ, through state legislation, sanctions are left indefinite: amounts taken; fines; and times of imprisonment. Generally a misdemeanor involves less than a year of imprisonment while a felony is more than a year.

Bankruptcy

From the depletion of cash streams of the corporation, the questions for bankruptcy: Is it proper? Why do corporations file for bankruptcy? Chapter 11 is reorganizing financing; Chapter 7 is dissolution of the organization. Chapter 11 is more popular now, in situations where financing is the key issue.

The principal reason for an urgent basis is that corporate officers do not want to place the corporation, in control of the bankruptcy court (a special branch of the U.S. federal court system.) At times, the threat of a bankruptcy involves the filing for protection. This provides time for the debtor to negotiate with creditors, to a settlement. When both parties present to the court an agreed settlement, the court accepts as a final order of the court.

Basis of Bankruptcy

The corporation is exposed to bankruptcy, by several avenues. The prolonged imbalance of cash flow is recognized as the onset of bankruptcy. Another is a substantial deficit of the corporation's cash position.

The purpose of this analysis is to probe into the rationale for "taking" by action of officers. Exhibit 3 provides a list of reasons for bankruptcies. Note that "business result" and "business losses" cover the range of reasons.

Nature of Bankruptcy

Bankruptcy is generally not regarded as a criminal offense, rather as a civil offense.

Reputation

Corporate reputation is a valuable asset of the organization. The 'valuable' terminology designates that reputation ranks on a level of other important assets of the organization. It is identified as an external manifestation, to give a view of the corporation's culture, internal practices, management talent, people skills, and overall competitiveness (Resnick, 2004).

Reputation is found influential in many phases of the corporation. The cultural purpose of the corporation is its business that creates profit; at the same time, the corporation also projects its culture and values. The key advantage of the reputation is to gain competitive advantage that is, improving performance against competitors. Corporate reputation is reflective of identity and integrity of the organization. The characteristics are sufficiently basic, to contribute to business growth and stock price increase. Its strength is found to sustain business, in the US, and in international competition (Kitchen, 2003)

From this positive view, reputation can fail. Such failure can result in sales loss, and stock price reduction. Criminal actions are difficult to separate from the reputation of the organization (Alsop, 2004). As the organization is recognized as able to manage its property as it chooses, its reputation is not readily at stake.

This is also reflected as the loan practices available: availability of loans, or the cost of capital of a loan. This is reflected in local practices available to the organization, based on its reputation to repay loans and associated assurances. If the corporation's reputation is questionable, loans are not available. Once an unethical reputation has been established, for even a brief period of time, the problem of erasing is considered difficult–to-impossible.

Leaders of the Corporation

As noted earlier, the officers of a corporation may be the individuals responsible for the criminal acts (Derocher, 2001). Clearly a court may determine the causal link to individual officers. The severity of conditions is also determined by a court. Where intent of officers is proven, a court will establish the causal link to those officers. These officers will then be held individually liable.

Impact on Investors

Clearly, if officers are "pocketing" unlawful gains by taking corporate property, then that gain is diverted from lawful owners. That provides a basis for legal complaints by investors. Consequently, not only are governing officers given opportunity but investors also join in complaints by investors, due to diversion of their "just rewards'. For ordinary corporations, profits are from operations plus investment, without diversion. All profits generated are ultimately recognized in corporate accounting. To short corporate profit is a fraud on the corporation.

Regulation by Agency

As corporations are the actors in the instances reported here, regulation of corporations is by a number of federal and State agencies. At the outset, state law initiated corporate life. Although federal law authorizes some corporations, the vast number are authorized, and created, under State law. Compared numerically, it is clear that State far exceeds the federal government in authorizing corporations. This is due to the interstate power of the corporations; they can, and do, execute business on an interstate basis.

Property ownership, commercial transactions, and recognition, all constitute corporate reputation.

So then, which agencies regulate corporations?

Authority over Corporations

The federal agency to regulate corporations is generally the Security & Exchange Commission. Their authority is based on the Interstate Clause of the US Constitution. Federal regulation of securities of corporations is found in charter, by-laws, and corporate procedures. The SEC has that constitutional foundation to regulate the conduct of corporations.

State Regulation

On a State basis, the State's Commerce Commission is the typical agency, to authorize and regulate corporations. As indicated (above), the Federal Interstate Commerce Commission performs a limited task in that State area. With this broad scope, federal corporations tend toward control of specific areas, likely interstate pricing and service. For example, the Federal Reserve Board regulates banks and banking in interstate operation. The Freddie Mac agency regulates mortgages in interstate operation. In the physical realm is the Interstate Energy Commission (formerly, the Interstate Commerce Commission); authority is for setting prices and assuring delivery of electricity, gas, and coal, on an equivalent basis.

Regulation by Agencies

As agencies perform essential services to corporations, regulatory boards are appointed. The areas are well defined by the service and geographic areas. The authority of such regulation is virtually total within their area of influence. Those agencies promulgate regulations, and enforce their own regulations. Both, the focus of regulation and the reach (extent) of regulation are included. Manipulation is likely seen in faulted regulation, or in absent regulation.

Corporate Governance Reform

Corporate governance is the basis for formal rules that the Board and Shareholders have adopted to govern the affairs of the corporation. It is a shortened way of stating rules for governing a corporate organization. The actual rules are determined by ownership structure; composition of the corporate board; and influence of stakeholders.

The general purpose of corporate governance is to shape values that are apparent for the entire corporation. The last statement has real meaning. Values are an integral part of the corporation's decision process. In all decisions, major and minor, values provide guidelines and standards, for determining the proper course for the corporation. A related question deals with delegation. While the corporate board selects, and empowers, officers of the corporation, does that delegation make the officers independent of the Board? Clearly that is not the situation. The board is a supervisor of individual officers in the corporation. If the officers and the board are not in sync, the board can take action to override decisions or to discharge offending officers. (Note: this is rare for such board actions.)

While the purpose of corporate governance is operational, there is a theoretical approach as well. The theoretical approach is based on legal theory. First is agency relationship of the board, with the shareholders. The shareholders appoint the officers of the corporation. That is, the officers are legal agents to conduct the business and to represent the corporation in its many venues. Representation is by corporate authority, and is focused in the purposes of achieving goals and objectives of the corporation.

From that relationship between officers and shareholders, the main role of corporate governance is to lead the corporation into profit maximization activities. The generally accepted view of the corporation is to "maximize its profit", given circumstances of the corporation.

From that view, the board and officers must determine the extent of maximization; the future also determines that extent. So the board is key to make that profit determination.

Any substantial deviation from by-laws of the charter, that is, the commercial purpose, is actionable by the board, or by shareholders.

From the foregoing, corporations should depend on corporate governance to control conduct of officers. At the time of corporate scandals, clearly the lack of oversight provided opportunity for unethical

managers, to take advantage of their corporate position. Clearly, corporate governance is now focused on apparent conduct of corporate officers.

It is not the place of corporate governance to be removed from conduct of leaders of the organization. It is to provide rules and express guidelines, to officer conduct. Unless a repeat of the scandals is anticipated, reform of corporate governance is needed.

The actors now responsible for corporate governance are the higher-level officers of the corporation: Chairman and CEO. Clearly, a published set of rules satisfies that view of corporate governance. As reported above, a true reform is needed.

First, a "big brother" (governmental) approach is not needed. Next, an alternative effect is to introduce reformed corporate governance. The likelihood of individuals making the changes is minimal. Officers consider that the least intrusive is considered the best.

It is the duty of professional organizations responsible for publication of corporate governance basis and rules. The details on corporate governance make it the more difficult to evade. As the Interstate Commerce Commission of each state, is responsible for changes to corporate Governance, there lies the duty to make change.

So then the state legislature has the duty to develop the rules to support its version of corporate governance. A national commission unifies the rules. Rudimentary rules form the following: individual involvement is a requirement; opposition is on a scientific basis. Goals and objectives for corporate governance are openly applied. Goals are founded on duties of the corporation.

Sanctions

Organization Protection

A range of sanctions for business crimes may be assessed by the Court. The range of sanctions is presented in the Exhibit 2. An abbreviated list of sanctions for business crimes is presented by Drutman (2002) as: accounting conflict-of-interest; improperly booked expenses; insider loans & insider trading; bribery overseas. In addition, special purpose entities are used for illicit purposes.

The total loss in market value, from these business crimes, has been estimated at $5 trillion (Drutman, 2002). Their loss is based on the interest as investors. The loss is attributed to business leaders, as misleading information, "taking" property (fixed or liquid), and dissipation of assets.

Criminal statutes have sanctions set over a wide range (see Exhibits 2 and 3). Sanctions for violations are presented in Exhibits 2 and 3. Violations are first defined; then sanctions are categorized, from fines to required internal corporate activities (for example, restructure the organization)

The sanctions provided under the various financial acts Securities Act, Securities & Exchange Act, and Sarbanes-Oxley Act, are severe. A rationale for such severity is to turn those acts into regulatory statutes (see below). Severity is based on a straight-forward approach, to require disclosure of a security beyond required by other statutes. These statutes, which control the sale or exchange of securities, are intended to adopt by business as the way to conduct their business.

Charges against Officers

The sanctions imposed on corporations are beyond fines and imprisonment. Rather, crafted sanctions are imposed, and proving more restrictions to corporate functioning. Compelled changes to the corporation, restructure, removal of leadership, and de-barring from certain business customers, are likely aimed as sanctions for the unlawful actions or to recover illegitimate gains from these corporations.

Charges against officers held liable include the CEO and the CFO, and other financial officers. Clearly leadership in the instances of Exhibit 3 brings the corporation into a "scandalous" reputation. From this, leaders cannot deny consequences of the sanctions imposed.

Sentencing as an Extreme Regulation

Sentencing appears out of line with the actions of Exhibit 3. The purpose of a sentence is normally related to the criminal action. A 'white-collar' crime generally deals with financial markets. Financial markets have a timing condition, that a concern can impact the entire market negatively.

Note that corporate officials are limited on public statements referring to securities offered in a market. That rationale is not the magnitude of the security itself, but its impact on the overall market (Allio, 2004). An understanding of sentencing then is to focus on the 'face value' of the item, versus its impact on the market. Crime associated with a security shows a highly elastic effect on price of the security. Sellers are not seen in the market; however, their effects are found in the price of the buy/sell transaction. So then, corporate leaders have learned the underlying message: understand the appropriate way to conduct their business (McTague, 2003). As a result, the offering of a security, and the status of the enterprise offering the security, are tightly regulated. By limiting statements regarding the security (mail, wire, and electronic), violations can be considered severe for the purpose of regulation. So then sanctions for violations do have a regulatory effect (Anonymous, 2004). Trades are cautioned against securities in violation. As a consequence, markets are kept 'clean' for trading.

Crime or Manipulation

The first part of this research deals with corporate conduct as criminality. Thain (2004) stated that this

results from conflicts within the corporation. The conflict is laid to the Board, as the following:(1) group culpability within the Board;(2) general failure of the Board's duties and responsibilities, oversight, authority, and responsibilities;(3) specific failure, as greed, dishonesty and incompetence. The effort to correct, to undo, these issues by the Board, is not one-stop-fits-all, but is doable as a turnaround.

The turnaround requires, at the outset, a clear understanding of officer duties and responsibilities. Thain (2004) describes Board requirements as: fully understand their duties and responsibilities; fully committed to their duties and responsibilities; and competent to perform the turnaround. These are general requirements, as Holtfreter (2004) describes their application to broad categories of organizations that is, private business, publicly traded companies, non-profit organizations, and government agencies. That application is supported by a survey of 662 companies, reporting fraudulent cases.

Conclusion

In recent years, many companies covering a spectrum of industries have been "charged" with a variety of legal complaints that is relatively limited: obstruction of justice; document destruction, falsifying an investigation; accounting fraud; securities fraud; mail fraud, and wire fraud; conspiracy; perjury; larceny; money laundering; bribery; and antitrust, in merger. These offenses encapsulate the crimes of business organizations.

References

1. Allio, R. J,, 2004, "What's the board's role in strategy development?" Strategy & Leadership, Vol. 32, No. 5, 34-37.
2. Alsop, R. J., 2004, Corporate reputation: Anything but superficial – the deep but fragile nature of corporate reputation, Journal of Business Strategy, Vol. 25, No. 6, 21-29
3. Anonymous, Criminal Law and Procedure, Financial Resources, Sec. 9-1, Thomson-West Inc., 2004.
4. Brickey, K. F., 1991, Corporate Criminal Liability: A Treatise on the Criminal Liability of Corporations, Their Officers and Agents, Callaghan & Company, Wilmette, IL, Part II, Ch. 8.
5. Derocher, R. J., 2001, "Can management style at the CEO level predict a company's success", *Inside Insight,* Aston business School, UK.
6. Drutman, L. And Cray. C., The Top 10 Financial Scams of the 2002 Corporate Crime Wave, Multinational Monitor, Dec. 2002, p 20-24.
7. Holtfreter, K., 2004, "Fraud in US Organizations: An Examination of Control Mechanisms", Journal of Financial Crime, Vol. 12, No. 1, 88-95.
8. Kitchen, P. J., and Laurence, A., 2003, Industry Survey: Corporate Reputation – An Eight-Country Analysis, Vol. 6, No. 2, 103-117
9. McTague, R. 2003, "Breeden's WorldCom Governance Report Prescribes Rules for Board and Compensation", New York Times, 35, No. 5, Sept 1, 2003, pp. 1-2.
10. Resnick, J. T., 2004, Corporate reputation: managing corporate reputation – applying rigorous measures to a key asset. Journal of Business Strategy, Vol. 25. N. 5, 30-38
11. Smith, H. J., 2003, "The Shareholders vs Stakeholders Debate", Sloan Management Review, Spring 2003, pp 85-90.
12. Thain, D. H., 2004, "Reactions of a veteran director: The unsatisfactory performance of Norel' 'distinguished' board", Ivey Business Journal Online, May/Jun, pp. 1-4.

Exhibit 1. Assigning Criminal Liability

Imputation of Criminal Intent

Standard: action within 'agency'
course of 'agency'
scope of 'agency'
with participation or knowledge

Conduct: contrary to role
or
antagonistic objectives

To be proven:
Intent to directly benefit corporation
or forward some corporate purpose
Assent to pattern of criminal conduct
with responsibility to eliminate conduct

Attribution of Criminal Conduct

vicarious liability: respondent superior
also as 'accessory liability'
Actors: officer, manager, supervisor

To be proven:
direct action
(as accessory before the fact)
present at the location, with intent
(as accessory after the fact)
Criminal act:
Select acts:
securities fraud, mail fraud
Foreign Corrupt Practices Act
sensitive domestic payment
offense against IRS laws

Sanctions: fine, imprisonment, probation

Defense: no knowledge, no participation

Special statute: RICO Racketeer Influenced Corporate Organization Act
To be proven: enterprise in interstate commerce
pattern of criminal activity
fraud, banking, domestic & foreign payment
Foreign Corrupt Practices Act
Sanction: forfeiture of gain

Exhibit 2. Range of Sanctions on Corporate Practices
(Brickey, 1991)

Range of Statutory Sanctions

Types of Sanctions	Administrative Order
	Civil Sanctions
	Disgorge results
	Criminal Sanction
	Obstruction of Justice
	Ban from practice before agency
	Pleas re: Civil or Criminal issue
Types of Violations	Theft
	Fraudulent Transactions
	Fraudulent Accounting Practices
	Destruction of legally required instruments

Ex-Range of Statutory Sanctions

	Reach settlement
	Restructure organization
	Enter Bankruptcy
Defendants	Firm
	Director & Officer
	Individual
Plaintiffs	Government, by agency (e.g., SEC)
	Corporation, for recoupment
	Shareholder, for lost stock value

Exhibit 3. Specific Violations and Sanctions of Corporate Actions

Violations as Fraudulent Transactions
- False financial statements
- False research reports on securities in the market
- "Spinning" share prices (for IPO)
- Destroy/Alter business records
- False business transactions
  - use of illegal incentives
- Purchases based on "late timing/trading"

Violations as Fraudulent Accounting Practices
- False reporting, to boost earnings
- Hidden corporate costs
  - to exaggerate profit
- Hidden organization structure,
  - to avoid recognition of liabilities
- Create off-the-book organization units
- Personal loans, without expectation of re-payment
- Improper recognition of expenses/income

Direct Criminal Activity
- Conspiracy to inflate profits,
  - To cover-up illegal practice
- Extraordinary Influence on investment banking
- Enterprise corruption, under
  - Racketeer Influenced Corrupt Organization Act
- Mail Fraud, Wire Fraud

Sanctions
- Fines, imprisonment, interest
- Disgorge "payments", forfeiture of proceeds

- Restatement of financial statements
- Displace Board of Directors,
  - in part or in total

- Bankruptcy settlement
  - by negotiation
- Organization spinoff,
  - avoiding bankruptcy
- Disclosure of fraudulent transactions

NON-EXECUTIVE DIRECTORS AND AUDIT COMMITTEE: A STUDY ON THEIR AUTHORITY AND EFFECTIVENESS

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Abstract

This study aimed to investigate the perceptions of senior managers of Malaysian publicly listed companies on issues relating to audit committee authority and effectiveness. Questionnaire survey technique was employed to seek the respondents perceptions on seven issues, namely audit committee appoints the auditor, audit committee determines and reviews audit fees, audit committee determines and reviews the auditor's scope and duties, and audit committee's reports, meetings, charter and roles. The majority of respondents agreed that auditor would be more effective and independent if audit committee assumed the responsibility to appoint the auditor, determine and review the audit fees, and determine and review the external auditor's scope and duties. It is also found that disclosure of audit committee report, quarterly meeting and disclosure charter in annual report would enhance the perceptions of users of financial statement concerning the effectiveness of the committee.

Keywords: Authority, Effectiveness, Perceptions, Malaysia, Survey.

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1.Introduction

One mechanism that has been widely used in worldwide corporate organisations to monitor the financial reporting process and corporate governance is the establishment of an audit committee comprising a majority of independent directors. The existence of an audit committee could improve the monitoring of corporate financial reporting and internal control. This could be done by bridging the communication gap between the auditors and corporate management and through strengthening the role of the internal auditors. Although audit committees have been in existence for decades, there are criticisms of the practices of audit committees and a large amount of research have been undertaken to identify an ideal audit committee that would act in the interest of shareholders (Abbott and Parker, 2000; Krishnan, 2005).

To effectively deliver their duties, audit committees should have adequate and appropriate authority. The committee gains their authority from rules and regulations, the board of directors and the Bursa Malaysia Berhad (BMB) listing requirement (i.e. Part C, Chapter 15). These sources of authority spell out the responsibilities, roles and perhaps the power to influence the financial reporting process. However, the Asian Financial Crisis in Malaysia in 1997/1998 has shown that many audit committees of publicly listed companies do not function as effective oversight mechanisms (A-Kadir, 2002a, b).

The objective of this study is to investigate the perceptions of senior managers of Malaysian publicly listed companies concerning the relationship of audit

committee authority and effectiveness. Seven issues on audit committee authority were presented to the respondents, such as audit committee appoints the auditor, audit committee determines and reviews audit fees, audit committee determines and reviews the auditor's scope and duties, and audit committee's reports, meetings, charter and roles.

The paper is organised into six sections. The following section provides literature review on audit committee authority. Section three provides the data collection and research methodology. The fourth sections present the research findings. The fifth section provides discussion on the results and the final section provides conclusions of the study.

2. Literature Review

Audit committees serve as a bridge in the communication network between internal and external auditors and the board of directors, and their activities include review of nominated auditors, overall scope of the audit, results of the audit, internal financial controls and financial information for publication (FCCG, 1999). Indeed, the existence of an audit committee in a company would provide a critical oversight of the company's financial reporting and auditing processes (FCCG, 1999; Walker, 2004).

Audit committee could also enhance auditor independence. Knapp (1987) discovered that an audit committee is more likely to support the auditor rather than management in audit disputes and the level of support is consistent across members of the committee, regardless of whether the member is in a full-time or part-time position, such as corporate managers, academicians and retired partners of CPA firms. In addition, audit committees could play a role in selecting auditors, determining their remuneration and in the dismissal/retention of auditors. Goldman and Barlev (1974) pointed out that audit committees could observe the financial reporting process and provide recommendations in the selection of auditors, negotiation of fees and termination of external auditors, which would ultimately diminish management's power over the auditor. An audit committee is anticipated to ensure that a business organisation has sufficient internal controls, proper accounting policies, and independent external auditors that will prevent the incidence of fraud and promote high quality and timely financial statements.

Furthermore, the existence of an audit committee was found to have an association with the tendency to switch from less credible to more credible auditors (Kunitake, 1983; Eicheneher and Shields, 1985). Kunitake (1981) believed that independent directors of audit committees might have exposure to larger and better-known CPA firms rather than to local or regional firms, through their involvement as officers or directors of other public corporations. In addition, Kunitake (1983) found that there was less frequent auditor switching in companies that had audit committees than companies that did not have audit committees. These results indicate that the audit committee acts as a catalyst to enhance good financial reporting and support the role of auditors.

In addition, the formation of an audit committee would improve the credibility and reliability of financial statements through providing an assurance of the objectivity of financial statements to shareholders (Auerbach, 1973; FCCG, 1999). However, in Malaysia, the Finance Committee on Corporate Governance (FCCG) (1999) is concerned about the effectiveness of audit committees, and has noted, "We have very real experience in Malaysia in the form of audit committees, where companies merely comply in form by setting up such committees without giving heed to the spirit of the requirement by ensuring, for example, the quality of the people within the committee" (p. 64). In this respect, Mohamad *et al*. (2001) found that a large majority of companies listed on the BMB tend to comply with all regulations imposed on them, such as the requirement to disclose audit committee reports, without concern for the quality of these reports.

An active audit committee would enhance their role to pursue the terms of reference and objectives (FCCG, 1999; Treadway Commission, 1987). The frequency of audit committee meetings would indicate whether the committee was active or not. Although the presence of non-executive directors was linked with audit committee effectiveness, it is not guaranteed. Menon and Williams (1994) pointed out that audit committee independence did not guarantee effectiveness unless the committee was active. In addition, Kalbers and Forgarty (1993) supported this argument and indicated that audit committee effectiveness would only materialise if the members were committed to pursue their roles and duties. The BMB listing requirements (2001), BRC (1999) and the Treadway Commission (1987) suggested that audit committees should meet at least four times a year.

To effectively pursue their objective, audit committees need unambiguous, practical and flexible terms of reference, sometimes referred to as the charter (Mohamad and Sori, 2001). This charter should be deliberated on and accepted by the board of directors that govern the firm's operations. The charter should be re-evaluated periodically, sufficiently flexible to incorporate a changing business environment and clearly spell out the responsibilities of the audit committee. Preferably, the charter should be disclosed in the financial statements to help shareholders assess the performance of the committee in relaying their responsibilities.

Prior studies have documented the various roles of audit committees. Vanasco (1994) contended, "there seems to be a consensus among researchers in the field and the various national and international organizations that audit committees provide significant benefits to the corporation, public, investors and regulatory agencies" (p.38). He further provided the most cited functions of audit committees,

as follows: "strengthening the internal and external audit functions", "co-ordinating the work of the external and internal auditors", "strengthening the position of non-executive directors", and "assisting the board of directors to fulfil their legal responsibilities" (p. 38). Furthermore, audit committees are also expected to regularly assess a company's risk and management's responses to significant financial and non-financial risks facing the organisation. Duncan (1991) argued that audit committees must take into account the following audit risk assessment: (i) the major risks facing the organisation; (ii) the auditor examines the company's efforts to control these risks through contingency plans, security measures and other means; (iii) the auditor compares the risks and company responses to determine adequacies; (iv) the auditor recommends improvements in company activities in the identification, control and financing of critical risks. Cowan (2004) argued that risk management is crucial to corporate governance and it has became the main component of 'effective modern management'. He further pointed out that the complexity of today's business environment necessitates the committee and the entire organisation to understand the importance of risk management. Mohamad and Sori (2001) summarised an audit committee's responsibilities to include ensuring quality accounting policies, internal controls, and the independent and effective role of outside auditors to deter fraud, anticipate financial risks and promote accurate, high quality and timely disclosure of financial and other material information to the board, to the public markets, and to shareholders. In a review of the literature, DeZoort *et al*. (2002) concluded that: (i) audit committee responsibilities are diverse and seem to be intensifying; (ii) the main areas of audit committee oversight include oversight of financial reporting, auditing and controls; (iii) audit committee authority is associated with written authority and management support. However, they pointed out several limitations of prior studies: (i) none of the prior studies focus on the ultimate source of the audit committee's authority (i.e. board of directors) or aspects linked with variations in such authority; (ii) there is a lack or absence of empirical research that addresses the relationship between audit committee effectiveness and audit committee authority.

3. Methodology

Based on the aim of the study and review of the literature, the study attempted to answer the following research question:

> What are the perceptions and current practices of corporate management concerning issues of audit committee authority (e.g., responsibility, influence) that contribute to the audit committee's effectiveness?

Therefore, postal questionnaire survey is the most appropriate research tool to answer the above question. It is an effective tool to seek opinions, attitudes and descriptions about audit committee effectiveness issues. On the other hand, the development of the questionnaire for this study has taken into account the unique nature of the Malaysian corporate environment and culture, which are different from those of developed and other developing markets.

In order to enhance the quality of the questionnaire and to ensure its applicability to the practices in Malaysian corporations, it was pilot-tested. In this study, senior managers of publicly listed companies were selected as the population. The group was selected because they are the key players in Malaysian corporations and corporate governance (FCCG, 1999). Their perceptions on audit committee effectiveness are valuable to this study because they are directly involved in audit committee monitoring activities. A listing of Malaysian listed companies is available from the Bursa Malaysia Berhad web page and as of 31 December 2004, a total of 900 companies were listed on it (i.e. 622 companies listed on the main board and 278 companies on the second board). It was decided to distribute the questionnaire to 150 companies (i.e. 75 questionnaires each to the main and second boards). Therefore, companies were selected on the basis of every sixth company on the list, one company being selected to make up the sample list to 150 companies.

The response rate of the questionnaire survey was 23%, where only 35 out of 150 questionnaires were received back after four weeks in circulation (i.e. from 1st July to 31st July 2005). The literature documents that responses to mail questionnaires are generally poor, and it is a common phenomenon to see return percentages as low as 15% to 20% (Saunders *et al*., 1997, p. 131). Therefore, it is important to undertake an examination of non-response bias in order to identify the reliability and validity of the data.

Based on the received date recorded on each questionnaire, the first 10 questionnaires received from respondents were classified as 'early' and the last 10 questionnaires as 'late'. The early and late responses were matched with the aim of examining whether significant differences between the two groups exist. The Mann-Whitney test was used as a statistical tool to examine the differences. No significant differences were detected between the 10 early and 10 late responses. Thus, the results provide an indication that the respondents who failed to return the questionnaires would have the same perceptions as those who responded.

4. Research Findings

4.1 Respondents' Background

An analysis of the distribution of respondents across companies listed on the Bursa Malaysia Berhad

(BMB) was carried out based on two criteria, namely board listing and industry. Following on from this, more specific criteria were used to analyse respondents' profiles, such as age, education level and professional qualifications.

A large majority of the responses (i.e. 91%) came from senior managers of main board companies, and only 9% of the respondents were attached to companies on the second board of the BMB, as shown in Panel A of Table 1. As shown in Panel B of Table 1, the majority of respondents were concentrated in five industries, namely trading/services (26%), plantation (17%), consumer products (14%), technology (11%) and finance (11%). Only small numbers of responses were received from senior managers of companies in the area of industrial products (3%), properties (6%), construction (6%), infrastructure projects (3%) and hotels (3%). Although this study recorded a relatively low response rate, i.e. 23% (as reported in the section 3.0), the respondents represented a wide range of industries that cover the majority of the Malaysian economy.

Table 1. Classification of Respondents Based on Board Listing and Type of Industry

Panel A: Board Listing		
Board	Frequency	Per cent
Main	32	91
Second	3	9
Total	35	100
Panel B: Type of Industry		
Industry Type	Frequency	Per cent
Industrial Products	1	3
Properties	2	6
Construction	2	6
Infrastructure Project	1	3
Technology	4	11
Consumer products	5	14
Trading/Services	9	26
Finance	4	11
Plantation	6	17
Hotel	1	3
Total	35	100

Since the questionnaires were directed to senior managers of publicly listed companies, all of the respondents were more than 30 years old. As shown in Panel A of Table 2, 57% of the respondents fell in the age range between 30 to 40 years old, 37% came from the age range between 41 to 50 years old, and only 6% were more than 50 years old.

In terms of educational level, Panel B of Table 2 indicates that all of the respondents have a minimum of professional qualifications (34%) or degree with (29%) or without (37%) professional qualifications. This might indicate that the respondents that participated in this study might have adequate or reasonable knowledge of Malaysian corporate governance in general and audit committees in particular. The wide distribution of respondents that have a high education level (degree and professional qualifications) and mature age might provide richer insights into the issues investigated in this study.

Table 2. Respondents' Background Information

Panel A: Respondents' Age		
Range	Frequency	Percentage
<30	0	0
30-40	20	57
41-50	13	37
>50	2	6
Total	35	100
Panel B: Respondents' Education Level		
Education/Professional Qualification	Frequency	Percentage
Degree with Professional Qualification	10	29
Degree without Professional Qualification	13	37
Professional Qualification (No degree)	12	34
Total	35	100

In the following section, results relating to seven questions on audit committee authority will be reported.

4.2 Audit Committee Appoints Auditor

As shown in Figure 1, 60% of the respondents indicated that auditor effectiveness and independence would be greatly enhanced if the audit committee assumes responsibility for appointing the external auditor, rather than the board of directors. Only 23% of the respondents indicated that it would not affect auditor effectiveness and independence, and 17% agreed that an audit committee assuming the role of appointing the auditor would partly enhance the auditor's effectiveness and independence.

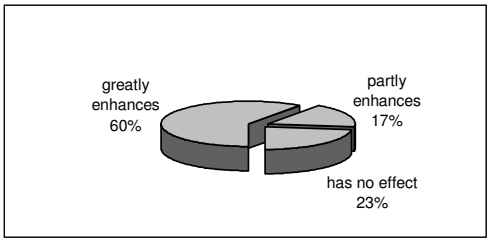

Figure 1. Audit Committee Appoints Auditor

It may be that an audit committee that comprises a majority of non-executive directors would support the auditor in delivering their duties, especially in situations of conflict. If the audit committee assumes the responsibility to appoint the auditors, the management should not be able to influence the auditor or threaten to terminate the auditor should the auditor not adhere to their choice of accounting policy. Thus, the auditor would be more effective if the audit committee were responsible for their appointment.

4.3 Audit Committee Determines and Reviews Audit Fees

When the respondents were asked about the impact of an audit committee assuming the responsibility to determine and review audit fees as effect to cost and audit, 60% of them agreed that it would result in a more cost-effective and thorough audit (refer to Figure 2). A small percentage (i.e. 11%) of the respondents indicated that it would result in a less cost-effective audit, but that the audit would be conducted more thoroughly. On the other hand, 29% of the respondents indicated that there would be no effect to cost and audit when the audit committee assumed the responsibility to determine and review audit fees.

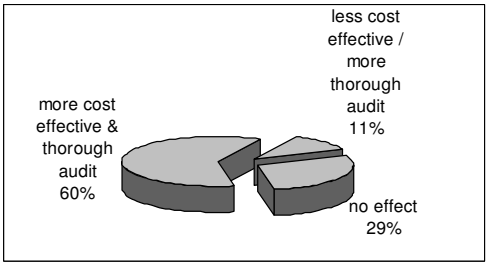

Figure 2. Audit Committee Determines and

Reviews Audit Fees

Although the total audit fees might increase due to a thorough audit exercise performed by the auditors, the benefits derived from such an exercise could be more than the cost because a thorough audit could avoid misstatement in financial reporting, which consequently provides greater benefits to safeguard shareholders' interests. The respondents might have believed that in the presence of a thorough audit, the possibility of mismanagement or financial fraud would be minimised. As a result, the respondents might have come to the conclusion that the audit would be more cost effective and thorough if the audit committee determines and reviews audit fees.

4.4 Audit Committee Determines and Reviews Auditor's Scope and Duties

With regard to the statement on the audit committee assuming responsibility to determine and review the external auditor's scope and duties, 66% of the respondents agreed that this would result in a more cost-effective and thorough audit, as shown in Figure 3. In contrast, only 11% were of the opinion that this would lead to a less cost-effective but more thorough audit. On the other hand, as many as 23% of the senior managers of publicly listed companies indicated that this role would not have an effect on the cost effectiveness and thoroughness of the audit.

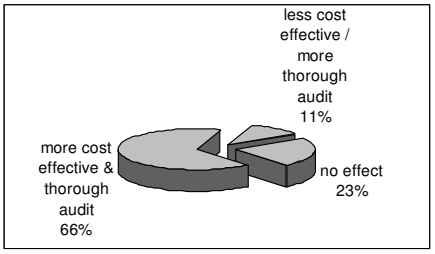

Figure 3. Audit Committee Determines and Reviews Auditor's Scope and Duties

Indeed, an audit committee could enhance the auditor's objectivity and independence if they reviewed the auditor's scope and duties. In addition, an audit committee would determine specific areas or duties that need attention based on risk assessment results and the audit would be more thorough if it took into consideration the risk areas. This would minimise the chances of misstatement in financial reporting that could lead to shareholders' losses. More cost effectiveness could be seen in terms of the benefit that shareholders could gain from the thoroughness of the auditors' scope of duties. The result is consistent with the findings concerning the audit committee determining and reviewing audit fees, as reported in Section 4.3, where there is a positive relationship between the cost effectiveness and thoroughness of the audit.

4.5 The Effect of the Audit Committee Report on User's Perception

Following the amendments to the BMB listing, all Malaysian listed companies are required to disclose audit committee reports in annual reports. Respondents were asked about the impact of audit committee reports on the perceptions of users of financial statements concerning the committee's effectiveness and role. Half (i.e. 50%) of the respondents agreed that this would greatly enhance the perceived effectiveness and role of the committee, while 38% of them indicated that it would partly enhance the perception of users of financial statements concerning the committee's effectiveness and role. Only 12% of the respondents believed that the publication of audit committee reports would not effect the perception of financial statement users.

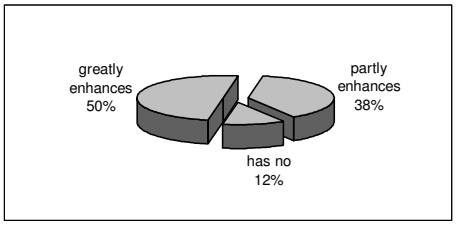

Figure 4. The Effect of the Audit Committee Report on User's Perception

The result might indicate the respondents' support for the disclosure of the audit committee report, where this report would outline activities undertaken during the year. Perhaps, as all documents relating to audit committee meetings and activities are treated as 'private and confidential', the disclosure of the audit committee report in the annual report would provide information on efforts undertaken to ensure shareholders and stakeholders' interests are protected. Thus, the perceptions of users of financial statements on the role and effectiveness of the audit committee would be enhanced.

4.6 Audit Committee Meetings

When the respondents were asked about the frequency of audit committee meetings in a calendar year, Figure 5 reveals that a large majority (85%) of the respondents indicated that the audit committee should meet quarterly. Only 9% and 6% of the respondents indicated that the audit committee should meet monthly and twice a year respectively.

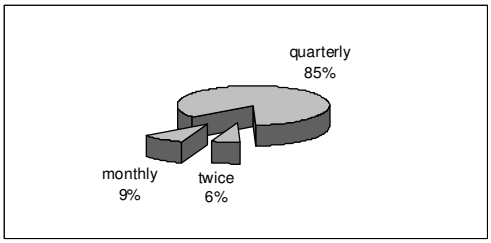

Figure 5. Audit Committee Meetings

This result indicates that the respondents are in agreement with the BMB listing requirements that stipulate that an audit committee should meet at least on a quarterly basis. If an audit committee were to meet on a quarterly basis, they might discuss the results reported in quarterly financial statements and perhaps would be able to evaluate internal control systems and any issues arising from previous meetings. Indeed, the frequency of meeting indicates how active the committee is in pursuing good corporate governance objectives.

4.7 The Effect of the Charter on Perceived Effectiveness and Role

It is a common practice for Malaysian listed companies to provide the audit committee's terms of reference or charter in the annual report. Respondents were asked about the impact of disclosure of the audit committee's charter on the perception of users of financial statements concerning the committee's effectiveness and role. As shown in Figure 6, a sizeable percentage of the respondents indicated that it would greatly (37%) or partly (43%) enhance the perception of users of financial statements concerning the committee's effectiveness and role. On the other hand, only 20% of the respondents indicated that it would have no effect on the perceived effectiveness and role of the audit committee.

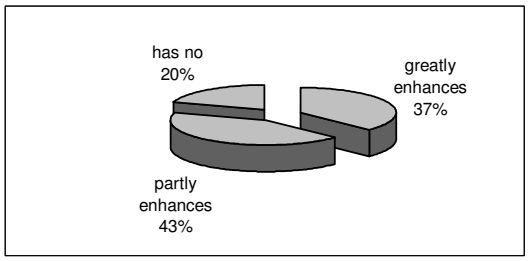

Figure 6. The Effect of Charter on Perceived Effectiveness and Role

The disclosure of the audit committee charter would provide users of financial statements with information relating to the roles and responsibilities of the audit committee. Indeed, the charter would serve as the responsibilities for the members of the audit committee to perform during the financial year. Thus, users of financial statements would be aware of these responsibilities and could ask questions during the annual general meeting concerning what has been done during the year to meet them, and this would increase the perceptions of users of financial statements concerning the committee's effectiveness and role.

4.8 Audit Committee Roles in Monitoring Financial Reporting

Respondents were provided with a list of nine roles of the audit committee in monitoring financial reporting and were asked to rank them accordingly, where point 1 as the most important and point 9 is the least important (refer to Table 3). From the ranks provided by the respondents, the means of the distributions were calculated and subsequently the roles were ranked based on the means to show their importance from the perspective of senior managers of the publicly listed companies that participated in this study.

As shown in Table 3, the majority of the respondents indicated that the audit committee's role to review the internal audit programme, processes and the results of the internal audit report (mean=3.2), to review and monitor the effectiveness of the company's risk assessment procedures (mean=3.3), and the review and analysis of the adequacy and effectiveness of the internal accounting and financial controls of the company (mean=3.3) were the top 3 most important roles. In addition, the audit committee's role to review the external audit programme, processes, and the results of the external audit report (mean = 3.9), to review and monitor action plans linked to audit recommendation (mean = 3.9), to review and monitor special investigation project e.g. potential fraud (mean = 4.4) and to review the annual financial statements and interim reports

(mean = 4.9) were also considered important. On the other hand, the majority of the respondents indicated that the review and analysis of significant changes in accounting policies and year end adjustments (mean = 6.2) and the review and analysis of accounting estimates and judgement (mean = 6.0) were the least important of the audit committee's roles. The respondents' perceptions on audit committee roles in monitoring financial reporting indicates that the role relating to internal control and risk assessments is at the top of the list of importance. This might explain why the role of the audit committee was seen primarily as examining the adequacy of the internal control of the company, which is important to ensure appropriate measures are in place to prevent financial irregularities or mismanagement from occurring. In addition, risk assessment was considered important, probably because this role would enable the committee to highlight the areas that need more attention and the mechanisms that are needed to mitigate the risk. As a result, the committee, internal auditor and external auditor would place more attention on that particular area. This effort could enhance the company's financial viability and shareholder and stakeholder confidence in company performance and internal control.

5. Discussion

The authority of an audit committee is drawn from the board of directors, the rules and regulations, and the BMB's listing requirements. As mentioned earlier in Section 4.1, seven issues concerning authority, namely whether the audit committee appoints the auditor, whether the audit committee determines and reviews the audit fees, whether the audit committee determines and reviews the auditor's scope and duties, and audit committee reports, meetings, charter and roles, were examined in this study and will be discussed in the following paragraphs.

In this study, the majority of respondents indicated that audit committee effectiveness and independence would be greatly enhanced if the audit committee were to appoint the external auditors. This result might indicate the respondents' concern about the potential drawbacks of the current practice, where the management through the mandate from the shareholders appoints the external auditor. Although shareholders are responsible for appointing the external auditors under the Malaysian Companies Law 1967, effectively this role is mandated to the management, and in addition the management sends the audit engagement letter to the auditor. This practice would either directly or indirectly influence auditor behaviour because the auditor is seen to be responsible to the management. In order to avoid this misconception or the unnecessary mandate to appoint the auditor from the shareholders to the management, it would be more appropriate if the audit committee were to assume responsibility for appointing the auditor, rather than the management. As a result, the auditor could then easily resist management pressure and report directly to the audit committee on significant issues or irregularities without any fear of termination or pressure from management. Goldman and Barlev (1974) believed that through this approach, management power over auditors would diminish. However, this argument was rejected by a manager, who pointed out, "This is subjective. If the audit committee still refers to the management on the appointment of external auditor, even though audit committee appoint, then the effectiveness is low". Furthermore, another manager believed that the suggestion would not solve the financial reporting problem and noted, "There will be no different because audit committee report to the Board of Directors. It will only make difference if the committee has a say in the audit fees or scope of work."

Auditor independence is important to the credibility and reliability of the financial information of companies. The behaviour of the auditor could have a direct link with how their fees are determined and reviewed because the auditor's economic benefit would determine their survival. The majority of respondents were of the opinion that if the audit committee assumes the responsibility of determining and reviewing audit fees, a more cost-effective and thorough audit would be obtained. This result might be a sign of the respondents' belief in the importance of changing the current practice of fee determination, where the system should be passed to the audit committee instead of leaving it to the board of directors, who received a mandate from the shareholders. An audit committee that consists of a majority of non-executive directors and is not involved in day-to-day business activities could fairly determine and review audit fees and subsequently closely monitor the business operations and management behaviour. The careful design of the fee determination and review system could perhaps result in better governance and financial reporting, where auditors would be able to freely express their views on any irregularities or fraud without any fear or favour. However, a senior manager that responded disagreed that there would be a more cost-effective and thorough audit, and pointed out, "This is irrelevant if audit committee decision can be overruled by the board". With regard to the question of the audit committee determining and reviewing the auditor's scope and duties, the majority of respondents indicated that this would result in a more cost-effective and thorough audit. Although a thorough audit is seen to cost more to the companies, the respondents might see the increase in cost effectiveness when a thorough audit is conducted, in terms of the benefit that the shareholders gain through good and reliable financial reporting. It might be the case that the respondents viewed the cost effectiveness that the company might gain with a long-term perspective.

Table 3. Audit Committee Roles in Monitoring Financial Reporting

Roles	Rank											
	1	2	3	4	5	6	7	8	9	Total	Mean	Rank
Review and analysis of significant changes in accounting policies and year end adjustments	9	0	11	14	3	6	9	29	20	100	6.2	9
Review and analysis of accounting estimates and judgement	3	6	20	3	3	3	31	17	14	100	6.0	8
Review of the annual financial statements and interim reports	17	9	11	6	3	26	6	11	11	100	4.9	7
Review and analysis of the adequacy and effectiveness of the internal accounting and financial controls of the company	29	23	9	9	9	6	17	0	0	100	3.3	2
Review internal audit programme, processes, and the results of the internal audit report	31	14	6	14	26	6	0	3	0	100	3.2	1
Review external audit programme, processes, and the results of the external audit report	11	9	20	29	23	0	0	6	3	100	3.9	4
Review and monitor special investigation project (e.g. potential fraud)	29	0	17	6	9	17	6	3	14	100	4.4	6
Review and monitor the effectiveness of the company's risk assessment procedures	9	29	20	29	6	3	0	6	0	100	3.3	2
Review and monitor action plans linked to audit recommendation	9	23	31	6	6	9	6	0	11	100	3.9	4

Note: The above figures on rank are stated in percentages.

Bowling and Burke (2005) argued that the first year of compliance to the Sarbanes Oxley Act for US listed corporations involved a huge amount of "wasted time, unnecessary expenditure and needless frustration". However, a news report from Reuters (2005) argued, "three years after the corporate governance guidelines set under the Sarbanes Oxley Act were unveiled, financial managers are increasingly acknowledging its benefits for investors". It further stated that a study done by a business software company, Approva Corporation, found that 44% of finance executives perceived the Act as offering net gains to investors.

The BMB listing requirements necessitate audit committees to provide their report in the company's annual report. The majority of respondents were of the opinion that this could greatly or partly enhance the perception of the users of financial statements concerning the effectiveness and role of the audit committee. This result might indicate the confidence of respondents in the benefits that such a report might bring to users of financial statements because these groups of stakeholders do not have all the inside information required for the purpose of economic decision–making. In this context, Mohamad *et al*. (2001) found that many of the documents and records are classified as 'private and confidential'. Indeed, the publication of the audit committee report could show the appearance of audit committee independence and their efforts to ensure good corporate governance and financial reporting. However, in order to avoid a 'paper exercise', clear guidelines should be in place to ensure that this monitoring agent provides an informational report. A manager that responded argued, "currently, most of the companies listed on the BMB only complied with the requirement without giving great attention on the quality of the report". Concern about the content of the audit committee report was expressed by another manager, who argued that the audit committee reports of many listed companies use very similar wording and might not reflect the business reality of the company, and he noted, "audit committee report would only effective if its report major findings and action taken". This move would also surely involve cost to the company and shareholders.

Another aspect of audit committee authority is the frequency of audit committee meetings. The majority of respondents agreed that audit committees should meet quarterly, as required by the BMB listing requirements. The number of meetings could signal the amount of effort undertaken by the committee to ensure good governance and financial reporting. An active audit committee is a sign of their effort to review financial reports and transactions and to make sure that proper internal control is in place. Although they agreed with the listing requirements, a number of managers that responded were flexible on the frequency of meetings, where they believed that the type of industry and business play an important role. One of them further noted, "Frequency should be dependent on the complexity of the organisation's business". In addition, if the meeting frequency were to be reported in the annual report, users of financial statements could evaluate the amount of credibility and reliability that they could put on the reports. In addition, an active audit committee could reflect the number of safeguards of good financial reporting and governance provided by the committee to shareholders and stakeholders.

An audit committee charter or terms of reference outline the committee's duties and responsibilities,

which they are expected to achieve or pursue. The majority of respondents were of the opinion that the disclosure of the charter in the annual report would greatly or partly enhance the perceptions of users of financial statements concerning the effectiveness and role of the committee. Indeed, the charter would signal the seriousness of the committee's intent to undertake appropriate measures to ensure shareholders' and stakeholders' interests are protected, and would also indicate that they are pursuing good corporate governance consistent with international best practice. However, some of the respondents are concerned about the practice of using similar wording in the audit committee's charter in many of the publicly listed companies, and a manager revealed, "The charter is a standard format. Most companies just copy the audit charter and adjust here and there to suit their operations". In addition, users of financial statements could evaluate and debate whether the scope of duties of the audit committee cover all material aspects and they could suggest further improvements to ensure adequate protection is in place.

With regard to audit committee roles, the majority of respondents indicated that the top 3 most important roles are: to review the internal audit programme, processes and the results of the internal audit report; to review and monitor the effectiveness of the company's risk assessment procedures; and the review and analysis of the adequacy and effectiveness of the internal accounting and financial controls of the company. In fact, the top 3 most important audit committee roles are associated with the internal control system of a company. This result is consistent with the literature, in that respondents in prior surveys frequently ranked internal control evaluation as the most important oversight area. This result might reflect the respondents' concern about the need to institute effective internal controls that would directly result in more effective financial reporting systems. The literature has documented that planned audit hours increase as the efficiency of the internal control system decreases (Kaplan, 1985). This finding might indicate that efficient internal control would directly influence the reduction in audit hours and fees, especially in a large and complex business organisation. As a result, higher quality financial reports would be produced with a minimum of or no financial misstatement. On the other hand, the least important of the roles of the audit committee are the review and analysis of significant changes in accounting policies and year-end adjustments; and the review and analysis of accounting estimates and judgement. These two roles are associated with the financial reporting process. It may be that the respondents believed that when internal controls are properly designed, the subsequent financial reporting process would produce more reliable results. Thus, it is fundamental to look at internal control systems that would have a greater impact and that cover the financial reporting role of the bottom 2 audit committee roles.

Conclusion

The majority of respondents agreed that the auditor would be more effective and independent if the audit committee assumed the responsibility to appoint the auditor. This result implies that the auditor could be threatened or pressured by the parties that appointed them. If an audit committee that comprised a majority of non-executive directors appointed them, such risk could be avoided because the committee members would not be involved in the day-to-day operations and could thus provide an independent view and input to the auditor.

In light of the above issue, the auditor's roles would be more effective and efficient if the audit committee were also to determine and review the audit fees. The auditor would be able freely to issue their opinion without fearing any threat to their economic benefits. Thus, the audit would be more cost-effective and conducted more thoroughly. Perhaps cost effectiveness from the thorough audit could be seen in the long term when good financial reporting and corporate governance have been put in place, which consequently increase the stakeholders' and shareholders' confidence. A consistent result was found on the issue of the audit committee assuming responsibility to determine and review the external auditor's scope and duties. The majority of the respondents believed that this would be more cost-effective and that the auditor would conduct a more thorough audit. These results might reflect the respondents' concern about the current system of auditor appointment and determination of the fee and the scope and duties of the auditor.

The audit committee report is one way that the committee communicates their efforts to instil good financial reporting undertaken during the year. The majority of respondents agreed that this approach would enhance the perceptions of users of financial statement concerning the effectiveness and role of the committee. Indeed, users of financial statements lack information relating to the company except that disclosed in the annual report and other statutory announcements, because most of the documents and records are classified as 'private and confidential'.

The majority of the respondents indicated that the audit committee should meet at least quarterly, which is consistent with the recommendations of the BMB listing requirements. Meeting frequency would perhaps indicate the amount of effort undertaken by the committee to monitor the reporting process and internal control.

The majority of the respondents indicated the disclosure of audit committee charter in annual report would enhance the perceptions that users of financial statements have on the committee's effectiveness and role. Through this approach, the audit committee would appear to perform an extensive role in

safeguarding shareholders' and stakeholders' interests. In addition, it would create a responsibility of the committee, which they would be bound by law to perform. The three most important roles of an audit committee, as ranked by the majority of respondents, are to review the internal audit programme, processes and the result of the internal audit report, to review and monitor the effectiveness of the company's risk assessment procedures, and the review and analysis of the adequacy and effectiveness of the internal accounting and financial controls of the company. These roles are associated with internal control systems and risk assessment. It may be that internal control systems and risk assessment are fundamental to overall financial reporting. When the systems are properly in place, the other reporting processed would be organised accordingly. Thus, the majority of respondents believed that the review and analysis of significant changes in accounting policies and year-end adjustments, and the review and analysis of accounting estimates and judgement were the two least important audit committee roles.

References

1. A-Kadir, A. (2002a) 'Can corporate governance lead the way to global competitiveness?', Chairman of Securities Commission's Speech text [online]. Available: http://www.sc.com.my/ [accessed 29 May 2005].
2. A-Kadir, A. (2002b) 'Towards better corporate governance and transparency', Chairman of Securities Commission's Speech text [online]. Available: http://www.sc.com.my/ [accessed 29 May 2005].
3. Abbott, L. J. and Parker, S. (2000) 'Auditor selection and audit committee characteristics', Auditing: A Journal of Practice & Theory, vol. 19, no. 2, pp. 47-66.
4. Auerbach, N. E. (1973) 'Audit committee – new corporate institution', Financial Executive, September, pp. 96-104.
5. Blue Ribbon Committee (BRC) (1999) Audit Committee Characteristics and Restatements: A Study of the Efficacy of Certain Blue Ribbon Committee Recommendations. New York: New York Stock Exchange and National Association of Securities Dealer.
6. Bowling, D.M. and Burke, J.F (2005) 'Lessons learned can help non-accelerated filers control SOX 404 compliance costs', Financial Managers Society White Paper [online]. Available: http://www.fmsinc.org/cms/?pid=3253 [Accessed 02 September 2005].
7. Bursa Malaysia Berhad (BMB) (2001) Listing Requirement [online]. Available: http://www.klse.com.my/ [accessed 23 January 2005].
8. Cowan, N. (2004) Corporate Governance That Works!, Singapore: Prentice Hall.
9. DeZoort, F.T., Hermanson, D.R., Archambeault, D.S. and Reed, S.A. (2002) 'Audit committee effectiveness: a synthesis of the empirical audit committee literature', Journal of Accounting Literature, vol. 21, pp.38-75.
10. Duncan, C.A. (1991) 'Risk management audits set directors' mind at ease', Risk Management, August, vol.38, pp.48-54.
11. Eicheneher, J. W. and Shields, D. (1985) 'Corporate director liability and monitoring preferences', Journal of Accounting and Public Policy, vol. 152, no. 2, pp. 13-31.
12. Farber, D.B. (2005) 'Restoring trust after fraud: does corporate governance matter?', Accounting Review, April, vol. 80, no. 2, p539-561
13. Finance Committee on Corporate Governance (FCCG) (1999) Report on Corporate Governance, Malaysia: Ministry of Finance.
14. Goldman, A. and Barlev, B. (1974) 'The auditor-firm conflict of interests: its implications for independence', The Accounting Review, October, pp. 707-718.
15. Kalbers, L.P. and Forgarty, T.J. (1993) 'Audit committee effectiveness: an empirical investigation of the contribution of power', Auditing: A Journal of Practice & Theory, vol. 12, Spring, pp.24-49.
16. Kaplan, S.E. (1985) 'An examination of the effects of environment and explicit internal control evaluation on planned audit hours', Auditing, vol. 5, no. 1, Fall, pp.12-25.
17. Knapp, M. C. (1987) 'An empirical study of audit committee support for auditors involved in technical disputes with client management', The Accounting Review, vol. 62, no. 3, pp. 578-588.Krishnan, 2005.
18. Krishnan, G. V. (2005) 'Did Houston clients of Arthur Andersen recognize publicly available bad news in a timely fashion?', Contemporary Accounting Research, vol. 22 no. 1, pp. 165-193.
19. Kunitake, W. (1981) 'Do audit committees favour the large CPA firms?', Journal of Accountancy, January, pp. 43.
20. Kunitake, W. (1983) 'Auditor changes by audit committees and outside directors', Akron Business and Economic Review, vol. 6, no. 4, pp. 48-52.
21. Menon, K. and Williams, J. D. (1994) 'The Use of Audit Committee for Monitoring', Journal of Accounting and Public Policy, vol. 13, Spring, pp. 121-139.
22. Mohamad, S. and Sori, Z. M. (2001) 'The Role of Audit Committees in Supporting A Disclosure Based Corporate Environment: Some Comments', Akauntan Nasional: Journal of Malaysian Institute of Accountants, vol. 14, no. 5, pp. 8-11.
23. Mohamad, S., Sori, Z. M. and A-Hamid, M. A. (2001) 'Compliance of audit committee: A brief review of the practice', Akauntan Nasional: the Journal of Malaysian Institute of Accountants, vol. 14, no. 5, pp. 4-7.
24. Reuters (2005) 'Three years on, finance execs laud Sarbane-Oxley', KPMG Banking Insider [online]. Available: http://www.fmsinc.org/cmc/?pid=3253 [Accessed 02 September 2005].
25. Saunders, M., Lewis, P. and Thornhill, A. (1997) Research Methods for Business Students, London: Pitman Publishing.
26. Treadway Commission (1987) Report of the National Commission on Fraudulent Financial Reporting [online]. Available: http://www.coso.org/Publications/NCFFR [Accessed 23 March 2005).
27. Vanasco, R.R. (1994) 'The audit committee: an international perspective', Managerial Auditing Journal, vol. 9, no. 8, pp. 18-42.
28. Walker, R. G. (2004) 'Gaps in guidelines on audit committees', Abacus, vol. 40, no. 2, pp. 157-192.

AN EMPIRICAL STUDY ON THE INDEBTEDNESS OF BRAZILIAN COMPANIES*

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Abstract

The aim of this paper is to provide insights on the determinants of the indebtedness of Brazilian companies. Initially, this paper replicates the main empirical tests on the literature. The reduced explanatory power of the results led us to propose a new methodology using the GMM method of Blundell and Bond (1998), which points out companies with higher proportions of fixed assets on total assets present higher indebtedness. Our results indicate that estimation of the equations implied by the target leverage model tends to generate seriously biased estimates if the endogeneity of the covariates is not explicitly considered in the analysis.

Keywords: Leverage, Generalized Method of Moments

* *Paper based on Chapter 2 of Cláudio R. Lucinda Ph.D. thesis. The authors wish to thank all comments to previous versions of the paper.*

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1. Introduction

The question on how Brazilian companies carry out its debt policy has interesting consequences to both the financial manager of a company as well as to the theoretical financial economist, interested on how market economies work. However, the Brazilian empirical literature on the subject is quite scarce. This paper aims to fill this gap by carrying out an econometric study evaluating the role different factors mentioned on the literature play on the leverage level of Brazilian companies.

In order to do so, this paper is composed of four parts, the first of which comprises this introduction. On the following section, a review of the international literature is presented, both regarding the Brazilian and international experiences. This survey is aimed to present the set of econometric models which could be estimated using Brazilian data. The third section carries out the econometric analysis, in which the results are presented and solutions to potential problems are presented and discussed. The fourth section concludes.

The research here presented has two main contributions to the literature; the first one being the analysis using a sample of Brazilian companies after January 1999[46], and the second one is to point out the potential biases that may arise if the endogeneity problem in the econometric analysis is not addressed properly.

2. Review of Empirical Literature

As already stated in the beginning of the paper, the empirical literature on the subject of leverage of companies is mainly concerned with American companies. Since the eighties, some authors try to find empirical support for the claims implied by theoretical models[47]. However, only after the paper of Shyam-Sunder and Myers (1994) can be discerned a trend on the literature dealing specifically with the comparison of different econometric models[48]. We will start our analysis by describing in detail such models, including the actual specifications used, for they pose a starting point for the following analysis, in which they will be replicated.

In this paper of Shyam-Sunder and Myers (1994), one can find important evidences supporting the claim the *pecking order model* was more suitable to explain the observed behavior of debt patterns of American companies. This model is so called because it assumes companies start using debt only when the internal capacity of cash generation is exhausted. An analysis using Brazilian data was carried out by Júnior and Melo (1999), being the first study on the subject. Their specification of the *pecking order* model is presented below:

[46] January 1999 marks the end of the regime of fixed exchange rate in Brazil. In a few months, the exchange rate devaluated more than 20%, having significant impacts on the liability side of Brazilian companies.

[47] Rajan and Zingales (1995) do provide an interesting survey.

[48] A recent survey on the subject is Frank and Goyal (2005).

$$\Delta D_{it} = \alpha + \beta DEF_{it} + \varepsilon_{it} \quad (1)$$

$$D_{it} - D_{it-2} = \alpha + \beta(DEF_{it} + DEF_{it-1}) + \varepsilon_{it} \quad (2)$$

The "i" subscripts denote the companies used on the dataset, and the "t" subscripts denote the time periods. The variables were defined as:

- D_{it}= Long Term Debt.
- DEF_{it}= Variable constructed as a *proxy* for the need of external funding of companies. Constructed as follows:

$$DEF_{it} = I_{it} + DIV_{it} - A_{it}$$

In which:

- I_{it}= Investment on fixed assets. Constructed from the following variables:
  - Increase in Fixed Assets
  - Increase in Deferred Assets
- A_{it}= Level of Internally Generated Funds. Sum of the three items on the Financial Statements:
  - Net Income
  - Received Dividends
  - Transfers from Long-Term to Short-Term Assets
- DIV_{it}=Distributed Dividends

Equation (2) is only present on Júnior and Melo (1999) and intends to capture the role of unspecified adjustment costs on the debt decision. This specification follows from the reasoning companies will demand debt only if the internal demand for funds is superior to its self-financing capacity.

The estimation results can be considered as supportive to the *pecking order* hypothesis only if α=0 and β=1 on equation (1). Furthermore, if one does find a result β<1 on equation (2), this can be interpreted as a result in accord with the existence of adjustment costs.

For the target leverage model[49], these authors – following Shyam-Sunder and Myers (1994), they posit the following model:

$$\Delta d_{it} = \alpha + \beta(d^* - d_{it-1}) + \varepsilon_{it} \quad (3)$$

$$d_{it} - d_{it-2} = \alpha + \beta(d^* - d_{it-2}) + \varepsilon_{it} \quad (4)$$

In which the variables were defined as follows:

- d_{it} – Leverage, defined as Long-Term Debt as a percentage of total assets.
- d* - *Target Leverage Ratio*, constructed by the authors as the time average of the d_{it} variable.

This model is based on the reasoning that companies tend to reduce its leverage in response to shocks which could put their leverage above its target level, and vice-versa. Equation (4), as equation (2) above, was presented only in Júnior and Melo (1999) paper, and was intended to capture the existence of unspecified adjustment costs on the behavior of the leverage ratio. If the estimates of the β coefficient were statistically between zero and one on equation (4), this could be interpreted as favorable evidence on the existence of adjustment costs.

These models were subject of criticism from different fronts. First of all, Chirinko and Singha (2000) put forward a criticism on the hypothesis to be tested[50]. The second line of criticism is put forward by Frank and Goyal (2003), which criticize Shyam-Sunder and Myers (1994) models by pointing out that the power of the models to explain the data diminishes when the sample is expanded to include the nineties.

These authors also propose an extension of the target leverage model, in which the target leverage is expressed not by the time average of the leverage ratio. The target leverage measure is defined as a function of other variables, intended to capture the role of moral hazard and informational asymmetries faced by the firm. Another way by which they extended the model was by allowing the adjustment velocity – expressed by the βcoefficient on equation (4) – to be dependent on the same set of factors. Thus, the equation they chose to estimate was as follows:

$$\Delta d_{it} = \alpha + b_1(d^* - d_{it-1}) + \varepsilon_{it} \quad (5)$$

$$b_1 = \beta_0 + \beta_1 TANG_{it} + \beta_2 MBV_{it} + \beta_3 Ln(SALES)_{it} + \beta_4 PROFIT_{it} \quad (6)$$

$$d^* = \gamma_0 + \gamma_1 TANG_{it} + \gamma_2 MBV_{it} + \gamma_3 Ln(SALES)_{it} + \gamma_4 PROFIT_{it} \quad (7)$$

In which the variables were defined as:

- $TANG_{it}$ – Share of fixed assets on total assets
- MBV_{it} – Market to Book Value ratio
- $Ln(SALES)_{it}$ – Natural Logarithm of Sales
- $PROFIT_{it}$ – Profitability

The authors obtain estimates for the relevant coefficients by the reduced form of the system of equations (5)-(7)[51]. On the *pecking order* model, Frank and Goyal (2003) also present some contributions, especially as regards the definition of the internally generated funds variable. They investigate if the constraint implied by the definition of the DEF_{it} variable does not impose significant efficiency costs on the estimation of equations (1) and (2)[52]. They found the constraint to be statistically rejected. Finally, these authors also try to directly test the adequacy of both models by developing an encompassing model, concluding the target leverage model to be the most adequate given their sample.

[49] The target leverage model is so called because it is assumed companies have a goal on its leverage, and base their policies on adjusting the actual levels of leverage to its goal.

[50] Specifically, these authors state that even if one does find a result statistically equal to β=0 and β=1, as predicted by the *pecking order* model, the company might, in fact, have been basing its behavior on the target leverage model. A similar criticism applies to the target leverage model.

[51] They substituted equations (6) and (7) into equation (5) and estimated the resulting equation.

[52] The implicit constraint is unity coefficients for the I_{it}, A_{it}, and DIV_{it}, variables on the construction of the DEF_{it} variable.

Finally, Lemmon and Zender (2004) start from a different point of view, by including into the definition of the DEF_{it} variable factors that might pose a limit to the self-financing capacity of the companies. They pose the following model:

$$\Delta D_{it} = \alpha + b_i DEF_{it} + \varepsilon_{it} \quad (1)$$

$$b_i = \beta_0 + \beta_1 EDEF_{it} + \beta_2 PPE_{it} + \beta_3 MBV_{it} + \beta_4 IPO_{it} \quad (6)$$

In which the variables not already defined are as follows:

- $EDEF_{it}$ – Estimated need for external financing. Defined as the moving average (3 years) of the DEF_{it} variable.
- PPE_{it} – Share of the Property, Plant & Equipment in total assets.
- IPO_{it}– Dummy variable marking the first year the company entered the authors' sample.

This approach has the advantage of robustness to the criticisms presented by Chirinko and Singha (2000), discussed above. These authors find evidence this expanded *pecking order* econometric model has support of the data.

Considering all these models, the next step was to proceed to the econometric estimation of them, using a sample of Brazilian companies. This will be carried out on the following section.

3. Estimation and Results

After presenting the literature on the econometric methodologies to be used, the aim of this section is to apply them to the Brazilian case. First of all, the sample used and the definition of variables merit some discussion. The primary source of data is the Economática system, which provides quarterly financial statement data. However, we chose to work with annual data, since some variables need to be defined from data presented on annual statements only.

The database comprises 333 companies from the period from 1995 to 2001[53]. The descriptive statistics are presented on the Annex 1. The acronyms of the variables were intentionally kept to further stresst the similarities between the following analysis and what we have seen so far. The variables were constructed as follows (see table below).

From the data presented above, we can see the average long-term debt increased from 1995 to a maximum of 38% of total assets by the year of 2000, followed by a reduction to almost half in the next year, returning to 1996 levels. The following step was to use this database to apply the models outlined previously.

[53] It is important to notice that not all the companies participated on every specification, since some of them did not possess enough data to carry out the transformations on the variables presented on the following analyses.

3.1. Econometric Analysis

The first step of the analysis was the replication of the analysis of Júnior and Melo (1999) for the *pecking order* model, whose estimates are presented on the columns marked (1) and (2) on the following table. The procedure followed during this section began by the estimation of the model by Ordinary Least Squares. After this estimation, the relevant diagnostic tests were carried out to chek for serial correlation, groupwise heteroskedasticity, the significance of individual effects and on the modeling of these effects – fixed or random effects. Finally, the estimates obtained by the use of the most adequate estimator were presented. Such tests were especially important regarding the criticism posed by Fama and French (2002) to the studies on the literature[54]. Although we chose not to follow their procedure, due to the short time dimension of the panel data we had, their criticism still stands[55].

[54] Their criticism is related to the disregard of the consequences of serial correlation, cross-sectional correlation and groupwise heteroskedasticity on the residuals. On their paper, they also present a procedure to correct these problems, which we chose to not follow. Silva and Brito (2004) try this methodology for the Brazilian case.

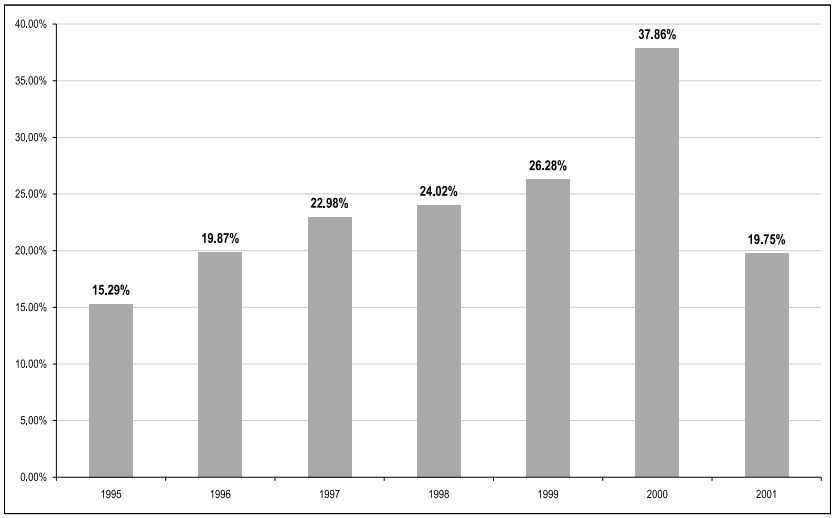
[55] On the following table are found the *p-values* for the tests mentioned. The software used was STATA, version 8.0. They are reported as:

- Fixed Effects Test: F-test with null hypothesis of non-significant individual effects.
- Het. Test: Modified Wald Test for Groupwise Heteroskedasticiy. The null hypothesis for this test is equal residual variance for each cross-sectional unit.
- Autocorrelation Test: LM test for first-order serial correlation. The null hypothesis is non-existence of serial correlation.
- Hausman Test: Test for selection of modeling of individual effects. The null hypothesis is non-existence of correlation between the error term and the regressors, thus supporting the use of random effects.

Table 1. Definitions and Sources of Variables

Variable	Definition	Source
DEF_{it}	Proxy variable representing the needs for external funding of the company. Constructed as the difference between the company's investment on fixed assets and the self-financing capacity.	Original data from Economática and construction of the variable by the authors.
d_{it}	Long-Term Debt Ratio. Constructed as the ratio of Long-Term Debt and Total Assets (definition below)	Original data from Economática and construction of the variable by the authors.
d*	Proxy variable representing the Target Leverage of the company. Constructed as the average of the dit variable during the period.	Original data from Economática and construction of the variable by the authors.
$Assets_{it}$	Total company assets in thousands of dollars (not consolidated)	Economática
$TANG_{it}$	Ratio Fixed Assets to Total Assets	Economática
MBV_{it}	Market to Book Value ratio	Original data from Economática and construction of the variable by the authors.
$Ln(SALES)_{it}$	Natural Logarithm of Sales Income in Dollars	Original data from Economática and construction of the variable by the authors.
$PROFIT_{it}$	Operating Profit divided by Total Assets	Original data from Economática and construction of the variable by the authors.
$EDEF_{it}$	Proxy for the expected need for external funding. Constructed as the average of the three leading years of the DEF variable	Original data from Economática and construction of the variable by the authors.

The following figure shows the behavior of the average leverage ratio during the sampled period.



Source: Authors' Calculations

Figure 1. Average Leverage Ratio

We can notice the coefficient values of the DEF_{it} variable do not present themselves as significant considering the robust standard errors. Even when significant, they present signs opposite to what one would expect, for instance in the case in which costs of adjustment are specifically considered. Finally, in all cases we are led to reject the hypothesis of $\alpha = 0$ and $\beta = 1$, indicating this version of the *pecking order model* does not apply to our sample. As regards the Target Leverage Model, the results are presented on the following table. The numbers on top of each column refer to the equation numbers on the previous section.

Table 2. Estimation Results – Pecking Order Model

	Models					
	1	1	1	2	2	2
	JM (1999)	Initial	Corrected	JM (1999)	Initial	Corrected
Constant	65367.00	25492.62	26981.51	37595.00	46884.13	51204.19
	(6.968)	(10.190)	(11.410)	(1.887)	(10.350)	(11.090)
DEF_{it}	0.464	0.024	0.028			
	(7.411)	(2.420)	(1.510)			
$DEF_{it}+DEF_{it-1}$				0.594	-0.130	-0.406
				(7.800)	(-8.140)	(-0.600)
R^2	0.217	0.003	0.204	0.278	0.030	0.477
Fixed Effects Test		0.000			0.000	
Het. Test		0.000			0.000	
Autocorr. Test		0.000			0.000	
Hausman Test		0.000			0.008	
Wald Test		0.000	0.000		0.000	0.000
Number Obs.		1440	1440		1044	1044
OBS: Asymptotic t statistics in parentheses. *Corrected* models estimated with fixed effects and Huber-White (QML) robust estimator of standard errors. Test results presented: *p-values*. Wald test line refer to the *p-value* of the test with null hypothesis □ = 0 and □ = 1.						
Source: JÚNIOR e MELO (1999), marked as JM (1999) and authors' calculations.						

Table 3. Estimation Results - Target Leverage Model

	Models					
	3	**3**	**3**	**4**	**4**	**4**
	JM (1999)	Initial	Corrected	JM (1999)	Initial	Corrected
Constant	0.744	0.028	0.032	0.416	0.027	0.032
	(1.251)	(1.970)	(1.140)	(0.540)	(1.510)	(1.960)
(d^*-d_{it-1})	0.395	0.719	0.743			
	(6.209)	(14.200)	(3.980)			
(d^*-d_{it-2})				0.858	1.256	1.263
				(10.359)	(20.400)	(1.490)
R^2	0.178	0.1224	0.0904	0.404	0.270	0.1797
Fixed Effects Test		1.000			1.000	
Het. Test		0.000			0.000	
Autocorr. Test		0.0023			0.013	
Hausman Test		0.000			0.000	
Number Obs.		1447	1447		1122	1122
OBS: Asymptotic t statistics in parentheses. *Corrected* models estimated Ordinary Least Squares with standard errors of the coefficients corrected for Groupwise Heteroskedasticiy.						
Source: JÚNIOR e MELO (1999), marked as JM (1999) and authors' calculations.						

From the results presented above, two conclusions present themselves. The first one refers to the fact the point estimates for the coefficients of the (d^*-d_{it-1}) and (d^*-d_{it-2}) variables were higher than the ones found at Júnior and Melo (1999) paper. The second point refers to the low explanatory level found on both models – columns (3) and (4) labeled "Corrected". And finally, the point estimate of the coefficient of the (d^*-d_{it-2}) variable is over unity and not significant, indicating that an extension of this model *à la* Frank and Goyal (2003) might be necessary. The next step on the analysis was to try to compare directly the models under consideration. In order to do that, the path chosen was to adapt one of the models to be directly comparable to the other, which entails the redefinition of the dependent variable. We chose to that by redefining the dependent variable on the *pecking order* model by expressing its dependent variable – Long Term Debt – as a share of total assets. The results of both models are presented in the next table.

Despite the problems each of the models presented, which have already been discussed previously, there are two points to be made. The first one is that, in every specification, the hypothesis consistent with the *pecking order model* is rejected. The second one is that this model does present a lower explanatory level than the target leverage model. Even so, the evidence gathered so far has not proved to be conclusive.

Given these results, the next step was to investigate the adequacy of some of the extensions of these models to the Brazilian case. The first step was to replicate the Frank and Goyal (2003) methodology, allowing greater flexibility on the target leverage level.

Table 4. Comparison of the Models

	Modelos			
	3	"1"	4	"2"
	Corrected	Corrected	Corrected	Corrected
Constante	0.032	0.0431	0.032	0.064
	(1.970)	(2.310)	(1.960)	(2.860)
(d^*-d_{it-1})	0.743			
	(1.140)			
(d^*-d_{it-2})			1.263	
			(1.490)	
$(DEF_{it}/Ativo_{it})$		0.353		
		(2.490)		
$(DEF_{it}/Ativo_{it})+(DEF_{it-1}/Ativo_{it-1})$				0.301
				(2.390)
R^2	0.0904	0.0316	0.1797	0.0731
Fixed Effects Test	1.000	0.793	1.000	0.000
Het. Test	0.000	0.000	0.000	0.000
Autocorr. Test	0.0023	0.000	0.013	0.000
Hausman Test	0.000	0.052	0.000	0.084
Wald Test		0.000		0.000
Number of Observations	1447	1169	1122	796
Fonte: Authors' Calculations				
OBS: Robust t statistics in parentheses. Adjustments made: column "1" – OLS with standard errors adjusted for serial correlation of first order and groupwise heteroskedasticity. Column "2" – OLS with Huber-White (QML) robust standard errors (quotes are used to emphasize the models have different dependent variables than models presented on table 2). Models 3 and 4 are the same as presented on table 3, and the adjustment made there are the same. Wald test line refer to the *p-value* of the test with null hypothesis □ = 0 and □ = 1.				

Table 5. Conditional Target Leverage Model

Dependent Variable: Δd_{it}	5	6
	Corrected	*Corrected*
Constant	-0.031	0.335
	(-2.220)	(2.090)
d_{it-1}	0.381	-0.573
	(3.230)	(-4.580)
$TANG_{it}$		0.034
		(0.440)
MBV_{it}		-0.039
		(-1.910)
$Ln(SALES_{it})$		-0.014
		(-0.920)
$PROFIT_{it}$		-0.536
		(-2.380)
R^2	0.0397	0.0573
Fixed Effects Test	0.972	0.000
Het. Test	0.000	0.000
Autocorr. Test	0.023	0.000
Hausman Test	0.010	0.000
Number of Observations	1447	1234
OBS: Asymptotic t statistics in parentheses. Model 5 Corrected: OLS with standard errors corrected for serial correlation of first order. Model 6 corrected: OLS with Huber-White robust Standard errors (QML). The characteristics of the tests are the same of the previous tables.		

The results presented above indicate we cannot reject the hypothesis of a negative coefficient of the d_{it1} variable. This implies the leverage tend to decrease after a positive shock, which is consistent with a mean reverting leverage ratio, a weaker version of the target leverage model. Furthermore, we can notice some of the variables included indeed have a role on the target leverage ratio.

For instance, we would expect a positive effect on target leverage of the share of fixed assets on total assets, since they could be used as collateral to the debt level. However, this variable does not present itself as significant. As regards the growth opportunities for the firm, summarized by its Market-to-Book Value ratio, the negative sign is consistent with the theoretical literature, since Rajan and Zingales (1995) assert firms with greater growth opportunities do not need to resort to financing forms intensive on monitoring, such as debt. Unfortunately, this coefficient does not present itself significant at 5%, only at 10%.

Concerning the firm size, the results point to a positive, albeit non-significant, sign of the coefficient associated with the firm size (proxied by the $Ln(SALES_{it})$ variable). According to Rajan and Zingales (1995) a theoretical case can be built for either a positive or a negative sign for this coefficient. Our results point to a negative and non-significant sign for this coefficient, different from the results presented by Frank and Goyal (2003). Finally, the literature also points out a negative sign for the coefficient associated with the profitability, which was confirmed by our sample. In particular, the result for the coefficient of the $PROFIT_{it}$ variable indicates that an increase of profits in one percentage point as a percentage of total assets indicate a decrease of 0.937 percentage points on the target leverage as a percentage of total assets.

Even though the results are quite consistent with the theory, the explanatory power of these models

remains quite low[56], warning us to caution on the interpretation of the results. Specifically, we should be aware of potential identification problems. Even after correcting the standard errors for making them robust to first order serial correlation and groupwise heteroskedasticity, we must be sure of the potential endogeneity problem of the variables. This is especially true if we have in mind that the Target Leverage Model, from the results presented above, could be expressed as follows:

$$\Delta d_{it} = d_{it} - d_{it-1} = f(d_{it-1},...) + \varepsilon_{it}$$

$$\varepsilon_{it} = \rho\varepsilon_{it-1} + \eta_{it}$$

On this specification, the term η_{it} represents the random component of the error. These results indicate a potential correlation between the error term and the right hand variables, severely biasing the coefficients' estimates. To face this problem, the specification above allows us to employ dynamic panel data models, an exercise that will be carried out on the following section.

3.2. Estimation by the Generalized Method of Moments

The first point to be addressed on the estimation is a further explanation of the potential biases that may arise in a dynamic specification as the one discussed previously. We can classify the target leverage model as presented on table 5 as a dynamic model, in which past values of the leverage ratio were held to explain the behavior of the changes on this variable. The application of this model on a panel data sample as used throughout this paper poses a problem on the identifiably of the individual effects. If one does suppose the individual effects as random – and by definition, uncorrelated with the contemporaneous error term – we must have a correlation of the lagged dependent variable with the composite error term implied by random effects estimation. This means the estimation by Generalized Least Sequares must yield biased and inconsistent parameter estimates. This problem is also present on the Ordinary Least Squares estimation without individual effects, in which we are led to expect a positive bias to the coefficient for the lagged dependent variable.

On the other hand, the modeling of individual effects as fixed effects does not yield consistent estimates either. The within transformation implied by fixed effects estimation implies we can express the lagged leverage variable as deviations from cross-sectional means, or $d_{i\tilde{t}1}[1/(\tilde{T}1)](d_{i1}+...+d_{it}+...d_{iT})$. The same transformation also implies we can express the error term as $\varepsilon_{it}-[1/(T-1)](\varepsilon_{i2}+...+\varepsilon_{it}+...+\varepsilon_{iT})$. As a consequence, the element $[(d_{it})/(\tilde{T}1)]$ on the transformed leverage variable is correlated with the $-[(\varepsilon_{it})/(T-1)]$ element on the transformed error term. This implies an especially acute downward bias on the coefficient of the lagged dependent variable.

To deal with these problems, Instrumental Variables estimators and Generalized Method of Moments were proposed, the first one of which was proposed by Arellano and Bond (1991). These estimators use different moment conditions, selected due to the assumptions on the correlation between the composite error (individual effects and random errors) and the right hand side variables, for the equations expressed in first differences. If one does assume the right hand side variables to be endogenous in a way we do not find correlation between the right hand side variables and the future errors, the t-2 lagged variables of these variables are valid instruments for the equations in first differences for the periods t=3,4,…T.

However, if we do suppose the right hand side variables to be predetermined, meaning the contemporaneous and future errors are uncorrelated with the right hand side variables, we can use all the lags (from t-1 on) of these variables as instruments. Finally, if one does suppose the right hand side variables to be strictly exogenous, meaning the past, present and future errors are uncorrelated with the right hand side variables, all leads and lags of the variables could be used as instruments.

This means the number of available instruments could be quite large as the number of time periods increases and one changes the exogeneity assumption on the right-hand side variables, which could cause severe small-sample biases on the coefficients. Two problems arise from the recognition of this problem. The first one was pointed out by Blundell and Bond (1998), who stated the instruments tend to be quite poor on the first differenced equation when they present a persistent behavior. They propose an extension of the model, including not only moment conditions associated with the differenced equation, but also the equations in levels. This method was named as GMM-System, as opposed to the GMM-Difference used presented initially by Arellano and Bond (1991).

The second problem was to select which instruments are, in fact, identifying the relevant parameters. Arellano and Bond (1991) propose a Sargan Difference Test, in which the difference on the values of the criterion function could be used to test the hypothesis of the adequacy of the instruments. This test could be used both to select the exogeneity assumption on the right hand side variables, as well as the adequacy of the GMM-System or GMM-Difference.

These methods are presented for the following specification, which is an extension of the model presented on Table 5:

[56] It was also carried out an investigation on the extension of the *pecking order model* as presented by Lemmon and Zender (2002). The results were not presented because in none of the estimations the relevant coefficient presented a result compatible with the theory.

$$d_{it} = \beta_{0l}+\beta_1 MBV_{it}+\beta_2 TANG_{it}+\beta_3 Ln(SALES_{it})+ \beta_4 PROFIT_{it}+\beta_5 d_{it-1}+\varepsilon_{it} \quad (11)$$

Table 6. Estimation Results - GMM

	O.L.S.	Fixed Effects	GMM-SYS Endogenous	GMM-SYS Predetermined	GMM-SYS Exogenous	GMM-DIFF Endogenous	GMM-DIFF Predetermined	GMM-DIFF Exogenous
dit-1	0.913***	0.426***	0.848***	0.846***	0.812***	0.437*	0.593*	0.338*
	(42.714)	(11.270)	(8.355)	(7.731)	(7.268)	(2.031)	(2.220)	(2.332)
MBVit	-0.004	-0.039**	0.004	-0.009	-0.004	0.001	-0.025	-0.037
	(-0.552)	(-3.065)	(0.208)	(-0.601)	(-0.223)	(0.030)	(-1.209)	(-1.620)
Ln(SALESit)	-0.005*	-0.014	-0.004	-0.005	-0.010	-0.015	-0.001	-0.009
	(-2.215)	(-1.537)	(-0.533)	(-0.664)	(-1.350)	(-0.669)	(-0.040)	(-0.512)
TANGit	0.079***	0.034	0.237***	0.203*	0.216**	-0.041	-0.006	0.054
	(4.565)	(0.568)	(3.736)	(2.459)	(3.098)	(-0.270)	(-0.042)	(0.516)
PROFITit	-0.600***	-0.536***	-0.772**	-0.534*	-0.716***	-0.171	-0.197	-0.509
	(-12.134)	(-7.640)	(-3.160)	(-2.465)	(-4.034)	(-0.730)	(-0.678)	(-1.803)
Constant	0.101***	0.336***	0.034	0.063	0.129			
	(3.964)	(3.456)	(0.478)	(0.807)	(1.506)			
N-Obs	1234	1234	1234	1234	1234	869	869	869
Sargan_Hansen			108.192	129.115	226.207	95.723	109.377	190.965
DF-Sargan_Hansen			95	119	194	70	90	165
P-Val. S-H			0.168	0.248	0.056	0.022	0.081	0.081
P-Val. AR(1)			0.004	0.005	0.005	0.058	0.044	0.036
P-Val. AR(2)			0.565	0.651	0.587	0.904	0.959	0.987

OBS: Robust asymptotic t statistics in parentheses. Sargan-Hansen (SH) test: test for the validity of the overidentifying restrictions. P-Val. AR(1) refers to the test for serial correlation of first order with null hypothesis absence of serial correlation (p-value reported).

The Sargan Difference test indicates the set of instruments most adequate for the estimation as being the GMM-SYS combined with the assumption of predeterminateness of the right-hand side variables. As regards the estimated coefficients, one does find a positive coefficient associated with the d_{it1} variable, which does seem to be consistent with the theory of the target leverage. As regards the speed of convergence to the target leverage and the effects on it from changes on the other variables, we could use a Wald test in order ascertain its significance. The following table presents the estimates for the effects of these variables on the target leverage, as well as the speed of convergence.

The results presented there implies significant biases on both the speed of convergence and the impacts all the determinants described previously had on the target leverage. On the GMM-System model we only find the share of fixed assets on total assets as significant and only at the 10% significant level. This result indicates that an increase of one percentage point of the share of fixed assets on total assets imply an increase of 1.32 percentage points on the leverage – expressed as a fraction of total assets.

Finally, the results for the target leverage indicate that only 15% of the deviation from the target leverage does turn itself into a change on the leverage ratio, implying a much longer time for convergence than implied by the Ordinary Least Squares and Fixed Effects estimation. This corroborates one of the most important results of this paper, the severe potential biases arising from the endogeneity of the regressors.

Table 7. Speed of Convergence and Determinants of Target Leverage

	O.L.S.	Fixed Effects	GMM-SYS Prederemined
Speed of Convergence			
b1	0.087	0.574	0.154
	(0.000)	(0.000)	(0.159)
Determinants of Target Leverage			
MBVit	-0.004	-0.092	-0.011
	(0.579)	(0.002)	(0.638)
Ln(SALESit)	-0.057	-0.024	-0.032
	(0.041)	(0.124)	(0.433)
TANGit	0.908	0.059	1.318
	(0.001)	(0.572)	(0.098)
PROFITit	-6.897	-0.934	-3.468
	(0.000)	(0.000)	(0.205)
OBS: P-Values of Wald Statistics			

4. Conclusion

The aim of this paper was to apply the econometric methodolgy in order to understand the role of several factors on the indebtedness of Brazilian companies. In order to do so, a sample comprising 333 companies from all economic sectors – except banking – on the period between 1995 and 2001.

The first step was to apply the most important econometric specifications of the literature on the subject: the target leverage model and the pecking order model (For the Brazilian case Júnior and Melo (1999) and Silva and Brito (2004) were the most important

ones. For the American case, Lemmon and Zender (2002), Shyam-Sunder and Myers (1994) and Frank and Goyal (2001) are the main references). As regards the results, none of the models does present itself as having a decidedly increased explanatory power. This point led us to consider an extension of the econometric model in which the identification assumptions of the parameters are directly considered, the Generalized Method of Moments of Arellano and Bond (1991) and Blundell and Bond (1998). The results indicate a serious bias on the coefficients estimated with traditional techniques, especially as regards the speed of adjustment. On the Fixed Effects estimation, the convergence is about 57,4% of the difference between the observed leverage and the target leverage, while on the GMM estimation this is about 15,4%. Furthermore, this value is not significant at 10%.

References

1. ARELLANO, M. and BOND, S., 1991. Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *Review of Economic Studies*, 58, 277-297.
2. ARELLANO, M. and BOVER, O., 1995. Another Look at the Instrumental Variable Estimation of Error-Components Models. *Journal of Econometrics* 68, 29-52.
3. BALTAGI, B. H., 1995. *Econometric Analysis of Panel Data.* John Wiley & Sons, Chichester.
4. BASKIN, J., 1999. An Empirical Investigation of the Pecking Order Hypothesis. *Financial Management*, spring, 26-35.
5. BLUNDELL, R.W. and BOND, S. R., 1998. Initial Conditions and Moment Restrictions in Dynamic Panel Data Models. *Journal of Econometrics* 87, 115-143.
6. BOND, S. R., 2002. Dynamic Panel Data Models: A Guide to Micro Data Methods and Practice. *The Institute for Fiscal Studies,* CEMMAP Working Paper CWP09/02.
7. CHIRINKO, R., and SINGHA, A, 2000. Testing Static Tradeoff against Pecking Order Models of Capital Structure: A Critical Comment. *Journal of Financial Economics* 58, 412-425.
8. FAMA, E. F., and FRENCH, K. R., 2002. Testing Tradeoff and Pecking Order Predictions about Dividends and Debt. *Review of Financial Studies 15,* 1-33
9. FRANK, M., and GOYAL, V., 2003. Testing the Pecking Order of Capital Structure *Journal of Financial Economics, 67, 217-248*.
10. FRANK, M. and GOYAL, V., 2005 Trade-off and Pecking Order Theories of Debt. *Working Paper*, Univesity of British Columbia.
11. GLEN, J. and PINTO, B., 1994. Debt or Equity? How Firms in Developing Countries Choose *IFC Discussion Paper* 22.
12. GOMES, A. and PHILLIPS, G. 2004 Why do Firms Issue Private and Public Securities? *Univesrity of Pennsylvania Working Paper.*
13. GREENE, W. H., 1998. *Econometric Analysis.* Prentice-Hall, Upper Saddle River, New Jersey.
14. JUNIOR, W. R. and MELO, G. M., 1999. Padrão de Financiamento das Empresas Privadas no Brasil. *Texto para Discussão* 653, IPEA.
15. KNEZ, P. J. and READY, M. J., 1997. On the Robustness of Size and Book-to-Market in Cross-Sectional Regressions. *Journal of Finance* 52, 1355-1382.
16. LEMMON, M L. and ZENDER, J F., 2004 "Debt Capacity and Tests of Capital Structure Theories". *Working Paper, University of Utah*.
17. LUCINDA, C. and SAITO, R., 2001. O Problema de informação entre credores and devedores and o papel dos bancos. In: ENCONTRO DA SOCIEDADE BRASILEIRA DE ECONOMIA INSTITUCIONAL, 2, 2001, Campinas. *Proceedings*. Campinas, Sociedade Brasileira de Economia Institucional.
18. MYERS, S. C., 1984. The Capital Structure Puzzle. *The Journal of Finance* 39, 575-592.
19. MYERS, S. C. and MAJLUF N., 1984. Corporate Financing Decisions when Firms Have Information that Investors do not have. *Journal of Financial Economics* 13, 187-221.
20. RAJAN, R. G. and ZINGALES L., 1995. What do we know about capital structure? Some Evidence from International Data. *The Journal of Finance*, vol. 50, nº 5. 1421-1460.
21. SHYAM-SUNDER, L. and MYERS, S. C., 1994. Testing Static Trade-Off Against Pecking Order Models of Capital Structure. *NBER Working Paper* N.º 4722.
22. SILVA, J. C. G. and BRITO, R. D., 2004. Testando as Previsões de Trade-Off and Pecking Order sobre Dividendos and Dívida no Brasil. *Proceedings of the IV Brazilian Finance Meeting*

Annex 1. Descriptive Statistics

	d_{it}	DEF_{it}	$TANG_{it}$	MBV_{it}	$Ln(SALES_{it})$	$PROFIT_{it}$	$ASSETS_{it}$
Mean	0.2488	-28814	0.3491	0.9581	11.2170	0.0237	1222089
Median	0.1496	-2850	0.3206	0.9177	11.4381	0.0185	248449
Maximum	21.6582	1449390	1.0000	6.6064	17.1451	0.4138	85822968
Minimum	0.0000	-7271253	0.0000	-4.2058	4.1431	-1.6444	10.0000
Standard Dev.	0.6601	255439	0.2728	0.6335	2.2215	0.1023	4679376
Number of Obs.	1782	1440	1781	1481	1669	1780	1782
Companies	333	318	333	319	326	333	333

DO INVESTORS REACT TO ENVIRONMENTAL FRIENDLY NEWS? AN ANALYSIS FOR SPANISH CAPITAL MARKET*

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Abstract

This work adds to the recent debate in corporate social responsibility (CSR) and its effects on performance and firm value. By analysing Spanish companies participating in the IBEX-35 stock-exchange index, this paper empirically tests whether there is a significant price reaction to environmental friendly announcements. Using event studies methodology, the distinction among sectors allows for a better understanding of investors reaction. Results show first, that investors do act in response to this kind of practices and second, that the sign of their reaction depends crucially on the business of the firm and the sector where it operates. In this sense, results may help in reconciling the opposite views regarding the effects of CSR policies.

Keywords: Corporate social responsibility, event studies.

* *Francisco J. Callado Muñoz acknowledges financial support from the Spanish Ministry of education (SEJ2004-03275/ECON). Natalia Utrero González acknowledges financial support from the Spanish Ministry of education (SEJ 2004-07530-C04/ECON).* *Author´s addresses: Francisco J. Callado Muñoz, Universitat de Girona, Departament d'Economia, Campus de Montilivi. (17071) Girona, Spain. E-mail: franciscojose.callado@udg.es. Natalia Utrero González, Universitat Autònoma de Barcelona, Departament d'Empresa, Campus de Bellaterra, 08193 Cerdanyola del Vallés, Spain. E-mail: natalia.utrero@uab.es*
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1. Introduction

In recent years firms have greatly increased the amount of resources devoted to corporate social responsibility (CSR) activities. CSR may be defined as actions on the part of a firm that appear to advance the promotion of some collective good, such as social and environmental preoccupations, beyond the immediate interests of the firm/shareholders and beyond legal requirements (McWilliams and Siegel (2001)). There are diverse reasons for the demand of increased CSR, from corporate scandals, such as Enron and Worldcom, to an increased concern expressed in many countries that globalization will lead to new corporate practices that will ignore important environmental and social issues. However, firm ultimate interests to introduce CSR practices are less clear cut.

Traditional economic theory claims that firms should only care about profit maximization. Any departure from this objective would only distort the optimal allocation of resources. According to these theoretical propositions, optimal resource allocation would maximise the social welfare relative to the initial endowment. Therefore, any intervention meant to improve the wellbeing of society would end up by reducing social welfare. However, investments that allow recognised environmental certification (ISO 14000 or EMAS) are increasingly becoming a *sine qua non* for firms seeking to export to countries with stricter environmental laws, such as Germany and other northern European countries. Firms are becoming aware that being at the forefront in the CSR field give them a decisive competitive advantage in business operations. Therefore, in a society that emphasises the wellbeing of multiple stakeholders, management may be expected to maximise social welfare. This social welfare defined by the sum of the various stakeholders' surpluses and not just the maximisation of shareholders' profits or executives' benefits, Freeman et al. (2006). The question is what effects have CSR activities on shareholders' wealth.

According to the stakeholder theory (Jones, 1995; Donaldson and Preston, 1995), corporate social responsibility (*CSR*) is seen as a mechanism to achieve greater financial performance. By behaving in a responsible way, firms obtain the continued support from their stakeholders. A support that is necessary to have access to valuable resources that secure the long-term survival and success of the firm (Freeman, 1984). Therefore, it is important that there exists a previous social demand or acceptance of CSR activities. In this case, despite the costs induced by CSR activities, profits may be positively affected if CSR are considered either altruistic or profit maximizing initiatives.

Following the debate on the effects of CSR announcements, this paper intends to assess to what extent and on what conditions, this kind of announcements made by Spanish corporations may give a positive signal to stock markets. In particular, the stock price reaction of companies from different sectors that form IBEX-35 stock index of the Spanish market is investigated using "event studies"

methodology. For that, different announcements and communications about environmental issues are identified. The distinction among sectors allows for a better understanding of investors reaction to CSR practices and may help in reconciling the two opposed views previously discussed.

The work structure is as follows. Section 2 discusses the CSR concept and reviews briefly previous literature. Section 3 presents the data and the methodology used. The results are exposed in section 4 and finally section 5 concludes.

2. Corporate social responsibility and literature review

As it has been highlighted in the introductory section, CSR is a very broad concept. Features included go from employee welfare, community programs or transparency to good corporate governance practices and environmental protection or charitable donations. CSR practices can be divided between those of internal sphere, that affect more directly firm operational decisions, and those related to the external dimension, that refer to suppliers, clients and impact in the society, Hillman and Keim (2001). Due to the multidimensionality of the concept, it is usually difficult to measure the results and consequences of CSR policies. These practices have effects inside the organization, but many of them have observable results only in the long term. In addition, it does not exist a certificate similar to the one of quality that could serve as a signal for the market. This fact has caused that CSR is sometimes considered a collection of specific practices or occasional initiatives motivated by public relations or other marketing benefits for the company.

With respect to previous literature, the interest on CSR activities dated back from the seventies. Basically there are two opposite positions. On the one hand, stakeholder theory suggests that taking into account the interest of stakeholder groups, that is behaving responsibly, creates value. Therefore, obtaining positive CSR results has a positive impact on stakeholder relationship and therefore on long run firm profitability (Freeman, 1984). Accordingly, Small and Graff Zivin (2005) show that the application of CSR policies is suggested to have a positive market valuation. On the contrary, economic theorists neglect the link between social responsibility and profit maximising or simply claim that CSR will encounter higher costs and difficulties. The former are represented by Friedman (1970) who claim that CSR activities such as providing amenities to a community or improving environmental issues should not be called social responsibility since these actions are entirely justified in the corporation self-interest. Hellwig (2000) among others represents the latter authors that, consider that companies would undergo a punishment because CSR practices that imply resources' distortion, are negative for the firm.

In the same line, Tirole (2001) argues that putting in place managerial incentives and control structures that implement the stakeholder society concept may be very costly because it can increase agency costs. Similarly, Jensen (2001) highlights that stakeholder theory offers a multiple value objective function while purposeful corporate behaviour requires a single value objective function. Accordingly, Sundaram and Inkpen (2004) highlight the difficulty to determine who the relevant stakeholders are and whose values should be taken into account in manager decision making.

Recent theoretical developments on particular policies, do not obtain clear conclusions either. Pagano and Volpin (2005) described how firms use concessions to workers – a particular dimension of a firm's *CSR* – as an entrenchment mechanism to prevent take-over threats. Barnea and Rubin (2005) argued that improvements in *CSR* can be connected to expropriation of small shareholders by large blockholders which, in turn, reduce financial results.

Related to environmental policies, traditional economists understand that environmental rules and investments impose private costs on industries. Two main reasons justify this thesis. First, firms are required to allocate resources to pollution reduction, which may be unproductive from a business perspective or delay more productive investments. Second, environmental investments may increase costs and reduce production efficiency. Porter (1991) and Porter and van der Linde (1995) challenged this traditional view. They state that environmentally friendly practices lead not only to social benefits, but may, very often, also result in private benefits for companies. Ambec and Barla (2002) who formalised what is now referred as the Porter hypothesis, show that environmental practices reduce agency costs. Cespa and Cestone (2002) show that this is the case even when polluting technologies are more profitable, because small shareholders will be willing to support better practices to prevent inefficient agreements with managers. Further, they emphasise the importance of society awareness to implement non polluting policies[57]. Some papers suggest that, higher empirical environmental performance may be an indication for investors of good management although it may be also signal lower than expected costs. In contrast, poor environmental results are bad news for investors as they anticipate increased future liability costs and intensifying regulator scrutiny. This is especially true for polluting intense and more regulated firms. This debate suggests that investors' reaction to environmental announcements may be affected by the nature and technology of the economic sector where the firm operates. The above debate shows that the expected effect of environmental policies and other CSR practices is not obvious *ex ante*.

[57] Recent empirical evidence suggests that green labels appear to have had some impact either through higher prices or market share, Ambec and Barla (2005).

Empirical works are not conclusive either. Some find a positive relationship (Posnikoff (1997), Mahoney and Roberts (2002), Gupta and Goldar (2004) and Chen (2004)) and some others a negative or not significant impact of CSR practices (Wright and Ferris (1997) and Teoh et al. (1999)). A growing empirical literature examines the relationships between firm's environmental and financial performance. Works on environmental issues obtain different results as well, although they usually show that bad (good) unexpected news about a firm's environmental performance result in significant negative (positive) abnormal returns. The first work on the effects of environmental management on firm performance is the one from Klassen and McLaughlin (1996). They focus on the impact of the environmental policies in stock price. Using "event study" methodology, they find that good news measured as environmental performance awards provide a positive and significant abnormal yield and that the market reacts negatively to the bad news, measured as environmental crisis. Becchetti et al. (2005) study the impact of social responsibility index inclusion, with environmental content, on corporate performance. They find lower return on equity for index inclusion but at the same time negative effects if excluded from the index.

With respect to the Spanish markets, results are not concluding either. Giner (1992) claims that environmental information is positively valued, whereas Verona and Déniz (2001) conclude that this positive relationship is weak. Fernández et al. (2005), however, do not find any significant relationship between CSR, including environmental policies, and stock price, but they use a small sample of Spanish firms (7 companies). We, instead, use all the companies participating in the IBEX-35 index for a three year period (2003-2005) and analyse environmental news as well as sustainability index inclusion. Further, the period analysed coincides with the increasing public interest in environmental issues and climate change (Ecodes (2003)). This is especially important since the existence of a social demand is said to be a necessary condition to implement responsible practices. Moreover, we classify firms using Spanish market sector classification in order to evaluate whether reactions are associated to more (or less) intense polluting sectors announcements. Therefore, this paper contributes to the literature analysing the environmental aspect of CSR and investigating the most important firms in the Spanish market.

3. Data and methodology

The reaction of the stock price for companies that belong to IBEX 35 to environmental announcements is studied for the period 2003-2005. As environmental announcements, we consider news relative to sustainable index inclusion or exclusion and news on environmental investments, such as reducing pollution plant building or R&D pollution reduction efforts. In order to identify this type of announcements we have analysed different sources. First of all, the CNMV[58] data base, to have information about relevant actions taken by firms related to investments and the environment. Second, the annual reports on CSR and on financial statements. Third, the Lexis-Nexis data base that collects all company articles published in the main economic newspapers. When the same announcement is found in more than one source, we use the date of the first published.

Once analysed the potential environmental announcements, we can distinguish three kind of news that reveal different degree of commitment. First, the promotion of environmentally friendly practices through the sponsoring of conferences and university initiatives. Second, the active participation in R&D projects associated to research centres or universities and third, investment in green technologies.

Further, we have information about three sustainable indexes participation. One is the FTSE4GOOD that incorporates CSR criteria for the selection of the constituent companies. On the one hand, the index excludes the companies that develop activities in certain sectors; on the other, it includes the companies that show sufficient observance of environmental sustainability, human rights and transparency in the relations with stakeholders. Actually, to be accepted to this index, companies should count on formal environmental instruments. The commitment of the firm is evaluated through an independent rating. A second index considered is the Dow Jones STOXX Sustainability Index. This index composition accurately represents the top 20% of the leading sustainability companies in each of the Dow Jones Sustainability Indexes. Its composition is also based on independent valuation of different CSR criteria. Again, as in the case of FTSE4GOOD, the environmental aspect of firm management and performance is one of the important aspects analysed in constructing the index.

Finally, the third index considered is the ASPI Eurozone index which selects the 120 best rated companies in the Eurozone on the basis of Vigeo[59]'s CSR ratings. This index is committed to the promotion of the increasingly accepted "triple bottom

[58] Comisión Nacional del Mercado de Valores is the nacional authority analogous to U. S. SEC.

[59] Vigeo is a European CSR independent rating agency. Vigeo presents a tripartite shareholding structure consisting of institutional investors, European trade unions and European companies of worldwide scope. It was created in 2002 to promote CSR reliable company ratings meeting the needs of investors and of company directors. These ratings are based on the principles and objectives formulated by internationally recognised conventions, recommendations and codes of conduct (UN, ILO, OECD...), while taking into account local and regional legislation and industry-specific agreements.

line" definition of corporate sustainability whereby social, environmental and financial performance are seen as equal and interdependent to the promotion of long term shareholder value. Contrary to FTSE4GOOD, the ASPI eurozone index do not seek to exclude any company as a result of its involvement in any specific activity. However, the nature and management of any existing or potential risks associated with such involvement will play an important role in Vigeo's rating of such a company.

In general terms more than 95% of the announcements found can be considered positive news, in the sense that there is news on the introduction of environmentally friendly practises and the inclusion and maintenance in sustainability indexes. The news that can be considered as negative is associated to the functioning of the European Market for CO_2 emissions (from January 2005) and affect to the electricity sector, in particular to one company. Due to lack of this type of observations, we decide to restrict the analysis to positive announcements[60].

The firms considered form part of the IBEX 35 index that collects the 35th most traded stocks. These belong to different industrial sectors. There are stocks from energy firms, which are very regulated and present polluting technology, as well as firms belonging to other sectors such as finance, real state, consumer goods etc. Following the theoretical debate, those polluting intensive sectors may be more affected by future legal restrictions and therefore current announcement may present more intense investor reactions. Using Spanish market stock classification, we distinguish four main groups: consumer goods and services, petrol and power, real state and financing services and basic industry and construction.

Some filters have been applied in order to isolate the events of interest. In particular, when events coincide in time[61] with other relevant events, such as dividends, stock options plans or takeover announcements, they are taken out of the sample. The final sample presents 102 events. Table 1 presents a summary of the announcements analyzed per economic sector.

3.1. Methodology

The method used to analyse the reaction to environmental practices is "event studies". This methodology has been successfully implemented previously to study market reaction to quality awards (Hendricks and Singhal, 1996), auditing reports (Pucheta et al. 2004) or splits (Gomez Sala, 2001) among others. With this type of methodology the semi-strong hypothesis of efficiency of the market of capitals is assumed. That is to say, new public information is continually assessed, valued and reflected in the stock price. Thus, the publicly traded share price includes current and expected firm financial performance.

The first step is to define the event that is analysed. Once defined the event, the effect that each event has in the stock price has to be calculated. For it, we proceed in two stages:

First: Estimation of "normal" expected return for each stock[62]. This expected return is obtained by means of a valuation model. In this case, similar to previous studies with this methodology (see Klassen and McLaughlin 2001), we use the market model, CAPM that seems most appropriate. This model relates the return of a certain stock to the market return.

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \qquad (1)$$

Where R_{it}, is the return of stock i at time t, R_{mt}, is market return at time t, ε_{it}, is the residual term of stock i at time t and α_i, β_i are the parameters. The return variables are expressed in logarithms and R_{it} includes dividend payout. As Market index, two indexes are considered: the IGBM and the IBEX-35 index[63]. The calculation of the expected return is made within the period that goes from 170 days to 20 days before the event. This period is known as estimation window (-170, -20). Therefore, we take into account a long period previous to the announcement (151 days). Since the estimation period ends 20 days before the event date, the risk that the estimated returns are affected by information about the event is minimised.

Second: Calculation of the abnormal outcome caused by the event. The abnormal return is defined as the difference between the actual and predicted return during the event window. The calculations are made for different event window lengths around the announcement day, since it has been indicated that results can be sensible to the event window.

$$AR_{it} = R_{it} - E(R_{it}) \qquad (2)$$

In particular, we consider *t* days around the event date where *t* = (-7, 7). This period has been chosen taking into account previous papers. Once AR_{it} are estimated the average *AR* for each day of the event day is computed:

[60] The enlargement of the sample to include year 2006 and inclusion of this kind of events subject to data availability are part of future research.

[61] When other events are present during the event window, the environmental event is also not considered for the final sample.

[62] This return is obtained dividend adjusted. Furthermore, it has been eliminated all events that coincides (or during its event window) with other information that can affect stock prices such as merger announcements, dividends pay-out and the like.

[63] Both indexes are computed by Madrid Stock exchange. None has a fixed composition, on the contrary there is a regular revision and only the stocks that comply with certain requirements. IGBM includes more than 120 stocks while IBEX-35 includes the 35 stocks with highest trading volume. The correlation among them is very high (0.96).

$$AR_t = \frac{1}{N}\sum_{i=1}^{N} AR_{it} \qquad (3)$$

Further, we compute cumulative abnormal returns for different sub-periods in the pre and post announcement date:

$$CAR_t = \sum_{t=\tau_1}^{\tau_2} AR_t \qquad (4)$$

However, abnormal returns estimated through OLS could be biased due to persistent volatility of daily returns. *GARCH* approximation proposed by Engle and Bollerslev (1986) allow the correct treatment of this volatility persistence. In particular, following Bollerslev et al (1994) the market model has been corrected through a GARCH (1, 1) in order to control the conditional heteroskedasticity of financial returns. Therefore, the variance of each stock is modelled as:

$$\sigma^2{}_t = \omega + \delta\varepsilon^2_{t-1} + \phi\sigma^2{}_{t-1} \qquad (5)$$

A second problem associated to financial assets is infrequent trading. However, since the stocks of our sample present the highest trading volume in the Spanish market, we do not consider this is a serious concern.

Once estimated *AR* and *CAR* through OLS and GARCH (1, 1), we contrast whether they are statistically significantly different from zero and which sign they present. This allows to determine if environmental CSR policies are valued by investors and if they are valued positive or negatively by the market. In particular, we present a parametric test (*t-student*)[64].

4. Results

Results for *AR* and *CAR* for index participation and environmental news (using information from table 1) appear respectively in table 2 and 3. Panel A and B collect the results when the market model is estimated through OLS and GARCH (1, 1) respectively.

With respect to the analysis of index inclusion, table 2 shows the *AR* from the estimation together with the corresponding test. In table 2.1 the IBEX35 index is introduced as proxy for the market return. Table 2.2 introduces IGBM instead. Results are qualitatively similar, therefore are robust to the use of different proxies for market return.

Results suggest that the communication of the inclusion or maintenance in a sustainability index has different effects depending on the sector analysed. Consumer goods and services' sector present a positive and significant *AR*, while petrol and industrial sectors present significantly negative *AR*. Finance sector returns are not affected by index inclusion. In particular, the consumer sector shows a significant positive *AR* five days before and two days after the event day (t=0). The average abnormal return in day -5 is 0.48% and 0.47% when OLS and GARCH (1, 1) are used to estimate the market model respectively. However, in day t=0 the value of t statistic is not significant, therefore the day when the event is known there are not abnormal returns, that is, the expected effects of sustainability index inclusion announcements are already discounted at the day of the event. At the bottom of the table, some *CARs* for different windows are computed. *CARs* for the periods (-7, +7) and (0, +7) for the consumer sector are positive and significant for the OLS model. For the GARCH (1, 1), *CARs* are positive as well, but weakly significant. This positive sign imply that investors react favourably to the communication of index inclusion or maintenance. On the contrary, petrol and industrial sectors present negative significant *AR* for six and two days before the event day respectively. Further, for the period (-7, +7) present negative significant *CARs* in both cases. Again, there are not significant *ARs* around the date of the announcement. Further, financial and real state sector do not present significant *AR* or *CAR* in the days and period analysed. Therefore, the same kind of announcement presents different reactions for different sectors. Those more polluting intense sectors such as petrol and industry are penalised by investors, while consumer goods' investors are willing to pay a mark up for *green* stocks. Additionally, consumer goods' investors value positively the external auditing provided by consulting firms and institutions elaborating sustainability indexes. The negative *AR* of petrol and industry sectors may imply that this external evaluation is not enough to value CSR initiatives.

Table 3 presents results for environmentally friendly news. Table 3.1 and 3.2 collect the results for IBEX 35 and IGBM respectively. Results differ from those just commented for sustainability index inclusion in three dimensions. First of all, investors react less significantly to announcements related to environmental friendly news with independence of the sectors which they are investing in. Second, results for IGMB present weaker significance levels (table 3.2). Third, more polluting sectors present positive *AR*, while less polluting sectors show negative *AR*. In particular, consumer goods' sectors present a negative significant *AR* four days before the announcement day. Petrol and industry sectors show positive significant *AR* five and seven days before the event days. In this case, the days around the communication of the event do not present positive or negative significant *AR* and none of the period analysed before or after the event present significant *CARs.*

Looking at results for sustainability indexes and environmental practices altogether, there are some interesting insights. Investors of more polluting

[64] We have used a nonparametric test (rank test, *normally distributed*) as well and results mainly replicate significant levels found with the *t-test*. Results are not shown for brevity but are available from the authors upon request.

sectors react negatively to index participation and positively to environmental initiatives. Hence, investors are more concerned about practices that may have potential direct benefits to firms, such as R&D investments and collaborations than actions that only pursuit to be accepted in sustainability indexes. Sustainability indexes, as CSR, are multidimensional and evaluate different issues before accepting a firm to form part of the index. Therefore, investors may consider investments that comply with these indexes to distort firm resources, especially to those firms operating with polluting technologies and prefer investments with clearer impact on firms' functioning. Similar results are found by Becchetti et al. (2005) when introducing industry controls for a sample of American firms.

This evidence is reversed when we consider less polluting sectors. In this case, investors value positively sustainability index inclusion. A possible interpretation is that in these sectors investors are less worried by polluting reduction initiatives, since they are not so controlled for and are less important in these sectors. On the contrary, sustainability index inclusion acts as a positive signal for the market. This could mean that investors look at CSR practices from a broader perspective that is precisely the usual purpose and aim of these indexes.

5. Conclusion

In this work we analyse the incorporation of environmental CSR measures by Spanish quoted companies during the period 2003-2005 and its effects in the stock price. For it, the date of environmental announcements has been identified and the simple abnormal yields have been calculated. With the information compiled, we can distinguish the effects of these policies controlling for both the different sectors where firms operate and the different kinds of announcements made. This analysis helps to have a better understanding of the consequences of environmental CSR practices and disentangle previous contradictory evidence.

Results show that the set of environmental CSR practices is valued by shareholders and that this valuation clearly depends both on the firm sector and on the type of news. Reaction of market prices is negative for less polluting sectors, such as consumer goods and services, when announcements have to do with environmental practices. The same occurs for more polluting sectors, such as power and petrol, when the index inclusion is analysed. This result is in agreement with the funds diversion thinking (Hellwig, 2000). However, index inclusion and environmentally friendly news are positively valued by investors of less polluting and more polluting sectors respectively. This result could be more in line with the view of the stakeholder theory (Freeman, 1984) or better with the reverse of the funds diversion argument.

These mixed results offer some interesting insights. On the one hand, more polluting firm investors are more concerned about practices that may have future benefits to firms, such as development of green or cost reducing technologies. On the other, shareholders consider investments that comply with sustainability indexes to distort firm resources, especially to those firms operating with polluting technologies and prefer investments with clearer impact on firms' functioning. On the contrary, investors from less polluting companies are less worried by polluting reduction investments, since they are not legally regulated and therefore they do not expect to face strict restrictions. Index inclusion, actually, acts as a positive signal to the market of firm awareness for social responsible actions from a broad perspective. This is precisely the usual purpose and aim of these indexes.

Therefore, results of this analysis suggest that investors and consumers do not view environmental CSR practices as a whole but react differently to alternative firm policies. Capital market investors stress and value the more relevant aspects of each company commitment with CSR (taking into account the sector in which it operates) and refuse complementary and perhaps less important practices that could mean a diversion of firm resources. In a way, they reconcile the two opposed views of the effects of CSR policies previously discussed.

References

1. Ambec, S. and P. Barla (2002) "A theoretical foundation of the Porter Hypothesis", *Economics Letters*, 75(3): 355-360
2. Ambec, S. and P. Barla (2005) "Can Environmental Regulations be Good for Business? An Assessment of the Porter Hypothesis", GREEN, cahier de recherché 05-05.
3. Barnea, A. and A. Rubin (2005) "Corporate social responsibility as a conflict between owners", Mimeo.
4. Becchetti L., S. Di Giacomo and D. Pinnacchio (2005) "The Impact on Productivity and Efficiency of US Listed Companies" Departmental Working Papers 210, Tor Vergata University, CEIS.
5. Bollerslev, T., R. Engle and D. Nelson (1994) "ARCH models" in Engle R. and McFadden, D. (ed.) *Handbook of econometrics*, volume 4, chapter 49.
6. Cespa, G. and G. Cestone. (2002) "Stakeholder activism, managerial entrenchment, and the congruent of interest between shareholders and stakeholders", UPF WP.
7. Chen, Y. (2004) "Valuation of voting scheme changes", *Journal of corporate ownership and control,* 4.
8. CSR Europe. (2003) *Equipping Europe for CSR and sustainable development*, Brussels, CSR.
9. Donaldson, T.L. and L.E. Preston (1995) "The stakeholder theory of the corporation: concepts, evidence, and implications", *Academy of Management Review*, 20, 65-91.
10. Engle, R. and T. Bollerslev (1986) "Modelling the persistence of conditional variances", *Econometric Review* 5.
11. Fernández, M. A., V. Arago, J.C. Matallin and L. Nieto (2005) "¿Reaccionan los inversores del Mercado

bursátil español ante las noticias de responsabilidad social de las empresas?. AEFIN Foro de Finanzas.
12. Freeman, E. (1984) *Strategic Management: A Stakeholder Approach*. Boston, MA: Pitman.
13. Freeman, R. E., A. Wicks and B. Parmar (2006) "Stakeholder theory as a basis for capitalism", For presentation to the International Economics Association Conference, Trento, Italy.
14. Friedman, M. (1970) "The Social responsibility of business is to increase its profits", *New York Times Magazine*, 13, 32-33.
15. Fundación Ecología y desarrollo (2003) *Anuario sobre responsabilidad social corporative en España*, Zaragoza, Fundación Ecología y desarrollo.
16. Giner, B. (1992) "Contabilidad y medio ambiente". IV Congreso Nacional de Economía. Memoria Ponencias y Comunicaciones, Sevilla, pg. 664-668.
17. Gomez Sala, J. C. (2001) "Rentabilidad y liquidez alrededor de la fecha de desdoblamiento de las acciones", *Investigaciones económicas*, 25(1): 171-202.
18. Gupta, S. and B. Goldar (2003) "Do stock markets penalise environment-unfriendly behaviour?. Evidence from India. WP 116. Centre for Development economics. Delhi School of Economics.
19. Hellwig, M. (2001) "On the economics and politics of corporate finance and corporate control" en X. Vives (ed.), *Corporate governance: theoretical and empirical perspectives*, Cambridge, Cambridge University Press.
20. Hendricks, K. and V. R. Singhal (1996) "Quality awards and the market value of the firm: an empirical investigation", *Management Science*, 42: 415-436
21. Hillman, A. and G. Keim (2001) "Shareholder value, stakeholder management, and social issues: what is the bottom line?", *Strategic Management journal* 22: 125-139
22. Jensen, M.C. (2001) "Value maximization, stakeholder theory, and the corporate objective function", *Journal of Applied Corporate Finance*, 14, 8-21.
23. Jones, T.M. (1995) "Instrumental stakeholder theory: A synthesis of ethics and economics", *Academy of Management Review*, 20, 404-437.
24. Klassen, R. and C. McLaughlin (1996) "The Impact of Environmental Management on Firm Performance", *Management Science* 42, 1199–1214.
25. Mahoney, L. and R. Roberts (2002) "Corporate social and environmental performance and their relation to financial performance and institutional ownership: empirical evidence on Canadian firms", School of Accounting University of Central Florida. (http://accounting.rutgers.edu)
26. McWilliams, A and D. Siegel (2001) "Corporate social responsibility: a theory of the firm perspective", *Academy of Management Review* 26(1), 117–127.
27. OCDE (2001) *Responsabilité des enterprises : iniciatives priveés et objectifs publics,* Paris, OCDE
28. OIT (2004) *A fair globalization: creating opportunities for all*. www.oit.org
29. Pagano, M. and P. Volpin (2005) "Managers, workers, and corporate control", *The Journal of Finance*, 60, 841-868.
30. Porter, M. (1991) "American's Green Strategy", *Scientific American*, 264, 168.
31. Porter, M and C. van der Linde (1995) "Towards a New Conception of the Environmental-Competitiveness Relationship", *Journal of Economic Perspectives* 9, 97-118.
32. Posnikoff, J.F. (1997) "Disinvestment from South Africa: They did well by doing good", *Contemporary Economic Policy* (15), 76-86.
33. Pucheta, M., A. Vico and M.A. García (2004) "Reactions of the Spanish capital market to qualified audit reports", *European Accounting Review*, Vol. 13, No. 4
34. Sacconi, L. (2004) "Corporate social responsibility (CSR) as a model of "extended" corporate governance. An explanation based on the economic theories of social contract, reputation and reciprocal conformism", *Liuc Papers n. 142, Serie Etica, Diritto e Economia*, 10: 1-48
35. Shleifer, A. and R. Vishny (1997) "Review of the Literature on corporate finance", *Journal of Finance*: 52: 737-783.
36. Small, A. A. and J. Graff Zivin (2005) "A Modigliani-Miller Theory of Corporate Social Responsibility" Topics in Economic Analysis and Policy 5
37. Sundaram, A. and A. Ipken (2004) "The corporate objective revisited" *Organization Science*, 15: 350-363
38. Teoh, S.H., I. Welch and C.P. Wazan (1999) "The Effect of Socially Activist Investment Policies on the Financial Markets: Evidence from the South African Boycott", *Journal of Business* (72), 35-89.
39. Tirole, J. (2001) "Corporate Governance", *Econometrica* 69: 1-35.
40. Verona, M.C. and J.J. Déniz (2001) "Reacción del mercado de acciones española ante anuncios de carácter medioambiental: Una aplicación del estudio de eventos". *Revista española de financiación y contabilidad,* 30 (110): 1037-1069.
41. Zingales, L. (1998) "Corporate governance", en P. Newman (ed.), *The new Palgrave dictionary of economies and the law*, London, Macmillan.
42. Wright, P. and S.P. Ferris (1997) "Agency conflict and corporate strategy: the effect of divestment on corporate value". *Strategic Management Journal*, 18:77-83.

Table 1. Summary of environmental CSR announcements

	Consumer Goods & Serv	Petrol & Power	Finance & Real State	Industry & Construction
Sustainability Index	4	5	2	5
Environmental friendly Policies	4	69	3	10

Table 2.1. Effects of Index participation (N=16). Market index: IBEX

Panel A: Estimation of market model through OLS									Panel B: Estimation of market model through GARCH(1,1)							
	con-serv-com		petrol		financial		ind-const		con-serv-com		petrol		financial		ind-const	
Day	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t
-7	0.17361	0.3926	0.3041	1.2536	0.4145	1.0000	-0.4099	-1.1198	0.2512	0.6445	0.3082	1.2613	0.391	1.0000	-0.3719	-1.0581
-6	0.1406	0.746	-0.2093	**-3.8473**	0.0055	1.0000	-0.237	-0.7118	0.1984	0.9551	-0.2071	**-3.3513**	-0.0147	-1.0000	-0.2056	-0.6
-5	0.484	**3.0399**	-0.3757	-1.5466	0.2368	-1.0000	-0.1774	-0.2206	0.478	**3.22**	-0.3832	-1.507	-0.2658	-1.0000	-0.1174	0.8896
-4	0.428	1.1156	0.4581	1.451	0.04891	1.0000	-0.3138	-0.4493	0.4265	1.1356	0.4472	1.4598	0.0275	1.0000	-0.2811	-0.4013
-3	-0.2747	-1.0142	-0.3368	-1.1694	-0.1813	-1.0000	0.3562	1.6288	-0.1792	-0.8836	-0.33	-1.1305	-0.2135	-1.0000	0.3766	1.7524
-2	0.5737	1.4701	-0.6429	-1.8321	-0.1967	-1.0000	-1.08	**-3.0708**	0.6637	1.7902	-0.6328	-1.9238	-0.2323	-1.0000	-1.037	**-2.9785**
-1	0.4882	0.7395	-0.5444	-0.9832	-0.2202	-1.0000	-0.0736	-0.087	0.5531	0.8488	-0.5283	-0.9193	-0.2506	-1.0000	-0.0365	-0.0435
0	-0.1878	-0.4062	-0.0116	-0.0264	0.2891	1.0000	0.04928	0.1628	-0.1341	-0.2604	-0.0262	-0.0581	0.2558	1.0000	0.08449	0.2871
1	0.7373	1.1472	0.3909	1.8688	0.3869	1.0000	-0.3936	-0.9312	0.7771	1.177	0.4165	1.9034	0.3657	1.0000	-0.3613	-0.861
2	0.593	**2.7076**	-0.3007	-2.7311	0.597	1.0000	-1.0577	-1.7724	0.6231	**3.0628**	-0.3096	**-2.6918**	0.5808	1.0000	-1.0229	-1.7247
3	0.7275	2.0649	0.3416	0.8909	-0.7589	-1.0000	0.4829	0.5207	0.6938	2.0459	0.3541	0.9381	-0.788	-1.0000	0.5041	0.5463
4	-0.4487	-2.1382	0.4397	0.7887	0.3243	1.0000	0.513	1.1568	-0.4219	-1.9442	0.4578	0.838	0.299	1.0000	0.5279	1.1678
5	0.4591	2.172	-0.3269	-0.8262	-0.0775	-1.0000	-0.8238	-1.4741	0.4913	**4.0127**	-0.3203	-0.7877	-0.1055	-1.0000	-0.8077	-1.4355
6	-0.2021	-0.3095	-0.7784	**-2.3176**	0.2004	1.0000	0.3038	0.5834	-0.2016	-0.3041	-0.8113	**-2.3712**	0.1789	1.0000	0.3351	0.6402
7	0.2118	1.8222	-0.313	-1.2808	0.0278	1.0000	0.1202	0.3726	0.1993	1.6714	-0.3346	-1.3532	0.0019	1.0000	0.1601	0.4909
(-7,7)	3.9047	**4.393**	-1.9055	**-3.8511**	0.6232	1.0000	-2.7415	**-2.9948**	4.4195	**8.7072**	-1.9088	**-3.2172**	0.2301	1.0000	-2.254	**-2.2338**
(-7,0)	2.2577	2.1891	-1.3614	-1.8016	-0.3027	1.0000	-1.5894	-1.3053	2.2577	2.1891	-1.3614	-1.8016	-0.3027	-1.0000	-1.5894	-1.3053
(-5,0)	1.5115	1.4456	-1.4535	**-2.1873**	-0.4971	-1.0000	-1.2394	-1.0472	1.808	2.0752	-1.4625	-1.9993	-0.6789	-1.0000	-0.0118	-0.8845
(-3,0)	0.5994	0.6885	-1.5359	-2.056	-0.3091	-1.0000	-0.7482	-0.9818	0.9003	1.1006	-1.5264	-1.9232	-0.4407	-1.0000	-0.6132	-0.7931
(-1,0)	0.3004	0.3868	-0.5561	-1.239	0.0689	1.0000	-0.0244	-0.0292	0.4189	0.4967	-0.5545	-1.1539	0.0051	1.0000	0.0479	0.0572
(-1,1)	1.0378	0.9981	-0.1652	-0.434	0.4559	1.0000	-0.418	-0.5486	1.1961	1.0247	-0.1379	-0.3035	0.3708	1.0000	-0.3134	-0.4117
(0,1)	0.5495	0.5136	0.3792	0.7546	0.6761	1.0000	-0.3443	-0.5323	0.643	0.5653	0.3903	0.7581	0.6215	1.0000	-0.2768	-0.437
(0,3)	1.8701	1.2575	0.4201	0.4493	0.5142	1.0000	-0.9191	-1.7031	1.9559	1.2852	0.4349	0.4629	0.4142	1.0000	-0.7956	-1.53
(0,5)	1.8805	1.3326	0.5329	0.4994	0.761	1.0000	-1.2299	-1.4699	2.0293	1.3076	0.5723	0.5358	0.6077	1.0000	-0.0107	-1.2371
(0,7)	1.8911	**2.3992**	-0.5585	-0.7144	0.9893	1.0000	-0.8058	-0.64	2.0276	2.2251	-0.5736	-0.7515	0.7887	1.0000	-0.58	-0.4426

t accounts for the *t-student*. Bold numbers are statistically significant

Table 2.2. Effects of Index participation (N=16). Market index: IGBM

Panel A: Estimation of market model through OLS									Panel B: Estimation of market model through GARCH(1,1)							
	con-serv-com		petrol		financial		ind-const		con-serv-com		petrol		financial		ind-const	
Day	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t
-7	0.279	0.4872	0.1891	0.6171	0.5105	0.7775	0.2201	0.6247	0.2307	0.5476	0.2129	0.7147	0.4932	0.7125	0.2243	0.6775
-6	0.1525	0.7382	-0.0995	-1.1212	-0.1054	-0.1759	-0.0326	-0.0537	0.1753	0.8114	-0.079	-0.9441	-0.113	-0.1752	-0.0054	-0.0091
-5	0.478	**3.22**	-0.3832	-1.507	-0.2658	-1.0000	-0.1174	-0.1479	0.4248	**3.0182**	-0.2207	-0.8632	-0.245	-0.6534	1.1202	0.7152
-4	0.4265	1.1356	0.4472	1.4598	0.0275	1.0000	-0.2811	-0.4013	0.4065	1.2559	0.4543	1.5795	-0.465	-0.8409	-0.6112	-0.6554
-3	-0.1792	-0.8836	-0.339	-1.1305	-0.2135	-1.0000	0.3766	1.7524	-0.2328	-0.8695	-0.1864	-0.6084	-0.7705	**-36.1200**	0.032	0.1052
-2	0.6637	1.7902	-0.6328	-1.9238	-0.2323	-1.0000	-1.0379	**-2.9785**	0.6865	1.7916	-0.4265	-1.3274	0.2582	0.2686	-0.6374	-1.5716
-1	0.5531	0.8488	-0.5383	-0.9193	-0.2506	-1.0000	-0.0365	-0.0435	0.4819	0.7479	-0.557	-0.9529	1.01	0.5083	-0.1656	-0.2097
0	-0.1341	-0.2604	-0.0262	-0.0581	0.2558	1.0000	0.0844	0.2871	-0.1677	-0.3633	-0.0149	-0.0363	-0.2526	-0.4696	0.5852	1.1053
1	0.7771	1.1777	0.4165	1.9034	0.3657	1.0000	-0.3613	-0.861	0.8121	1.2051	0.4333	1.9628	0.8513	1.3721	-0.4695	-1.0726
2	0.6231	**3.0628**	-0.3096	**-2.6918**	0.5808	1.0000	-1.0229	-1.7247	0.7613	**4.0195**	-0.3268	**-2.4527**	0.5501	0.3802	-1.0182	-1.9228
3	0.6938	2.0459	0.3541	0.9381	-0.788	-1.0000	0.5041	0.5463	0.7486	1.9143	0.1997	0.506	-0.6309	-0.9140	0.1907	0.3229
4	-0.4219	-1.9442	0.4578	0.838	0.299	1.0000	0.5279	1.1678	-0.4489	-2.1749	0.4569	0.8028	1.4224	1.6018	0.525	1.3469
5	0.4913	**4.0127**	-0.3203	-0.7877	-0.1055	-1.0000	-0.8077	-1.4355	0.3994	**2.1108**	-0.3958	-0.8939	0.523	0.9127	-0.8249	-1.7227
6	-0.2016	-0.3041	-0.8113	**-2.3712**	0.1789	1.0000	0.3351	0.6403	-0.2038	-0.3278	-0.753	**2.3095**	-0.2434	-0.7693	0.3614	0.7677
7	0.1999	1.6719	-0.3346	-1.3532	0.0019	1.0000	0.1601	0.4909	0.2911	**3.1016**	-0.3581	-1.8448	-0.2235	-0.7283	0.212	0.8879
(-7,7)	4.4195	**8.7072**	-1.9088	**-3.2172**	0.2301	1.0000	-2.254	**-2.2338**	4.3749	**7.4882**	-1.5612	**-4.8999**	2.1641	**6.4757**	-0.4812	-0.1822
(-7,0)	2.257	2.1891	-1.3614	-1.8016	-0.3027	-1.0000	-1.589	-1.3053	2.0152	1.8493	-0.8173	-1.6416	-0.0849	-0.0973	0.5421	0.2031
(-5,0)	1.808	2.0752	-1.4625	**-1.9993**	-0.6789	-1.0000	-1.0118	-0.8845	1.6092	1.8619	-0.9513	-1.3717	-0.4651	-0.2104	0.3233	0.1706
(-3,0)	0.9003	1.1006	-1.5264	-1.9232	-0.4407	-1.0000	-0.6132	-0.7931	0.7777	1.1384	-1.1849	-1.8205	0.245	0.1026	-0.1858	-0.1553
(-1,0)	0.4189	0.4967	-0.5545	-1.1539	0.00518	1.0000	0.0479	0.0572	0.3241	0.4235	-0.5719	-1.2583	0.7573	0.5226	0.4196	0.3536
(-1,1)	1.1961	1.0247	-0.1379	-0.3035	0.3708	1.0000	-0.3134	-0.4117	1.1362	1.1169	-0.1386	-0.3564	1.6087	1.9414	-0.0499	-0.0512
(0,1)	0.643	0.5653	0.3903	0.7581	0.6215	1.0000	-0.2768	-0.437	0.6443	0.5911	0.4184	0.9761	0.5987	0.5168	0.1157	0.2083
(0,3)	1.9599	1.2852	0.4349	0.4629	0.4142	1.0000	-0.7956	-1.53	2.1542	1.3537	0.2913	0.3161	0.5179	0.2705	-0.7118	-1.1976
(0,5)	2.0293	1.3076	0.5723	0.5358	0.6077	1.0000	-1.0753	-1.2371	2.1047	1.3552	0.3524	0.3454	2.4634	5.4295	-1.0116	-1.2795
(0,7)	2.0276	**2.2251**	-0.5736	-0.7515	0.7887	1.0000	-0.58	-0.4426	2.1919	2.0669	-0.7588	-1.0497	1.9964	1.8535	-0.4381	-0.3936

t accounts for the *t-student* test. Bold numbers are statistically significant

Table 3.1. Effects of environmental friendly news (N=96). Market index: IBEX 35

Panel A: Estimation of market model through OLS									Panel B: Estimation of market model through GARCH(1,1)							
	con-serv-com		petrol		financial		ind-const		con-serv-com		petrol		financial		ind-const	
Day	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t
-7	-0.087	-0.101	0.0977	0.9477	0.031	0.0899	-0.3837	**-1.9108**	-0.1789	-0.215	0.0259	0.2596	0.084	0.2296	-0.4381	**-2.244**
-6	-0.3695	-0.4176	-0.0147	-0.1679	-0.609	-1.0284	-0.1382	-0.2938	-0.3812	-0.5386	-0.0751	-0.874	-0.3917	-0.6082	-0.246	-0.5204
-5	0.4978	1.7166	0.1366	**1.6709**	0.3569	1.4416	0.3861	0.5902	0.3833	1.1894	0.1161	1.4038	0.5265	2.4637	0.3656	0.5875
-4	-0.5895	**-2.8041**	0.0852	0.8273	0.4344	1.4020	0.0058	0.0126	-0.5518	-1.6001	0.1141	1.1952	0.2729	1.1255	-0.1083	-0.2843
-3	-0.1259	-0.2092	0.1486	1.2895	-0.2872	-1.2213	0.4924	0.7998	-0.3888	-0.6384	0.1174	0.9617	-0.3323	-1.6731	0.5055	0.8266
-2	0.2422	0.4415	0.0924	0.7774	-0.6255	-0.9046	0.4405	0.6677	0.3301	0.6198	0.0501	0.4536	-0.46	-0.6949	0.2071	0.3527
-1	0.3789	0.4197	-0.0242	-0.2526	-0.8961	-0.7091	-0.5024	-1.2685	0.2555	0.2494	-0.0874	-0.9419	-0.983	-0.8437	-0.4142	-0.9203
0	-0.5559	-1.7908	-0.0374	-0.349	-0.0609	-0.3668	0.2727	0.6751	-0.4775	-1.1617	-0.058	-0.6062	0.1355	0.6522	0.1806	0.4434
1	0.1581	0.7616	0.0717	0.6629	0.2978	1.8129	0.1414	0.2919	-0.0015	-0.005	0.0273	0.2715	0.1152	0.3097	0.0844	0.1922
2	-0.1487	-0.2844	-0.0533	-0.6622	-0.0358	-0.0578	0.2094	0.7467	-0.119	-0.216	-0.0699	-1.0418	0.0608	0.0900	0.1058	0.3624
3	-0.2336	-0.375	-0.0984	-1.1691	-0.2821	-1.4159	0.4027	1.0642	-0.2943	-0.4042	-0.1026	-1.3016	-0.1471	-0.6477	0.3855	1.0677
4	1.259	1.3868	-0.1267	-1.5226	0.4418	0.8886	0.3506	1.4203	1.259	1.3868	-0.1267	-1.5226	0.4418	0.8886	0.3506	1.4203
5	0.4681	0.9321	0.082	0.9107	0.5856	2.1840	0.4681	1.0256	0.5528	1.2512	0.1115	1.3261	0.6163	1.9574	0.4358	0.9629
6	-0.1055	-0.1081	0.0847	0.8764	0.7289	1.2050	-0.2554	-0.6277	0.1691	0.1572	0.0894	1.0667	0.5076	0.6654	-0.4026	-1.0192
7	0.0599	0.0963	-0.0533	-0.6784	-1.0156	-1.1955	-0.0061	-0.0199	0.0924	0.1501	-0.0524	-0.648	-1.1304	-1.5844	-0.1186	-0.4122
(-7,7)	0.5041	0.4911	0.4287	1.2534	-1.0657	-0.6171	1.8485	0.7516	0.6491	0.4285	0.0799	0.2543	-0.6837	-0.6282	0.8932	0.5678
(-7,0)	-1.0093	-0.506	0.2034	0.8641	-1.1481	-0.5336	0.0522	0.0379	-1.0093	-0.506	0.2034	0.8641	-1.1481	-0.5336	0.0522	0.0379
(-5,0)	-0.4491	-0.2386	0.2525	1.3909	-0.8403	-0.4507	0.7363	0.6859	-0.4491	-0.2386	0.2525	1.3909	-0.8403	-0.4507	0.7363	0.6859
(-3,0)	-0.0607	-0.0389	0.1794	0.9612	-1.8698	-0.9212	0.7033	0.6983	-0.2806	-0.1663	0.0222	0.119	-1.639	-0.8804	0.479	0.6373
(-1,0)	-0.177	-0.2238	-0.0616	-0.4174	-0.9571	-0.6867	-0.2296	-0.3554	-0.222	-0.2708	-0.1454	-1.0118	-0.8474	-0.6844	-0.2336	-0.3456
(-1,1)	-0.0188	-0.0196	0.0105	0.0556	-0.6592	-0.4859	-0.0882	-0.1319	-0.2235	-0.2057	-0.1181	-0.6836	-0.7321	-0.7012	-0.1491	-0.2369
(0,1)	-0.3977	-1.7933	0.0343	0.2374	0.2369	2.2394	0.4141	0.8732	-0.479	-0.9803	-0.0306	-0.2252	0.2508	1.4126	0.2651	0.6901
(0,3)	-0.7801	-0.851	-0.1175	-0.6981	-0.0811	-0.2408	1.0263	1.4391	-0.8924	-0.6022	-0.2032	-1.4203	0.1645	0.2750	0.7564	1.3451
(0,5)	0.6026	0.4673	-0.1243	-0.6113	0.8163	0.7380	1.8097	**1.8856**	0.9193	0.4319	-0.2184	-1.2566	1.2227	0.8801	1.5429	**2.0843**
(0,7)	0.557	0.3656	-0.0929	-0.3874	0.5297	0.7508	1.548	1.5651	1.1809	0.5063	-0.1814	-0.8949	0.5999	0.4060	1.0216	1.7083

t accounts for the *t-student* test. Bold numbers are statistically significant

Table 3.2. Effects of environmental friendly news (N=86). Market index: IGBM

Panel A: Estimation of market model through OLS									Panel B: Estimation of market model through GARCH(1,1)							
	con-serv-com		petrol		financial		ind-const		con-serv-com		petrol		financial		ind-const	
Day	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t	Art (%)	t
-7	-0.1787	-0.2019	0.1116	1.1085	-0.0228	-0.0636	-0.3008	-1.4347	-0.0944	-0.1071	0.106	1.054	-0.023	-0.0640	-0.3	-1.4574
-6	-0.4226	-0.4471	-0.026	-0.2903	-0.5495	-0.6649	-0.1333	-0.3135	-0.4026	-0.4245	-0.0341	-0.3916	-0.542	-0.6608	-0.1504	-0.3588
-5	0.3833	1.1894	0.1161	1.4038	0.5265	2.4637	0.3656	0.5875	0.4905	1.5793	0.1156	1.4455	0.3493	1.1509	0.3419	0.5434
-4	-0.5518	-1.6001	0.1141	1.1952	0.2729	1.1255	-0.1083	-0.2843	-0.5793	**-2.3914**	0.0532	0.5287	0.4772	1.1696	0.0052	0.0117
-3	-0.3888	-0.6384	0.1174	0.9617	-0.3323	-1.6731	0.5055	0.8266	-0.0065	-0.1003	0.1241	1.0808	-0.3174	-1.3368	0.4229	0.7294
-2	0.3301	0.6198	0.05018	0.4536	-0.46	-0.6949	0.2071	0.3527	0.2282	0.4213	0.07581	0.654	-0.7275	-1.1128	0.44	0.6622
-1	0.2555	0.2494	-0.0874	-0.9419	-0.982	-0.8437	-0.4142	-0.9203	0.3164	0.3621	-0.0385	-0.3857	-0.8677	-0.6541	-0.4809	-1.2348
0	-0.4775	-1.1617	-0.058	-0.6062	0.1355	0.6522	0.1806	0.4434	-0.7392	-2.1808	-0.0549	-0.5056	-0.0035	-0.0239	0.3136	0.8326
1	-0.0015	-0.005	0.0273	0.2715	0.1152	0.3097	0.0844	0.1922	0.1475	0.6415	0.0456	0.4298	0.3868	1.5409	0.1002	0.2071
2	-0.119	-0.216	-0.0699	-1.0416	0.0608	0.0900	0.1058	0.3624	-0.2018	-0.4192	-0.0733	-0.8968	-0.0649	-0.0899	0.1981	0.733
3	-0.2943	-0.4042	-0.1026	-1.3016	-0.1471	-0.6477	0.3855	1.0677	-0.2243	-0.3846	-0.1146	-1.3392	-0.3429	-2.1725	0.3846	1.0144
4	1.259	1.3868	-0.1267	-1.5226	0.4418	0.8886	0.3506	1.4203	0.8057	1.1028	-0.0956	-1.2062	0.2474	0.4332	0.6449	1.6827
5	0.5528	1.2512	0.1115	1.3261	0.6163	1.9574	0.4358	0.9629	0.3624	0.6493	0.05931	0.6512	0.5181	2.3648	0.5234	1.1264
6	0.1691	0.1572	0.0894	1.0667	0.5076	0.6654	-0.4026	-1.0192	-0.0972	-0.1036	0.08493	0.8589	0.8155	1.3901	-0.2152	-0.5638
7	0.0924	0.1501	-0.0524	-0.648	-1.1304	-1.5844	-0.1186	-0.4122	-0.0104	-0.0166	-0.0483	-0.6034	-0.9579	-1.0220	-0.0217	-0.0683
(-7,7)	0.6491	0.4285	0.0799	0.2543	-0.6837	-0.6282	0.8932	0.5678	-0.0638	-0.0408	0.2052	0.6218	-1.0526	-0.5160	2.2091	0.8257
(-7,0)	-1.0093	-0.506	0.2034	0.8641	-1.1481	-0.5336	0.0522	0.0379	-0.8457	-0.4105	0.3472	1.4667	-1.6546	-0.6538	0.5924	0.3415
(-5,0)	-0.4491	-0.2386	0.2525	1.3909	-0.8403	-0.4507	0.7363	0.6859	-0.3487	-0.1739	0.2754	1.3967	-1.0896	-0.5062	1.0429	0.7041
(-3,0)	-0.2806	-0.1663	0.0222	0.119	-1.639	-0.8804	0.479	0.6373	-0.2598	-0.1618	0.1065	0.5803	-1.9162	-0.9910	0.6957	0.6804
(-1,0)	-0.222	-0.2708	-0.1454	-1.0118	-0.8474	-0.6844	-0.2336	-0.3456	-0.4226	-0.5258	-0.0934	-0.6116	-0.8712	-0.6459	-0.1672	-0.269
(-1,1)	-0.2235	-0.2057	-0.1181	-0.6836	-0.7321	-0.7012	-0.1491	-0.2369	-0.275	-0.2908	-0.0478	-0.2566	-0.4844	-0.3246	-0.0647	-0.0958
(0,1)	-0.479	-0.9803	-0.0306	-0.2252	0.2508	1.4126	0.265	0.6901	-0.5915	-1.8844	-0.0092	-0.0646	0.3833	2.2134	0.4161	0.8327
(0,3)	-0.8924	-0.6022	-0.2032	-1.4203	0.1645	0.2750	0.7563	1.3451	-1.0177	-1.1422	-0.1972	-1.1185	-0.0246	-0.0607	0.9989	1.3315
(0,5)	0.9193	0.4319	-0.2184	-1.2566	1.2227	0.8801	1.5429	**2.0843**	0.1504	0.1207	-0.2335	-1.1066	0.7409	0.6333	2.1674	1.6996
(0,7)	1.1809	0.5063	-0.1814	-0.8949	0.5999	0.4060	1.0216	1.7083	0.0427	0.0303	-0.1969	-0.7694	0.5985	1.0178	1.9304	1.4523

t accounts for the *t-student* test. Bold numbers are statistically significant