

**CORPORATE
OWNERSHIP & CONTROL**

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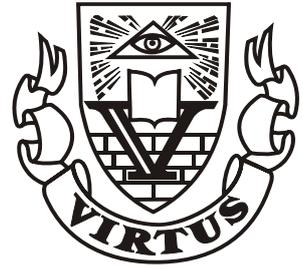
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REGULATING THE CORPORATION: THE ROLE OF THE INSTITUTIONAL INVESTOR

Paul Sanderson, John Hendry, John Roberts and Richard Barker*

Abstract

Government has been pressing one group in civil society – financial institutions - to regulate the behaviour of another group - the companies in which they invest. We consider the implications of this and assess the prospects for success, drawing on evidence obtained in our recent study of the preparation, conduct and consequences of regular face to face meetings between fund managers and senior executives.

Keywords: institutional investors, fund managers, executives

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At a conference on corporate governance in the autumn of 2003, the Secretary of State for Trade and Industry, Patricia Hewitt, said, 'It's time to assert the principle that fund managers - as trustees, for us, the savers - have a responsibility, as well as a right, to be active owners.' She went on to ask, 'Do we have the structures today to enable that to happen?' (Hewitt 2003.) This paper addresses such concerns by examining the implications of what is in effect the state mobilizing one group in civil society – institutional investors to regulate the behaviour of another group - the companies in which they invest.

We draw on an empirical study we carried out in 2002-4 exploring relations between the two sides: CEOs, finance directors and investor relations directors on the one hand, and chief investment officers, fund managers and senior analysts on the other. Our research focused on the preparation, conduct and consequences of the regular, typically biannual, face to face meetings between the two. Analysis of the data led us elsewhere to conclude that the meetings, though often ritualistic, have concrete disciplinary effects (Roberts *et al.* in press) reminders of accountability to shareholders ensure senior management concentrate on maximizing shareholder value, so promoting the financialization of the firm, to the possible detriment of other stakeholders.

We now seek to locate these disciplinary effects within the context of regulation. We outline some of the economic and quasi-legal stimuli for institutional

investor engagement, or lack thereof, examine the empirical evidence from our research, and consider the consequences of casting institutional investors as regulators.

Research Method

A defining characteristic of the key corporate-fund manager interactions, the regular, typically biannual face-to-face meetings, is that they are private. When coupled with their importance, it is perhaps no surprise that they have proved inaccessible to researchers. They can however provide valuable insights into the views of each on the other.

The primary method employed in the research was the semi-structured interview. We interviewed a representative sample of both parties to the meetings. Although inevitably subjective to some degree, this approach allows the researcher to get as close as practical to the object of study, with the added benefit that interviewees can articulate their views on interactions within the meetings which would not be directly observable from the meetings themselves. Moreover, by interviewing both sides, and by asking similar questions of each, some form of additional reliability is given to the findings. A semi-structured approach is suitable to an under-researched area, because in contrast to a narrower approach of formulating and testing hypotheses, it enables the

emergence of hypotheses that might not have been apparent in advance.

The first series of interviews was carried out in mid/late 2002, with eighteen finance and investor relations directors from fourteen FTSE100 companies. A second phase of the research in early/mid 2003 involved interviewing nineteen senior managers (chief investment officers, senior fund managers and buy-side analysts) from eleven asset management companies. All but three of the latter agreed to recorded interviews. These interviews averaged eighty minutes in length. In addition we observed (but were not allowed to record) eight meetings hosted by fund managers with CEOs and finance directors of large investee companies. While too few in number to provide reliable inference, these meetings nevertheless provided a useful 'reality check' for the findings from the interviews; they were found to be highly consistent and so added additional reassurance. The interviews were then transcribed and examined for evidence relating to the themes of active share ownership and regulation. A number of quotes are included. In order to preserve anonymity interviewees are referred to throughout as either Fund Managers or Finance Directors rather than by their exact job titles.

Institutional Shareholders and Engagement

The effectiveness of corporate governance has come to occupy a central place in public policy debates around the world. Corporate scandals, the globalisation of investment flows and growing concerns about the conduct of multinational businesses have prompted calls for better standards of corporate governance. The responses to such calls have largely focussed on the establishment of codes of practice governing the constitution, composition and actions of the board, and their responsibilities to their shareholders. In the UK these began with the Cadbury Report on internal financial control in 1992, with subsequent contributions from Greenbury on disclosure of directors' remuneration (1995), Hampel (1998), consolidating previous provisions and further clarifying the roles of directors and shareholders, Turnbull on internal control procedures (1999) and Higgs on independent directors (2003).

But with up to 80% of shares on the London Stock Exchange held by financial institutions (see Hampel 1998: 40), and UK government ministers under pressure to address matters such as 'payment for failure,' recent calls for institutional shareholders to be more active in their dealings with investees are perhaps inevitable:

Too many fund managers, when faced with under-performance, continue to support inadequate management. Others simply pull the plug and switch investments. So a merger or take-over becomes the only route to replacing failed management - despite the evidence that

few mergers create lasting value. Instead, active owners can create value for their investors and future pensioners - replacing bad management and helping to create a good business rather than just walking away from a bad one. So it's time to assert the principle that fund managers - as trustees, for us, the savers - have a responsibility, as well as a right, to be active owners (Hewitt 2003).

Traditionally, as the Secretary of State for Trade and Industry asserts, very few institutional investors have sought consistently to engage with investee companies, most preferring instead to simply adjust their holdings. After all, their only legal responsibility is the appointment of directors and auditors. But with index tracker funds now accounting for an estimated 20% of UK institutionally owned equities (35% in the US), and 'quasi-trackers' (e.g. fund of funds) also increasing in popularity, fund managers' mandates often compel them to hold stock in companies against their own preferences (see Clementi 1999 and Investment Management Association 2004). It is difficult for managers of successful active general UK funds to avoid holding the stock of very large companies such as BP. As one of the fund managers interviewed for this research put it, 'The vast majority of investment managers don't have to take a decision on it because it's 8½% of the index and everybody's got between 7 and 10%.' In such circumstances intervention is the only way forward. Fund managers can either make a private approach, 'jawboning' directors to change senior personnel or strategy (Wahal 1996, Holland 1998c), or they can go public, briefing journalists or presenting proposals for change at the AGM (see Black 1998).

The problem is that, in the normal course of events, fund managers have a 'substantial disincentive to "monitor" managements [as] they do not get extra pay for doing so and enthusiastic oversight runs the risk of creating commercially threatening resentment' (Monks 1991, see also Black 1992). They tend to perceive the costs to be greater than the benefits (Pozen 1994). Even the most activist US institutions spend less than 0.005% pa on interventions (Black 1998), which is why Lowenstein (1991a) proposed incentives for institutional investors to engage in long-term participation, principally by instating mandatory shareholder directors (see also Lowenstein 1991b).

On the other hand, there are a number of arguments put forward in support of intervention. Hoskisson and Turk (1990) argued that in the absence of adequate monitoring by shareholders, firms tended to diversify excessively, to their detriment. And Parthiban *et al.* (2001) showed that R&D spend increased in targeted companies, an indication that institutional intervention may move such companies to focus on long-run returns (see also Baysinger *et al.* 1991).

Market Leaders in Activism

Some institutional investors have built considerable reputations as active shareholders. Perhaps the best known of these are Hermes Investment Management Ltd. in the UK, and CalPERS (California Public Employees' Retirement System) in the US.

Hermes, with £46bn under management (as at 30 June 2004), is owned by, and is principal fund manager for, the British Telecom Pension Scheme. It controls on behalf of its 200 clients approximately 1.2% of all the shares in the FTSE All Share Index, which in itself provides a rationale for placing 'great emphasis on exercising its ownership rights in all the companies in which it invests,' and its 'belief that companies with interested and involved shareholders are more likely to achieve superior long-term financial performance than those without.' (<http://www.hermes.co.uk>). Hermes devotes considerable resources to corporate governance issues, and has taken the lead in a number of disputes between investors and the boards of investee companies, but whilst there has been much political encouragement for their approach, there have been no academic studies proving its effectiveness. Nonetheless they are perceived as market leaders in corporate governance amongst the financial community. Armour *et al.* (2003: 548) suggest:

Hermes ... approach carries wider significance because of the way in which the regulatory framework is currently being realigned in an effort to encourage institutional investors to place greater weight on voice and less on exit in their relations with companies.

On the other hand, CalPERS (<http://www.calpers.ca.gov>), which manages \$163.5bn (as at 31 July 2004) on behalf of 1.4m California public employees, retirees and their families, has been the subject of numerous studies, particularly by finance academics. Smith (1996) examined their attempts to bring about change in the organizational control structures of firms considered poor performers. He found that the structural changes demanded were indeed adopted by 72% of firms targeted, but there was no statistically significant change in subsequent operating performance, as measured by accounting earnings. Nonetheless, the share price of targeted firms increased (Nesbitt 1994), perhaps as a consequence of the way in which individual investors and smaller institutions tend to support proposals by major institutional activists (Gillan and Starks 2000), and whilst Akhigbe *et al.* (1997) calculated this increase to be, on average, 23% by the end of the third year following intervention, English *et al.* (2004) found the effect really only lasted 6 months on average. Indeed in a recent survey of surveys, Carlson *et al.* (2004) found that exactly half of all studies of the effect of shareowner proposals showed positive returns, the other half showing either negative returns or no impact.

In any case, Gaved (1996) reminds us that a period of underperformance, a key factor in target selection by fund managers, is frequently followed by a period of outperformance, particularly in companies prone to cyclical movements in the economy, whether or not there has been a change in governance structure (see also Karpoff *et al.* 1996; Del Guercio and Hawkins 1999). Some critics have gone even further. Daily *et al.* (1996) suggested that many institutional investors engage in activism merely in order to enhance their public image as monitors of corporate behaviour, and in an equally damning paper, Romano (2001) concluded that much of the intervention that does take place is misdirected, evidence of the lack of accountability of fund managers.

Reluctant Regulators

Evidence on the effectiveness of intervention by institutional shareholders is therefore inconclusive, which may in part explain the reluctance of many to actively engage, despite increasing pressure from politicians and exhortations from the authors of the various codes of governance (Cadbury 1992; Hampel 1998). The Myners review of institutional investment in the UK was given a number of reasons for this lack of engagement, none of which it found compelling. These were:

a culture that seeks to avoid conflict; unwillingness of managers to act on judgements about the strategy and top management of the companies in which they retain holdings, despite being highly paid to make such judgements; alleged regulatory obstacles, which the review found difficult to verify; the lack of incentive for managers to intervene in a company, if they feel the key issue for their client is the next quarter's performance figures; and potential conflicts of interest. (Myners (2001): 10).

This reluctance has led some UK commentators to follow their US counterparts in questioning whether voluntary measures aimed at increasing shareholder participation, such as those outlined in Hampel (1998: section 5) can ever be effective. For example, Dignam (1998) is critical of the voluntary approach of Hampel in relying on publication of the voting record of institutional investors alone as sufficient incentive to vote their shares. (Although he also suggests that pressure on institutional investors to engage may also lead to an even greater emphasis on short-term earnings at the expense of long-term growth).

Nonetheless, the latest Statement of Principles of the Institutional Shareholders' Committee which 'sets out best practice for institutional shareholders and/or agents in relation to their responsibilities in respect of investee companies' is typically exhortative, urging institutional investors to:

'set out their policy on how they will discharge their responsibilities - clarifying the priorities

attached to particular issues and when they will take action; monitor the performance of, and establish, where necessary, a regular dialogue with investee companies; intervene where necessary; evaluate the impact of their activism; and report back to clients/beneficial owners (Institutional Shareholders' Committee 2002: 1).

And in the latest revision of the Combined Code on Corporate Governance:

Institutional shareholders should consider carefully explanations given for departure from this Code and make reasoned judgements in each case. They should give an explanation to the company, in writing where appropriate, and be prepared to enter a dialogue if they do not accept the company's position (Financial Reporting Council 2003: 20).

Institutional shareholders therefore find themselves in a difficult position. There is little evidence on the effectiveness of interventions but increasing political pressure to intervene, a state of affairs that some find distinctly unsatisfactory:

All this talk about corporate governance rather annoys me. I think it is a necessary duty on our part to ensure that there isn't misuse of company funds, but most of the focus is on minor issues. Whether the company has a corporate jet or not is really rather irrelevant. It might annoy us that the chief executive leads a glamorous life but it is irrelevant compared with the key decisions that a company makes which are about how to invest their shareholders' capital. (Fund Manager)

And in any case there are some legitimate concerns over the optimality of increased engagement, in that 'in a system of dispersed ownership, shareholder passivity is inevitable, and perhaps even desirable' (Armour *et al.* 2004: 533), not least in order to protect the rights of smaller shareholders and other stakeholders.

The Regulatory Effect of Shareholder Value

The question then is, in terms of corporate behaviour, what are the implications of expanding the regulatory role of institutional investors? To investigate this we first consider the characteristics of the system of corporate governance in the UK.

Following Berle and Means (1932) landmark study, corporate governance is typically seen as a response to the problems arising from the separation of ownership from control in the modern corporation. The assumption inherent in this model is that firms exist to maximize shareholder value, but due to their distance from day to day operations, shareholding principals do not have sufficient control to ensure their managerial agents maintain this focus. Self-interested managers may pursue their own interests and ambitions at the expense of the owners of the firm (Jensen and Meckling 1976; Shleifer and Vishny 1997). The problem is considered essentially a matter

of whether it is more efficient to prioritize, and indeed incentivize, means or ends, specific behaviours or specific outcomes.

This concern with distance and control influenced developments in the categorization of corporate governance systems according to whether they are insider or outsider and arm's length or control oriented (Berglöf 1997). The former refers to the concentration of share ownership, the latter to the degree of control exercised by shareholders. Whereas many European countries are considered to have insider/control oriented systems, the UK and US are considered outsider/arm's length, hence the need for external mechanisms of control such as codes of governance. Irrespective of effectiveness, the existence of such codes, and the focus on the problem of enforcement, does tend to produce a shareholder-oriented discourse. As Armour *et al.* (2003: 533) observe, 'What is striking about the UK framework is just how focused on the shareholder value model it appears to be.' Hostile takeovers, directors' legal obligations to their shareholders, and the Listing Rules requirement to observe the Combined Code (UK Listing Authority 2003), all tend to focus the mind of the manager on the primacy of the shareholder. A finance director interviewed for our research put it bluntly: 'I don't have any problem in saying the leading objective of this company is to maximize shareholder value over the long-term.'

We argued elsewhere that this focus gives rise to a kind of self-disciplining process in company directors, beyond merely acknowledging the property rights of their shareholders, and the right to monitor and hold them to account (Rao and Sivakumar 1999). Rather like the prisoners in Bentham's Panopticon, they appeared to be in 'a state of conscious and permanent visibility that assures the automatic functioning of power' (Foucault 1979):

Some of the managers we met were in this way almost more dedicated to the pursuit of shareholder value than the fund managers they were meeting. At the very least power works in such a way as to ensure that there are strong incentives to present the self as being already what the other desires. The purpose of the meetings [between them] is to remind managers that they are accountable, that they are being watched (Roberts *et al.* in press)

Institutional investors are therefore in a sense already implicated in the regulation of corporate behaviour, and their role acknowledged by their regulatees. However, in essence the purpose of regulation is to optimize system efficiency by minimizing the risk of system failure, and in order to achieve that aim the regulator must be accurately calibrated. System failure can result from the failure of any individual components, including the regulator. A system with a badly adjusted regulator may in effect be little different to an unregulated system. If the supply of steam to an engine's piston is chocked off too early the engine will grind to a halt.

If the various mechanisms to reduce body temperature are initiated too early the body will fail to maintain its ambient operating temperature.

Measuring Regulatory Success

This leads to the question of how regulatory success is to be measured? Most fund managers, and many directors would, as discussed, opt for the pursuit of shareholder value as the primary objective, on the grounds that shareholders bear the residual risk; they are the 'residual claimants' of the enterprise (Easterbrook and Fischel 1991). But, irrespective of the desirability of this objective, if it is to be realized there needs to be some common understanding of what it is, and how it is to be measured. Whilst most of the finance directors and fund managers interviewed for our research agreed broadly on the *means* by which corporate performance could be measured, some form of cash flow return on investment or simply a steadily rising share price, there was no certainty as to what precisely constituted success. The regulatory ends are not clear:

I mean shareholder value is basically what drives stock market behavior. It isn't NPVs. They're just part of it. And yet you have to be careful that you're not driven short-term, by short-term interpretations that drive your business in the wrong direction. But [equally] there's no point in driving business in a long-term direction which investors don't want. That, I think, is the ultimate test of a management team that's been in place five years. They will have failed or been successful in their interaction with their main investors as to where that business wants to go. And that's a very touchy-feely thing. (Finance Director).

This unknown, and in some sense unknowable, mark of success in achieving shareholder value - the endorsement of management action over time by the shareholders - illustrates the differential possession of knowledge of the two sides in this crucial area of key regulatory objective, and exposes the potential for shareholders to dominate their investees. Of course, in the light of corporate failures and excessive executive pay, it can be argued that increased surveillance of corporate behaviour and more focussed enforcement of standards of behaviour will merely address an inherent imbalance of power, to the benefit of the ultimate beneficiaries of the shares held by financial institutions, i.e. individual investors and pension scheme members. However, whilst corporate failure and excessive executive pay is known and is often well-publicized the earnings and often relatively poor performance of fund managers receives less scrutiny. Moreover, it is far from clear that fund managers perceive their interests, or even those of their clients, as being aligned in any way with those of the public. They are

not dedicated regulators charged by an enabling Act of Parliament to pursue some public goal.

Self-Interest and Regulation

It is also not clear that institutional investors are ready to, or indeed are equipped, to act as regulatory agents of either the state or the public. Theories of regulation can be divided into those that assume that regulatory action arises out of private interests and those that assume private interests can be 'bracketed' in favour of a general public interest. The extent to which the regulator is perceived as pursuing private self-interests, conciliating disparate private interests, or exercising moral judgement in furtherance of often ill-defined public objectives, depends on the degree to which one subscribes to rational choice, pluralist or public interest explanations of regulation. Powerful private interests, and thus conflicts of interest, are an everyday occurrence for many institutional investors. As Farrar and Girton (1981) point out, 'the presence of other business relationships between institution and portfolio company, unfortunately, tends to diffuse the identity of interests between institutional and other stockholders, and in some instances may even produce a conflict between the interests of the institution and the beneficiaries of portfolios under management' (1981: 380).

Whilst this fund manager was at least aware that self-interest could become a problem ... :

This complex web of conflicts of interest which could in some instances derail things, so that's an issue from the whole corporate governance engagement point of view, and the relationships which go beyond us acting as institutional investors, and sometimes we might want to vote against somebody whose pension fund we're running. (Fund Manager)

... most did not see regulation as their responsibility, unless it could be shown to be clearly compatible with their core task as investment managers:

We have to pay a bit of lip service to corporate governance, particularly [with] this current government, but actually for us, our clients aren't giving us the money to say make Britain a better place. They're saying, 'give us the best return for a risk level,' and they don't want you to get on your high horse and keep holding the shares just so you can vote against something. If it's bad for the share price then just sell it. (Fund Manager)

If corporate governance is [only] to be vaguely useful... why do it? Oh it will make everybody feel better, and make politicians happy. It's only if it actually makes companies deliver higher returns than otherwise they will. If it doesn't, it's a waste of everybody's time. It's a waste of pension funds asking us to do it. It's a waste of lots of hours of eminent people writing government responsive reports. It's only useful if it causes companies to generate better investment

returns, and largely what's been discussed most recently has nothing to do with that - even the Higgs Report. (Fund Manager)

Even those who adopted a more positive approach to corporate governance matters were concerned that good governance was not necessarily indicative of a sound investment:

Corporate governance? A lot of it is quite important - that they tick all the boxes in order to help them make the right decisions. It's rare you see a company that has terrible corporate governance that's very successful, but you quite often see companies that are maybe not perfect on every aspect but are generally the right way. And there are some companies that tick every box - it all looks immaculate - but they're just hopeless. (Fund Manager)

And whilst this fund manager was generally less negative on the subject, seemingly reconciled to the need to monitor corporate governance, it was still not perceived as a core task:

I think most of the people we talk to on corporate governance are pension fund investors so generally speaking, unless there is an obvious risk there, it's not actually part of the investment decision process; it's more of an overlay. (Fund Manager)

Public Interest Regulation

The role of self-interest in regulatory encounters has been explored extensively in the literature, particularly the economics literature (e.g. Stigler 1971 on regulatory capture; Mitnick 1975; Peltzman 1976) whilst contributions from public policy and law have tended to emphasise the public interest purpose of regulation (e.g. Francis 1993; Corry 1995; James 2000; see also Baldwin and Cave 1999). Indeed, Plato writes of a form of regulation in 'The Republic' in which he describes an ideal aristocratic society in which benign propertyless guardians steer the ship of state for the benefit of all.

In contrast to private interest explanations, public interest theories recognize that there is a public interest dimension to regulatory decision-making. Moreover, this public interest is not the same as the interest of the state or of its representative agencies. This normative public interest approach to regulation is of an entirely different order from the pluralist interest group and self-interested rational or public choice approaches, which can be viewed, to a greater or lesser extent, as positivist critiques of it (see Baldwin *et al.* 1998: 8-13, Francis 1993: 8). The expectation is that the benign state will intervene directly or via subordinate agencies on behalf of the public to rectify market failure. This perspective explicitly acknowledges the public purpose of regulation. Public interest regulators, and the regimes of which they are a part, are considered effective to the extent that the regulatory framework they construct realizes a set of

objectives that satisfy that public purpose. Arguments may persist over the detail of the regulating instruments employed or the degree of discretion granted to regulators, but ultimately judgements on the effectiveness of regulatory policy are made by reference to the values implicit in notions of a public (unity, community, mutuality and so on). Indeed, such broader notions of responsibility were noted by Cadbury:

Although the reports of the directors are addressed to the shareholders, they are important to a wider audience, not least to employees whose interests boards have a statutory duty to take into account (Cadbury 1992: 2.7).

The extent to which most fund managers in general are eager to take on a broader regulatory role may be questionable, but it may not be problematic for those already taking a holistic approach to their responsibilities:

We don't separate corporate governance issues from investment issues. We think the two are so closely welded together that's it's important that there's one conduit here. (Fund Manager)

Of course, the decisions of such managers depend not only on the information received, but crucially on the rationality of the decision-maker. Thus whilst the quantity, quality and relevancy of information gathered is important perhaps a more critical factor is the way in which such information is understood and processed. We found that whilst finance directors were dubious of their ability to use available data to predict future performance beyond the very short term, fund managers were quite confident about using exactly the same data to make much longer term predictions (Barker *et al.* 2004). This has serious consequences in terms of feedback, an essential component of effective regulation. Differential action based on observation of the other by two decision-makers could produce, for a significant period of time, positive feedback, each observation incorrectly reinforcing the other rather than producing corrective action (i.e. negative feedback).

Concluding Thoughts

In an article on totalitarianism in the Observer in 1933, Lloyd George wrote 'the world is becoming like a lunatic asylum run by lunatics.' The notion that the problems of running an asylum were best tackled by those lacking the rationality so to do, was clearly derisory. In the world of investment there is little evidence that institutional investors are in at all eager to act as public interest regulators, intervening on behalf of the general public. As presently constituted it is simply not their role. Their primary task is to represent their clients' interests. And if pressed into public service now, there is no certainty that private self-interests will be 'bracketed,' rendered subservient to a greater public good, or even that

their clients' interests would be furthered by such actions.

In an interview later in his life, Adolf Berle was as concerned about the power of investors, the concentration of ownership in the hands of institutional shareholders, as he had been earlier about the power of managers. 'The current estimate – it frightens me – is that by 1970 institutional investors will hold one third of the stock of all corporations listed on the New York Stock Exchange' (Rosen 1968). He would probably be alarmed to be told that institutional shareholdings now account for around 80% of both the London and New York Stock Exchanges (Hampel 1998; Carlson *et al.* 2004). It may be tempting to suggest that this represents some sort of beneficial countervailing power, addressing the inherent agency problem caused by the separation of ownership and control. But consider that more than half of the shares on the London market are controlled by just 10 financial institutions (Investor Relations Society 1999). The notion of dispersed ownership is clearly fallacious. Whilst it remains true that in 85% of UK companies the largest single shareholder does not control a blocking minority of 25% or more (Crespi-Cladera and Renneboog 2003) the largest financial institutions do certainly between them command such stakes.

So there is clearly a need to examine the accountability of financial institutions in far greater detail than has been undertaken hitherto. In their response to the call by Hampel for an increased role for institutional investors in corporate governance, Webb *et al.* argue from a financial systems theory perspective, that increased participation could create anomalies in the efficient operation of capital markets, as well as free rider problems, and increased costs. They conclude that 'future research should attempt to evaluate expectations of regulatory authorities for the nature of institutional involvement in corporate governance' (2003: 71). Perhaps the first step is to address the chain of accountability - right through from institutional investors to the ultimate beneficial owners of the shares they hold.

Active ownership requires not only a different relationship between fund managers and companies - but also a different relationship between fund managers and the public. It requires [...] a new 'civil economy' based on a fundamental change in the behaviour of institutional investors. ... Whether through voluntary codes or regulation, we need to create a chain of transparency and accountability that stretches from the boardroom to the individual shareholder and saver, via the pension fund manager, trustee and institutional investor (Hewitt 2003).

The question is how to frame an additional series of principles and supporting rules that can be readily operationalized, monitored and enforced without raising costs disproportionately to savers – and how

to persuade savers to play their part in monitoring the institutions to whom they ultimately entrust their savings.

References

1. Akhigbe, A., Madura, J., and Tucker, A. L. (1997) Long-Term Valuation Effects of Shareholder Activism. *Applied Financial Economics*. 7: 567-573.
2. Armour, J., Deakin, S., and Konzelmann, S. (2003) *Shareholder Primacy and the Trajectory of UK Corporate Governance*. Cambridge: University of Cambridge. Centre for Business Research Working Paper WP266.
3. Baldwin, R. and Cave, M. (1999) *Understanding Regulation: Theory, Strategy and Practice*. Oxford: Oxford University Press.
4. Baldwin, R., Scott, C., and Hood, C. (eds.). (1998) *A Reader on Regulation*. Oxford: Oxford University Press.
5. Barker, R. G., Sanderson, P., Hendry, J., and Roberts, J. (2004) *The Corporate-Fund Manager Interface: Objectives, Information and Valuation*. Cambridge: ESRC Centre for Business Research, University of Cambridge. Working Paper Series No. 293.
6. Baysinger, B., Kosnik, R., and Turk, T. A. (1991) Effects of Board and Ownership Structure on Corporate R&D Strategy. *Academy of Management Journal*. (March): 205-214.
7. Berglöf, E. (1997) A Note on the Typology of Financial Systems, in K. J. Hopt and E. Wymeersch (eds.) *Comparative Corporate Governance: Essays and Materials*: 151-164. Berlin: Walter de Gruyter.
8. Berle, A. A. Jr and Means, G. C. (1932) *The Modern Corporation and Private Property*. New York: Macmillan.
9. Black, B. S. (1992) Agents Watching Agents: The Promise of Institutional Investor Voice. *UCLA Law Review*. 39: 811-893.
10. Black, B. S. (1998) Shareholder Activism and Corporate Governance in the United States, in P. Newman (ed.) *The New Palgrave Dictionary of Economics and the Law* (vol. 3): 459-465. Basingstoke: Macmillan.
11. Cadbury, A. (1992) : *Report of the Committee on the Financial Aspects of Corporate Governance*. London: Gee and Co
12. Carlson, R., Valdes, C., and Anson, M. (2004) Share Ownership: The Foundations of Corporate Governance. *Journal of Investment Compliance*. (Spring): 54-61.
13. Clementi, D. (1999) Equity Indices and Europe. *Speech at the FTSE European Shareholder Dinner* (Claridges, London: Bank of England.
14. Corry, D. (ed.). (1995) *Regulating in the Public Interest*. London: Institute for Public Policy Research.
15. Crespi-Cladera, R. and Renneboog, L. (2003) *Corporate Monitoring by Shareholder Coalitions in the UK*. Brussels: European Corporate Governance Institute. ECGI Working Paper Series in Finance 12/2003.
16. Daily, C. M., Johnson, J. L., Ellstrand, A. E., and Dalton, D. R. (1996) Institutional Investor Activism: Follow the Leaders? Paper presented at *Academy of Management Meeting* Cincinnati: OH.
17. Del Guercio, D. and Hawkins, J. (1999) The Motivation and Impact of Pension Fund Activism.

- Journal of Financial Economics*. 52 (3): 293-340.
18. Dignam, A. (1998) A Principled Approach to Self Regulation? The Report of the Hampel Committee on Corporate Governance. *Company Lawyer*. 19: 140-154.
 19. Easterbrook, F. and Fischel, D. (1991) *The Economic Structure of Company Law*. Cambridge: MA: Harvard University Press.
 20. English, P. C. II, Smythe, T. I., and McNeil, C. R. (2004) The "CalPERS Effect" Revisited. *Journal of Corporate Finance*. 10: 157-174.
 21. Farrar, D. E. and Girton, L. (1981) Institutional Investors and Concentration of Financial Power: Berle and Means Revisited. *Journal of Finance*. XXXVI (2): 369-381.
 22. Financial Reporting Council. (2003) *The Combined Code on Corporate Governance, July 2003*. London: Financial Reporting Council. (<http://www.frc.org.uk/publications/content/CombinedCodeFinal.pdf>)
 23. Foucault, M. (1979) *Discipline and Punish: The Birth of the Prison*. Harmondsworth: Penguin.
 24. Francis, J. (1993) *The Politics of Regulation: A Comparative Perspective*. Oxford: Blackwell.
 25. Gaved, M. (1996) Taking Stock of the CalPERS Effect. *World Equity*. (November): 40-41.
 26. Gillan, S. L. and Starks, L. T. (2000) Corporate Governance Proposals and Shareholder Activism: The Role of Institutional Investors. *Journal of Financial Economics*. 57: 275-305.
 27. Greenbury, R. (1995) : *Directors' Remuneration*. London: Gee & Co
 28. Hampel, R. (1998) *Committee on Corporate Governance.: Preliminary Report, August 1997; Final Report, January 1998*. London: Gee Publishing
 29. Hewitt, P. (2003) Speech to the *Hermes Stewardship and Performance Seminar* (Royal Society of Arts, London: Department of Trade and Industry.
 30. Higgs, D. (2003) *Review of the Role and Effectiveness of Non-Executive Directors*. London: Department of Trade and Industry
 31. Holland, J. B. (1998) Influence and Intervention by Financial Institutions in their Investee Companies. *Corporate Governance*. 6 (4): 249-264.
 32. Hoskisson, R. E. and Turk, T. A. (1990) Corporate Restructuring: Governance and Control Limits of the Internal Capital Market. *Academy of Management Review*. 15: 495-477.
 33. Institutional Shareholders' Committee. (2002) *The Responsibilities of Institutional Shareholders and Agents – Statement of Principles*. London: Institutional Shareholders' Committee
 34. Investment Management Association. (2004) *Asset Management Survey*. London: Investment Management Association.
 35. Investor Relations Society. (1999) *Shareholder Activism*. London: Investor Relations Society. Briefing Paper.
 36. James, O. (2000) Regulation Inside Government: Public Interest Justifications and Regulatory Failures. *Public Administration*. 78 (2): 327-343.
 37. Jensen, M. C. and Meckling, W. H. (1976) Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*. 3 (4): 305-360.
 38. Karpoff, J. M., Malatesta, P. H., and Walkling, R. A. (1996) Corporate Governance and Shareholder Initiatives: Empirical Evidence. *Journal of Financial Economics*. 42: 365-395.
 39. Lowenstein, L. (1991) *Sense and Nonsense in Corporate Finance*. Reading, MA: Addison-Wesley.
 40. Lowenstein, L. (1991) Why Managements Should (and Should Not) Have Respect for Their Shareholders. *The Journal of Corporation Law*. 17 (1): 1-27.
 41. Mitnick, B. M. (1975) The Theory of Agency: The Policing "Paradox" and Regulatory Behaviour. *Public Choice*. 24: 27-42.
 42. Monks, R. A. G. (1991) Fund Managers: To Whom Are They Accountable? *The Economist Conference* (London, <http://www.lens-library.com>).
 43. Myners, P. (2001) *Institutional Investment in the United Kingdom: A Review*. London: HM Treasury
 44. Nesbitt, S. (1994) Long Term Rewards from Shareholder Activism: A Study of the CalPERS Effect. *Journal of Applied Corporate Finance*. 6: 75-80.
 45. Parthiban, D., Hitt, M. A., and Gimeno, J. (2001) The Influence of Activism by Institutional Investors on R&D. *Academy of Management Journal*. 44 (1): 144-157.
 46. Peltzman, S. (1976) Towards a More General Theory of Regulation. *Journal of Law and Economics*. 19 (August): 211-240.
 47. Pozen, R. C. (1994) Institutional Investors: The Reluctant Activists. *Harvard Business Review*. (January-February): 140-149.
 48. Rao, H. and Sivakumar, K. (1999) Institutional Sources of Boundary-Spanning Structures: The Establishment of Investor Relations Departments in the Fortune 500 Industrials. *Organization Science*. 10 (1): 27-42.
 49. Roberts, J., Sanderson, P., Barker, R. G., and Hendry, J. (in press) In the Mirror of the Market: The Disciplinary Effects of Company/Fund Manager Meetings. *Accounting, Organizations and Society*.
 50. Romano, R. (2001) Less is More: Making Shareholder Activism a Valuable Mechanism of Corporate Governance. *Yale Journal on Regulation*. 18: 174-251.
 51. Rosen, G. R. (1968) The New Realities of Corporate Power. *Dun's Review*. 92 (December).
 52. Shleifer, A. and Vishny, R. W. (1997) A Survey of Corporate Governance. *Journal of Finance*. 52: 737-783.
 53. Smith, M. P. (1996) Shareholder Activism by Institutional Investors: Evidence from CalPERS. *Journal of Finance*. LI (1): 227-252.
 54. Stigler, G. J. (1971) The Theory of Economic Regulation. *Bell Journal of Economics and Management Science*. 6 (2): 3-21.
 55. Turnbull, N. (1999) *Internal Control: Guidance for Directors on the Combined Code*. London: The Institute of Chartered Accountants in England and Wales
 56. UK Listing Authority. (2003) *The Listing Rules*. London: Financial Services Authority.
 57. Wahal, S. (1996) Pension Fund Activism and Firm Performance. *Journal of Financial and Quantitative Analysis*. 31: 1-23.
 58. Webb, R., Beck, M., and McKinnon, R. (2003) Problems and Limitations of Institutional Investor Participation in Corporate Governance. *Corporate Governance*. 11 (1): 65-73.

CONCENTRATION OF OWNERSHIP AND CONTROL AS A GOVERNANCE MECHANISM IN THE BRAZILIAN FINANCIAL SYSTEM

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Abstract

In this paper we analyse how ownership and control work in the main banks operating in Brazil. Our purpose is to identify the mechanisms through which investors try to secure the control of the corporations and the return of the capital invested. Unlike the Anglo-Saxon governance model, where the usual practice is to distribute the share capital among a large number of shareholders, or still, the Japanese or German models, with a massive participation of the banks in the control of the companies, recent research in the Brazilian companies listed in the stock exchange indicate a great volume of voting shares in the hands of a few shareholders. In the present study we seek to reveal whether this corporate governance mechanism also prevails in the Brazilian banking sector. The analysis comprised fifty of the biggest banks operating in Brazil, accounting for over 90% of the total assets of the Brazilian financial system. This study, besides revealing the levels of concentration of control and ownership of the leading Brazilian financial institutions, elucidates the corporate governance models featuring in the literature. It also explains how, in the management of the financial organizations, the investor, when making use of the mechanisms that secure their rights to ownership, guarantees the control and legal protection of his/her investment. The results of the research point to high levels of ownership concentration in the financial institutions in Brazil.

Keywords: corporate ownership, control, financial system, Brazil

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This paper aims at identifying and analysing the levels of concentration of ownership and control in the Brazilian financial system. The analysis shows how the owners and controllers of the banking institutions in Brazil make use of this mechanism in order to secure ownership and take over the decision-making process associated with their investments. The research also seeks to verify the extent to which the levels of concentration prevailing in these organizations follow the high mean of the Brazilian companies traded in the stock market, as shown in the work of Carvalhal et. al (2000).

Governance relationships in the management of the banks is a relatively new theme and can help elucidate how the financial companies organise themselves and preserve their patrimonial integrity. The relevance of this study, therefore, is anchored to the retrieval of the corporate governance theories regarding the aspects that explain the dynamics of the corporate control of the financial system, and how the use of these mechanisms, in the case of the Brazilian banking institutions, can reveal a structure that is concentrated in the hands of a small number of investors.

The configurations of the corporate management systems are effective governance mechanisms destined to ensure the control of the profits and cash flow of the companies. Concentration/distribution of ownership and control, pyramidal structures, coalitions, commitments and supervision boards are some of the mechanisms that, used for securing the rights and demands of the investors and other stakeholders. Therefore, we sought to highlight the relevance of the study of the governance structures, describing how different interests take possession of the outcome of the companies within a certain institutional-legal environment.

To this end, we developed a discussion around these governance mechanisms and the four perspectives identified by a study of the Organization for Economic Co-operation and Development (OECD): the financial model, the stewardship model, the stakeholder model and the political model (Turnbull, 1997). The elucidation of governance models has the purpose of clarifying the complex relationship network that involves, shareholders, board members, executive directors and other stakeholders. In this research, this issue permeates

the paths followed by investors in order to guarantee their rights to ownership and vote. In tandem with the legal system in force, the theoretical models proposed represent ways of identifying the final structure configuration of the Brazilian financial institutions. Besides the sections dealing with corporate governance models, aspects of the prevailing legal system and the asset and control concentration mechanisms, this article contemplates three other topics. Section three describes the methodology used in the research and sections four and five show, respectively, the results and conclusions of the research.

Corporate Governance Models and Mechanisms to Secure Control and Ownership

The purpose of the present paper is to investigate the stock composition of the leading Brazilian banking institutions, revealing the levels of control and ownership concentration within the structure of the main financial groups in Brazil. For this purpose, an explanation of the corporate governance models, the first topic discussed in this section, will make it possible to justify and distinguish the adoption of a legal protection system that may contribute of not to concentrate power in the hands of a couple of social-economic actors. The second part, revising the literature, will describe the strategies adopted by the organizations, supported by the legal system in force, to increase ownership and decision-making the concentration in the management of the business. In order to become a shareholder with the power to own property and make decisions, the investors have set in train some mechanisms that will enable them to be in command of a whole network of companies that are part of their undertaking. It can be said that the efforts to explain the dynamics of these mechanisms has led to the consolidation of aspects of the corporate governance theory related to the finance of the companies.

Corporate governance models and legal protection

Corporate governance is a key element in the improvement of economic efficiency and brings with it a whole set of patterns of relationship among owners, corporate management, board of directors and other groups directly linked to the company. Its structure, which ascertains that organizational aims are monitored and attained, is greatly dependent on the institutional and legal environment, on the prevailing business ethics, corporate quality and interests of the community where it operates.

This picture does not differ from the position of the authors that consider that the different models of economic organization and the nature of the companies will be dependent on the relevance of the

right to possessions and its legal limits in the society. In this sense, the institutionalisation processes, influenced by the relevant actors of the market economies, will become vital in the distinction between ownership and ownership control systems in capitalist societies (Whitley, 1998; Lazonick & O'Sullivan, 2000; Monks & Minow, 2001).

According to Denis (2001) and Prowse (1994) very little attention has been given to the studies of the regulations and legal devices that work as governance mechanisms. The first studies conducted within this line of thinking sustain that the levels of legal protection of the rights of the shareholders and the extent to which such laws are enforced are factors that define the corporate and financial governance of the companies of a certain country (La Porta et. al. 1997, 1998, 2000). This level of protection is determined by the origin and socio-cultural aspects of each country. In 1996, in a research commissioned by the OECD, American scholars identified four perspectives¹ for a macro analysis of the theme: the stewardship model, the stakeholder model, the political model and the shareholder model (Turnbull, 1997). Within the perspective of the stewardship, the managers and the board of directors are the truthful representatives of the organization's interests. The focus of the analysis is on relationships between the owners, directors and board members, established to attain and administer the benefits necessary to bring return to the shareholders (Pfeffer, 1972; Donaldson & Davis, 1994). The stakeholder perspective, focused on the elements of the organization's systemic interrelationship, sustains that the purpose of the company is to create value and benefits for the individuals and groups acting directly on the internal and external environments of the organization. The advocates of this perspective state that, if corporate ownership is to be maximised, the interests of the suppliers of inputs must be satisfied, and the organizations must be encouraged to close final contracts to incentive control and ownership among its directors and employees (Porter, 1992; Clarkson, 1994; Blair, 1995).

The other two perspectives, political and financial, are respectively more concerned with increasing the control power of the shareholder, by granting them voting rights (Pound, 1992), and safeguarding the investments of the owners (Shleifer & Vishny, 1997). According to Turnbull (1997), a vision for finance represents a sub-section of the political perspective, since the construction of formal or informal financial contracts, between the owner and his investment agent, is part of the cultural, technological and power interaction foreseen in the political model.

Once contracts between the companies, as legal entities, and their funding-owners are closed, the rights of the latter are exercised when they vote in

¹ We adopt the concept of perspective as a set of basic assumptions underlining multiple theories (Hatch: 1997).

important corporate issues such as fusions, liquidations and elections of board representatives. Great part of the differences between the corporate governance systems in the world resides, exactly, in the diverse nature of the legal obligations of a corporation's administration and shareholders, and in the different ways the tribunals interpret and enforce such obligations (Shleifer & Vishny, 1997). It was due to the ascent of the legal form and the association of the company with the market that the corporation started to be, in its own right, the owner of its assets (Scott, 1997). Legally, the shareholder is the person who owns one or more shares of a company. Individual shareholders have the right to participate in the election of the board of directors, but their entitlement to vote will be dependent on the number of shares they have. As a result, majority shareholders detain far more power than the minority ones and are capable of exerting influence over the policies to be followed by the directors. According to Scott (1997), this is the reason that corporate power studies should also cover the identity of the shareholders, and not just the identity of the directors. However, identifying the shareholders of a company is no easy task, although the legal systems of various countries demand that the companies keep a register of the shares and make the names and addresses of the shareholders public, as well as the number of shares they own. In order to supplement the right to vote, the country members of the OECD make use of a loyalty letter from the administration of the company to the shareholders. Such loyalty term is reinforced by the legal restrictions imposed on the behaviour of the management, curbing expedient actions, such as excessive compensations, undue appropriations, or an increase in share participation. Such limitations are a way of encouraging the shareholder to invest, by offering them a tool of protection against capital expropriation. Outside OECD, in the countries where the courts are not capable to or do not wish to interfere with business matters, the loyalty term becomes rather feeble, leading to the idea that legal protection by itself is not enough to ensure capital return on investments. Deprived of legal protection, the shareholders have no option but to try to increase their participation and become major investors. The next section will discuss the different forms of control and ownership concentration in corporations.

Concentration of control and ownership

Among the mechanisms used in order to reach a position to dominate ownership, the shortest way, which brings together cash flow and right to control, is by promoting concentrations of shares. In this way, when the mutual funds, the pension schemes, the banks and other institutional investors acquire shares, they are typically acting as representatives of individuals. In other words, behind the backdrop of these negotiations, the individuals will be last ones to

benefit from most of the institutional investments (Useem, 1998). Even if he holds the majority of the right to ownership, ownership concentration does not guarantee the control rights to the major shareholder if the court does not approve the voting mechanism. As a result, the investors tend to have for aim 51% of the votes, a situation in which it is relatively easier to prove, before the law, the legitimate power to make demands. If legal protection does not grant controlling rights to minority investors, in order to induce them to share their intention to hold power in the organization, the way to make it happen is by means of increasing their participation in the voting capital of the organization. For the minority investor to become a major one there are several ways of concentrating ownership including acquisition of shares in the market; doing takeover operations (proposing the dispersed shareholders to influence the managerial control); and becoming a relevant creditor, by making use of the cash flow right in order to interfere in the most important decisions (Shleifer & Vishny, 1997).

Even if ownership concentration levers up legal protection, the rights of the minority investor are not safeguarded. Among the authors that investigate the impacts of the corporate governance system on the share composition of the organizations, La Porta et al. (1998) have found a strong and negative correlation between ownership concentration and the quality of protection investors receive from the legal system in force in a certain country. Departing from a sample that includes the 10 main corporations listed in the stock market of 49 countries, the authors noticed that in the countries where the systems of legal protection are ineffective, what prevails is almost exclusively a concentrated ownership structure (La Porta et al., 1998). This evidence is consistent with the argument that, in these cases, the structure of dispersed ownership is undesirable and unsustainable. Apart from that, it seems to be giving support to the argument that ownership concentration is a governance mechanism that can substitute for the legal protection to the minority investor.

In the industrialised nations, the levels of concentration of ownership and control vary from country to country. Distribution of the control of the shares is a feature of the big companies in the USA and UK. As a result, in the Anglo-Saxon governance model, the shareholders have little incentive or capacity to exert any influence in the corporate policies defined by the board of directors, resulting in a situation in which the executives are strengthened to the detriment of the owners (Carlsson, 2001). Unlike the governance mechanisms that encourage the decentralization of ownership control, banks in Germany and in Japan, and the State in France have a decisive participation in the companies.

In Brazil, the concentration of voting shares is a dominant characteristic in open companies. In order to prove the hypothesis of the relationship between *ownership concentration* and *control* and

expropriation of minority shareholders, extracted from the study by La Porta et al. (1998), Carvalhal et al (2000) found high levels of voting capital concentration in the 325 Brazilian companies listed in the São Paulo Stock Exchange in 1998. The Brazilian researchers revealed that even in situations where there are no majority shareholders, the big owners are entitled to a significant share of the voting capital and the company is generally controlled by only three big shareholders.

Owners of Brazilian companies adopt the pyramidal structure as a shortcut to a position of control. Behind all this complex structure of legally constituted companies, a group of shareholders protect themselves from the action of other groups of shareholders and guarantee control with lower investment. With a view to increasing safety to their investment, repeated business interaction is the usual practice among individuals that belong to the same corporate group (Dyck, 2001). Unlike part of the literature that regards the pyramidal structure as a control mechanism the majority shareholder uses for neutralising the moves of the minority shareholder, in Brazil, it seems that the concern of the majority shareholder is to dilute share participation among other shareholders within his structural network.

Another factor that favours control concentration is the institutional-legal system of the country. In Brazil, the law permits the issue of until two shares without voting right for each share with right to vote. With this the voting shares remain in the hands of the shareholders in control and the non-voting shares are traded in the stock market. This device of separating control from ownership makes it possible for one person or group of individuals to have control over a company with much less than 50% of their shares. Even obeying the limit set by the law, one sole owner will need no more than 51% of a third of the total of shares to control a Brazilian company. The purpose of this paper is to clarify the governance mechanisms involving share concentration in the Brazilian financial system.

Data Analysis and Methodology

In order to investigate governance and the control and ownership mechanisms in the Brazilian financial system, the 50 leading banking institutions operating in Brazil were studied, ranked by total of assets, issued by Banco Central do Brasil (BACEN, 2000). The report used for the identification of the 50 biggest Brazilian financial institutions used as reference the balance sheet of June 2000. On that occasion, these institutions detained, respectively, 94,7%, 90,4% and 94,3% of the total assets, net assets and net profits of the group of banks included in the Brazilian financial system. The data on ownership and control, supplied by the Comissão de Valores Mobiliários (CVM) and Banco Central, date of December 1999.

In this research we sought to find out how the voting capital and the total capital of each of these institutions are distributed.² Such distributions, analysed individually and as a group, reflect aspects of the governance structures of the banks studied, particularly the ones related to the levels of concentration or dispersion of ownership and control. The examination also included the separation between concentration and dispersion (which may point the agency problems in corporate governance) and, the identification of the main controllers/owners of the most important financial institutions in Brazil.

The analyses took into account direct/indirect control and ownership. We sought to find out who are the owners of the voting and no-voting shares of the bank under study (direct control/ownership) and who are the final owners controllers (indirect control/ownership), found out after following the whole chain along the of multiple companies belonging to a group of conglomerates. The “final” controller/proprietor was denominated Federal Government, State Government, individual, foreigner (person or company), family company, foundation or investment fund. For each institution studied, an ownership and control flow was elaborated, as shown in Figures 1, 2 and 3 below.

So, direct control and ownership were assessed through the distribution of shares (voting and non-voting) of the bank being studied. We took as an example Banco do Brasil (Figure 1), whose main controller and owner is the Federal Union, holding 73.23 and 71.85% of the voting and total shares, respectively. The owner and controller of Unibanco, in turn, is Unibanco Holdings SA, with 96.88% of the voting capital and 59.80% of the total capital (Figure 2). The calculations of indirect control and ownership took into account the control and ownership chain of the bank being studied. The research continued until the “real” owners of the voting and non-voting shares were revealed. They were classified within the categories listed above. It was found that the controller of Unibanco is, in fact, as shown in Figure 2, a family company, E. Johnston Participações Ltda, belonging to the Moreira Salles family, which holds 65.11% of the bank’s voting capital. Indirect participation was calculated by adding the non-sequential participations and multiplying the successive participations of one person or company along the network of companies that form the group or conglomerate. Therefore, if a person has a 20% stake in a company, which owns 20% in another one, that person owns 4% in the second company. In the case of Banco do Brasil, whereas the Federal Union owns, directly, 73.23% and 71.85% of the voting and total shares, it,

² The ordinary shares are voting shares, unlike the preference shares, which have this name because their owners have the preference when dividends are distributed. There are exceptions (preference voting shares, for example), which are not significant as a whole, and were not found in the sample studied.

indirectly, is the owner of 83.23 and 81.85% of these shares, since it is the only controller of BNDES, which, in turn, controls BNDESPAR (Figure 1).

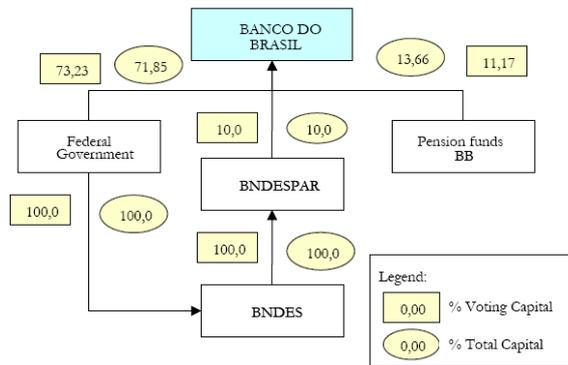


Fig. 1. Structure of ownership and control of Banco do Brasil

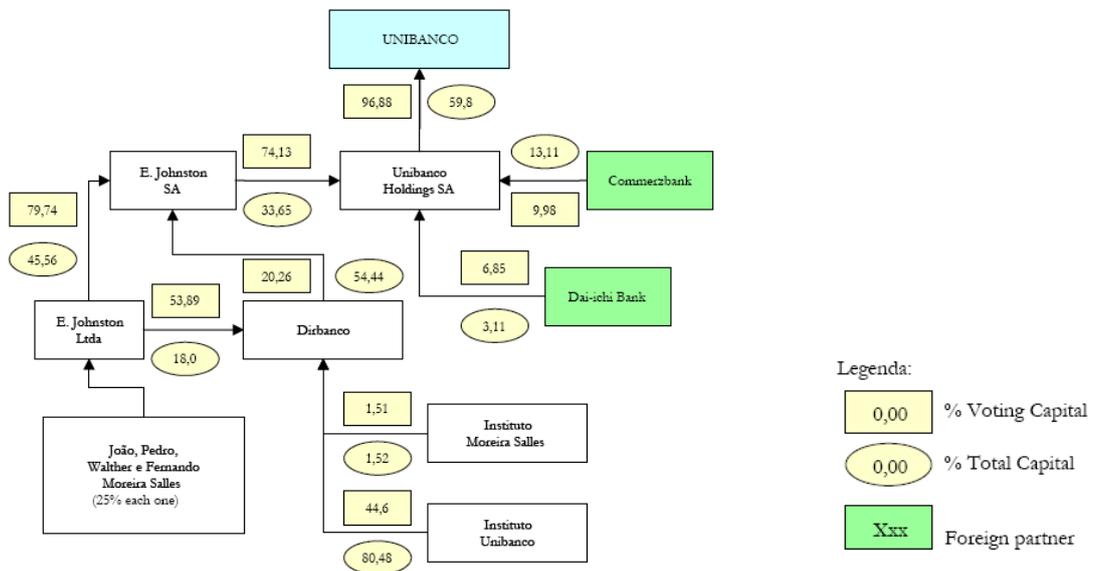


Fig. 2. Structure of ownership and control of Unibanco

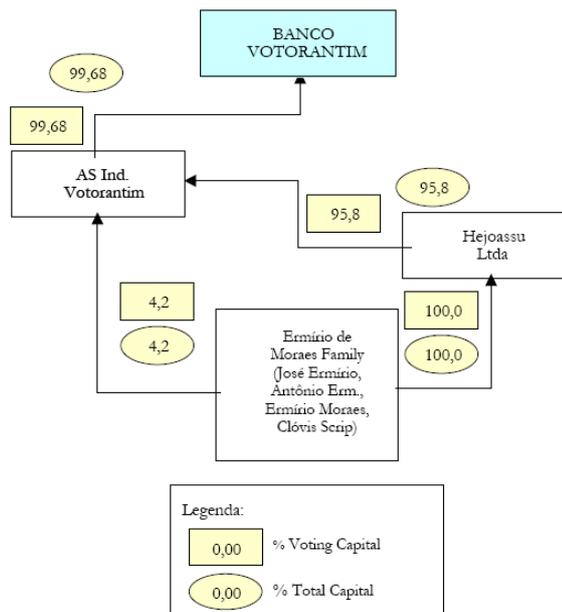


Fig. 3. Structure of ownership and control of Banco Votorantim

The structures of ownership and control of the leading banks in the Brazilian financial system

Direct Control

The ownership and control structure of the 50 biggest banks in the Brazilian financial system is rather concentrated, as shown in Table 1. Out of the total of banks studied, 46 (92%) have more than 50% of their voting capital in the hands of a single direct controller. On average, this controller holds 85.27 and 79.92% of the voting and total capital of the

banks studied, that is, concentration was not only in relation to the voting capital but also in relation to the total capital. When the concentration of shares in the hands of the 3 and 5 biggest controllers is evaluated, it is discovered that they hold, on average, 94.85% and 94.94% of the voting shares and 90.02 and 90.10% of the total amount of shares. This means that, although the mean percentile of control goes up when the capital of the 3 and 5 biggest controllers is assessed, such percentile is already high even when the percentile of the biggest controller alone is taken into account.

Table 1. Structure of direct ownership and control of the 50 biggest banks in Brazil

Control and participation		Banks with the majority controller (Voting capital > 50%)	Banks without the majority controller (Voting Capital < 50%)	Total of The sample
N° of banks		46	4	50
%		92.0	8.0	100.0
Average control of the major controller	Voting Capital	85.27	30.13	80.85
	Total Capital	79.92	22.47	75.32
Average control of the three major controllers	Voting Capital	94.85	68.98	92.78
	Total Capital	90.02	53.70	87.12
Average control of the five major controllers	Voting Capital	94.94	78.49	93.62
	Total Capital	90.10	61.42	87.81

Source: Banco Central do Brasil e CVM.

Obs.: Direct control of the 50 banks in Brazil concerning the Banco Central ranking in June 2000.

The bank with a majority controller is that one in which only one person (individual or corporation) owns over 50% of its voting capital.

Table 1 also reveals that, out of the 50 banks studied only 4 (8%) will not have a single majority controller (with more than 50% of the voting shares). In these cases, the main controller holds 30.13 and 22.47%, on average, of the voting and total shares. When the three main controllers are considered, such percentiles jump to 68.98 and 53.70%, on average, and when the five biggest are analysed, the percentiles of ownership of voting shares and of total amount of shares reach 78.49 and 61.42%. It was noted that, the institutions controlled by one majority shareholder, significant differences emerge in terms of ownership and control when the major controller is considered, the three or five biggest institutions (moreover when the three majority controllers are considered). This fact indicates that concentration is rather high even when one single controller is not dominating the institution, which makes feasible the presupposition of agreements between majority shareholders with a view to controlling these banks. Considering the sample as a whole, on average, the main direct controller holds 80.85% of the voting capital and 75.32% of the total capital. The three major partners control, respectively, on average, 92.78% and 87.12% of the voting capital and total capitals and the five biggest, 93.62% and 87.81% of these capitals.

In all banks studied, when direct ownership and control are evaluated, there can be observed a greater

concentration of voting shares than non-voting ones, which exposes the issuing of non-voting shares as a means to reducing the capital invested without losing the control position. However, it can be noted that this resource is not used to its full potential, since, in general, both the voting capital and the total capital are extremely concentrated, when direct control and ownership are evaluated. We concluded that, on average, control can be assured with a far greater participation than the minimum required by law. As it will be shown later in this study, indirect control follows the same trends with regard to the proportion of accumulated shares.

Indirect control

Similarly, when indirect control is analysed (Table 2), a great concentration of ownership and control can be found. In the 46 banks with only one single direct controller, holding over 50% of the voting capital, in general, the major indirect controller holds 80.99% and 77.33% of the voting and total capital. When the three major controllers are taken into account, these percentiles jump to 89.81 and 84.99% of the voting and total capital. If the five major controllers are considered, this concentration will reach the 92.14% and 86.87% of these capitals respectively.

Table 2. Structure of indirect ownership and control of the 50 biggest banks in Brazil

Control and participation		Banks with the majority controller (Voting capital > 50%)	Banks without the majority controller (Voting Capital < 50%)	Total of the sample
N° of banks		46	4	50
%		92.0	8.0	100.0
Average control of the major controller	Voting Capital	80.99	39.91	77.71
	Total Capital	77.33	25.38	73.17
Average control of the three major controllers	Voting Capital	89.81	62.27	87.60
	Total Capital	84.99	46.36	81.90
Average control of the five major controllers	Voting Capital	92.14	70.57	90.42
	Total Capital	86.87	51.47	84.04

Source: Banco Central e CVM.

Note: A bank with a majority controller is the in which one only person (individual or corporation) holds over 50% of its 1st level voting capital.

The participation of indirect controllers was calculating through the analysis of the property and control chain down the last level, that is, until one of the following categories of owners were revealed: individual, federal or state government, foreign company, non-financial familiar Brazilian company, foundation or investment fund.

A slight reduction in concentration can be observed when direct and indirect controls are compared. This means that 46 of the banks with a single major controller have their final control and ownership very concentrated in the hands of one or a couple of controllers. One example of control maintenance without reduction of the percentile can be seen in Figure 3, which demonstrates the structure of Banco Votorantim. It shows that the direct participation of SA Ind. Votorantim is totally transferred to the Ermírio de Moraes family, especially through the company Hejoassu Ltda. One example of maintenance of control, but with a reduction in concentration, can be seen in Figure 2: the Moreira Salles family are, in fact, the major controllers of Unibanco, holding, indirectly, 65.11% of the bank's voting capital. Ranked as second and third controllers is the German Commerzbank, which detains 9.67% of the voting capital of Unibanco and the Japanese Dai-Ichi Bank, with 6.64% of the voting capital.³ In some cases, increased concentration emerges when direct and indirect control are compared. For example, the Federal government has an indirect participation in Banco do Brasil, with its indirect participation increased through other banks such as BNDES and BDESPAR (Figure 1).

Because of the slight mean reduction in the concentration of direct and indirect control, it can be concluded that these pyramidal structures are not fully used in order to reduce the investment without loss of control. These structures give the major partner the control of the main company, thus reducing the concentration of its investment. This is done by sequencing the companies that it controls by means of portions of the voting capital.

In some banks where concentration of control is reduced when indirect ownership is evaluated, it is possible to observe a structure in which one or two companies detain the direct control of the financial institution. This is the case of the big Brazilian banks such as Bradesco, Itaú and Unibanco. In Bradesco, Cidade de Deus Participações appears as the main direct controllers, with 50.57% of the voting capital and 25.89% of the total capital; Fundação Bradesco comes in the second level, with a participation in these capitals of, respectively, 17.28% and 10.14%. In Itaú, Itaúsa holding detains 55.49% and 33.33% of the voting and total shares and, in a second level, Itaucorp SA, appears respectively, with 20.75% and 13.4%. In Unibanco, Unibanco Holdings SA detains 96.88% and 59.8% of the voting and total capitals. The function of these recurring structures seems to be the preservation of the banking institution from occasional conflicts between partners, which could be solved elsewhere or in other companies without threatening the continuity or normal routine of the bank. These preliminary analyses point to a need for a more thorough research into the control and ownership structures of the Brazilian banks and the governance strategies that justify them. However it is reasonable to consider the intention of protecting the banks from conflicts between partners with a significant participation in the enterprise, since such institutions are basically sustained by the image of

³ The percentile of control of the Moreira Salles family was obtained by multiplying the participation of E. Johnston Ltda in E. Johnston SA and in the company Dirbanco SA and so successively. That is, E. Johnston Ltda's percentile participation in the voting capital of Unibanco is calculated from the following equation: $0,7974 \times 0,7413 \times 96,88 + 0,5389 \times 0,2026 \times 0,7413 \times 96,88$. As for the Commerzbank, its participation in the voting capital of Unibanco was found by means of: $0,0998 \times 96,88$. Finally, the ordinary participation of Dai-Ichi was found by: $0,0685 \times 96,88$.

credibility and stability they enjoy among their account holders.

The groups of investors

Table 3 shows the categories of investors the main controllers of the Brazilian banks belong to. In terms of direct ownership, 26 banks (52%) have as their main controllers other corporations, 14 (28%) are controlled by foreigners, 6 banks (12%) are controlled by the Federal Government, 3 (6%) by State Governments and one has as its main direct controller only one individual. The greatest concentration of control was found in the state banks, in which the State governments detain, on average, 98.45% of the voting capital and 97.94% of the total capital. These percentiles are, on average, respectively, of 88.5% and 87.73% for the banks controlled by foreigners, of 78.04% and 70.58% in the cases where the main controller is another company and of 73.6% and 63.97% in the case of the institutions controlled by the Federal Government.

As for indirect ownership, it was found that 26 banks (52%) have as their main "final" controller a foreign partner, who detains, on average, 86.51% and

86.16%, respectively, of the indirect ownership and control; 10 banks (20%) have individuals as their main indirect controllers (Brazilian or based in Brazil), who own, on average, between 56.89% and 49.05% of the ordinary and total shares; 4 banks (8%) are directly controlled mainly by family companies, with 69.16% and 53.42%, on average, of the voting and total capitals; and one bank (Bradesco), whose main indirect controller is a foundation. The participations of the federal government and the state governments have not altered in terms of the number of institutions under their control, when direct and indirect participations are analysed. As for assets, it was found that 45.8% of the assets of the 50 major banks are under the effective control of the Federal Government. Banco do Brasil alone responds for 16.6% of the total of assets of the 50 major banks and for 15.7% of the assets of the Brazilian banking system as a whole. When the assets of Banco do Brasil and Caixa Econômica Federal are added up, these percentiles reach, respectively, 30.9% and 29.2%. The banks whose main indirect controller is a foreign partner, respond for 24% of the assets of the 50 major banks.

Table 3. Category of ownership and control of the 50 biggest banks in Brazil

Controller category (*)	Direct Control				Indirect Control			
	Nº of banks	%	Average Voting Capital	Average Total Capital	Nº of banks	%	Average Voting Capital	Average Total Capital
Federal Government	6	12,0	73,60	63,97	6	12,0	75,26	65,64
State Government	3	6,0	98,45	97,94	3	6,0	98,45	97,94
Individuals	1	2,0	37,84	25,17	10	20,0	56,89	49,05
Corporations	26	52,0	78,04	70,58	4	8,0	69,16	53,42
Foreigners	14	28,0	88,50	87,73	26	52,0	86,51	86,16
Foundations	0	0,0	0,0	0,0	1	2,0	43,58	26,59
Investment Funds	0	0,0	0,0	0,0	0	0,0	0,0	0,0
Others	0	0,0	0,0	0,0	0	0,0	0,0	0,0
Total	50	100,0	80,85	75,32	50	100,0	77,71	73,17

Source: Banco Central e CVM.

Note: (*) It refers to the main direct and indirect controller, irrespective of the percentile they hold.

Conclusions and Final considerations

The ownership and control structure of the leading banks that form the Brazilian financial system presents great levels of concentration, which points to a result that concurs with those found in studies evaluating the governance structures in Brazilian open companies. The concentration found in the banks studied, both in terms of voting capital and total capital, or even when we consider the major controller, the three or five major banks, is still higher than the mean found for the group of Brazilian companies listed in the stock exchange (Carvalho et al., 2000).

This conclusion brings the corporate governance of the Brazilian financial system closer to those practised in the countries in the European continent. Unlike the Anglo-American point of view, where it is the managers that, most of the times, effectively are in control of the resources of the company (Becht & Roell, 1999), in the main Brazilian banks, it is the controlling shareholders that have the power over the internal decision-making process. The pyramidal structures, albeit frequent, do not seem to be used as a tool to reduce investment without loss of control, once the concentration of ownership of voting and non-voting shares is extended to the "final" controllers. These structures play the role of protecting the financial institution from occasional friction between relevant partners and, consequently,

preserving the institution's image stability and credibility before its clients. The majority of the banks studied are directly under the control of other corporations. Following them are the foreign banks and the federal and state governments as the main direct controllers of the banks. In terms of indirect ownership, most of the banks are controlled by foreigners (26 banks, or 52%), followed by those controlled by individuals, Federal Government, family companies and state governments. 45.8% of the assets of the 50 leading banks are controlled by the Federal Government. Foreigners are the main controllers of 24% of the total amount of the assets of these banks; together, family companies and individuals control 17.8%; and the state governments add up to 3.5% of the assets of the 50 banks. One of these banks, whose main indirect controller is a foundation, responds for 8.9% of the assets of the all the banks studied. Further studies of the governance structure in financial institutions may lead to the analysis of various aspects either not yet studied or still not thoroughly explored in this preliminary and exploratory investigation. One study, for example, could research into the governance strategies that justify the ownership and control structures – sometimes extremely complex – of the banks. Another study could be dedicated to evaluating agency problems between owners and executives and between majority and minority partners. We also suggest studies that could go deeper into the occasional correlations between governance systems and bank performance.

References

- BACEN. *50 maiores bancos por ativos totais*. www.bcb.gov.br. 2000.
- BECHT, M.; ROELL, A. Blockholdings in Europe: An International Comparison. *European Economic Review*. 43: 1049-56, 1999.
- BLAIR, M. *Ownership and control: rethinking corporate governance for the twenty-first century*. The Brookings Institution, 1995.
- CARLSSON, R. *Ownership and value creation: strategic corporate governance in the new economy*. 1 ed. New York: John Wiley & Sons, 2001.
- CARVALHAL, A.; LEAL R.; VALADARES, S.; PROCIANOY J.; ALOY JR., R.; LAPAGESS, G. Ownership, Control and Corporate Valuation of Brazilian Companies. *The Latin American Corporate Governance Roundtable*. The São Paulo Stock Exchange: São Paulo, Brazil, 26-28 april, 2000.
- CLARKSON, M.B.E. *A Risk Based Model of Stakeholder Theory*. The Central for Corporate Social Performance & Ethics, University of Toronto, 1994.
- DENIS, D. K. *Twenty-five years of corporate governance research... and counting*. Review of Financial Economics 10, p. 191-212, 2001.
- DONALDSON, L.; DAVIS, J.H. Boards and company performance – Research challenges the Conventional Wisdom. *Corporate Governance: An International Review*, vol.2, no. 3, pp.151-160, 1994.
- DYCK, A. Privatization and corporate governance: principles, evidence and future challenges. *The World Bank Research Observer*. Washington, Spring, 2001.
- HATCH, M. J. *Organization theory*. New York: Oxford University Press, 1997.
- LA PORTA, R.; LOPEZ-DE-SILANES, F.; SHLEIFER, A. VISHNY, R. Legal determinants of external finance. *Journal of Finance*, v. 52, n.3, p. 1131-1150, 1997.
- LA PORTA, R.; LOPEZ-DE-SILANES, F.; SHLEIFER, A. VISHNY, R. Law and finance. *Journal of Political Economy*, v. 106, n.6, p. 1113-1155, 1998.
- LA PORTA, R.; LOPES-DE-SILANES, F.; SHLEIFER, A; VISHNY, R. Investor protection and corporate governance. *Journal of Financial Economics*. V. 58, p. 3-27, 2000.
- LAZONICK, W.; O' SULLIVANS M. Maximizing shareholder value: a new ideology for corporate governance. *Economy and Society*, vol.29, no. 1, february, 2000.
- MONKS, R.; MINOW N. *Corporate Governance*, 2nd. Ed. Oxford: Blackwell, 2001.
- PFEFFER, J. Size and composition of corporate boards of directors: the organization and its environment. *Administrative Science Quarterly*, vpl.17, pp. 218-228, 1972.
- PORTER, M. E. *Capital Choices: Changing The Way America Invests in Industry*, A research report presented to the Council on Competitiveness and Co-sponsored by The Harvard Business School, Boston: 1992.
- POUND, J. Beyond takeovers: politics comes to corporate control. *Harvard Business Review*, March-April, pp.83-93, 1992.
- PROWSE, S. Corporate governance in an international perspective: a survey of corporate governance mechanisms among large firms in the United States, the UK, Japan and Germany. BIS economic papers, n. 41. May, 1994.
- SCOTT, J. *Corporate Business and Capitalist Classes*. Oxford University Press, 1997.
- SHLEIFER A.; VISHNY R. A Survey of Corporate Governance. *The Journal of Finance*, vol.LII, No. 2, June, 1997.
- TURNBULL, S. Corporate governance: Its scope, concerns and theories. *Scholarly Research and Theory Papers*, vol. 5, No. 4, October 1997.
- USEEM, M. Corporate Leadership in a Globalizing Equity Market. *Academy of Management Executive*. Vol.12, n.4, 1998.
- WHITLEY, R. *Divergent Capitalisms*, Oxford: Oxford University Press, 1998.

EARNINGS MANAGEMENT AND INDUSTRY CLASSIFICATION IN BRAZIL: AN EXPLORATORY INVESTIGATION

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Abstract

Enron and Worldcom accounting scandals brought new attention over the quality of financial accounting reports produced by listed corporations. Earnings management has generally been considered as the main cause of the alleged decrease in earnings relevance over the last decades (Lev, 1989). Following this line of inquiry this paper investigates earnings management activities of Brazilian firms. Prior research suggests that industrial organization can play a relevant role in motivating earnings management practices. To take this effect into account we control for industry classification using Economatica's 20 sector definition excluding financial services, banks, insurance, and agribusiness. Our earnings management metric is based on the Kang and Sivaramakrishnan (1995) model. Results are only statistically significant for four sectors suggesting that industry classification does not explain the variance in earnings management activities for the selected sample. This output is not consistent with the stated hypothesis. Our findings contribute to the recent debate among practitioners, regulators and academics about the determinants of earnings management practices and accounting quality.

Keywords: earnings management, accounting scandals, Brazil

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1. Introduction and Motivation

Healey and Whalen (1998) define that earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about underlying economic performance of the company, or to influence contractual outcomes that depend on reported accounting numbers.

Numerous academic studies in earnings management such as Healy and Whalen (1998), Palepu *et al* (2004), Jones (1991) and Kang and Sivaramakrishnan (1995) investigated where and how results are managed as well as how much of the total accrual consisted of discretionary accruals. This last perception is important since the discretionary accrual corresponds to the part of the accruals manipulated by managers.

Most authors like Schipper (1989), Dechow & Skinner (2000), have shown that earnings management can be detected on some specific accounts, however the models are usually limited to a small number of accounts. Despite these limitations, some models were elaborated which provide

integrated results, using econometric models to test them and have been broadly used.

On the other hand, according to Palepu *et al* (2004), Porter and McGahan (1997) and Ghemawat (2002) firms returns are explained by the industry factor, in other words, each firm's profitability is limited by factors that influence the returns in their business area. These considerations may lead to believe that differences in industry profitability are due to each sector having a different degree of earnings management.

Cash accounting is believed to offers fewer opportunities to manipulation and the "cash flow statement provides a reconciliation of its performance based on accrual accounting and cash accounting and provides an alternative benchmark of its performance" (PALEPU, 2004, p.3-11). Therefore investors and analysts normally try to look for clues in the cash flow statement of whether the accrual accounts are manipulated or not.

Nevertheless, cash accounting is limited and for accounting to proper capture the underlying business reality (PALEPU, 2004) and for the investor to obtain a true and fair view of this reality accruals have to be produced. Opportunities for manipulation

therefore, will appear and the investor needs to fulfill their information needs, that a change in the underlying business reality is accompanied by a proportional change in the accruals. Earnings management theory however, tries to analyze when and how managers will influence this change in the accruals to be different from the underlying change in business reality.

This study, in addition to contributing to these subjects, aims to join two human knowledge areas, accounting and strategy. Since it looks at industries' profitability it deals with strategy, and because it makes an analysis of the accounting information taken from the industries it also relates to accounting. As stated previously, if the results are managed, i.e. if there is earnings management, the industry profitability may not be reliable.

Gluck (1986, p.16) raised the question of "why are some firms competing in the same industry persistently more profitable?", again, earnings management may be part of the answer. In this context, corporate governance is an attempt to minimize or avoid manipulation. This paper however is not going to shed any light over the corporate governance issue since it focuses on the industry level of earnings management and corporate governance is mostly firm specific.

This paper intends to discuss the level of earnings management in Brazilian industries and if the industry factor has significant explanation power over this level. Palepu *et al* (2004, p.4-5) reported that "financial statements sometimes do a poor job of reflecting the firm's economic[...]" revealing an increasing concern about the discrepancy between the reported results and the business reality. According to Lopes (2002, p. 7) in Brazil this problem is expected to be intensified since "accounting information is expected to be of low quality due to both the conditions in the profession and the capital markets structure".

2. Related Research and Hypothesis Development

The initial view of earnings management is that the firm's accruals are manipulated to meet a certain pre-established value. According to Degeorge *et al* (1999), under the managers' perspective there are three main incentives to manage results:

- 1) To report profits closer to the analysts' forecasts of earnings per share value;
- 2) To sustain recent performance or smooth results;
- 3) To report positive profits.

In addition there are regulatory motivations, i.e. earnings management to reduce the chance of intervention and investigation or for tax planning purposes (HEALY AND WAHLEN, 1998) and personal motivations such as increase personal bonuses (MARTINEZ, 2001).

On the other hand, regulations can force managers' to increase or decrease the level of earnings management to meet the legal obligations suggesting that regulatory considerations induce firms to manage earnings (HEALY AND WAHLEN, 1998).

Very few earnings management studies deal with Brazilian firms and capital markets in Brazil with exceptions such as Martinez (2001) and Tukamoto (2002). In opposition internationally many studies such as Healy and Wahlen (1998) discussed types of earnings management, what incentive do managers have to manipulate, whether there is a correlation between earnings management and stock return and what specific accruals are commonly managed. When argue about the stock return, earnings management can be an attempt to influence short-term stock price performance, misleading stakeholders or part of them. This is not correct because on the long-term the real value will appear.

According to Healy and Wahlen (1998, p.16) "several other studies have investigated market reactions when earnings management is alleged or detected". Those reactions could be associated with the distortion of financial accounting data which decreases its value to investors (PALEPU *et al*, 2004).

According to Schmalensee (1985, p.349) "the finding that industry effects are important supports the classical focus on industry-level". To explain the industry profitability Palepu (2004) has adapted Porter's five forces model as shown on the following figure 1.

A sum of these forces is according to Palepu (2004) and Porter (1997):

Competitive Force 1: Rivalry Among Existing Firms

In most industries the rivalry among existing firms dictates the average level of profitability. In some cases the firms competing below the marginal cost to gain market-share. Some factors are linked with this force like industry growth rates, concentration and balance competitors, degree of differentiation and switching costs, scale/learning economies and the ratio of fixed to variable costs, excess capacity and exit barriers.

Competitive Force 2: Threat of New Entrants

This force change when an industry turns attractiveness. Normally the pricing constrained of the existing firms. The basics factors to influence this force are Economies of scale, first mover advantage, access to channels of distribution and relationships and legal barriers.

Competitive Force 3: Threat of Substitute products

This force changes the competition among firms when emerge a new product or service affecting firms as a whole, the price and the bargaining power with its suppliers and customers.

Competitive Force 4: Bargaining Power of Buyers

Two principals' factors determine the power of buyers: price sensitivity and relative bargaining power. If buyers have bargaining power, they can forcing price down.

Competitive Force 5: Bargaining Power of Suppliers

Inside the industry if there is a few powerful suppliers, they can "define" or "decide" the price of them products or service and the firms cannot pass on to yours clients, needing to accept this situation and reduce firms' profitability.

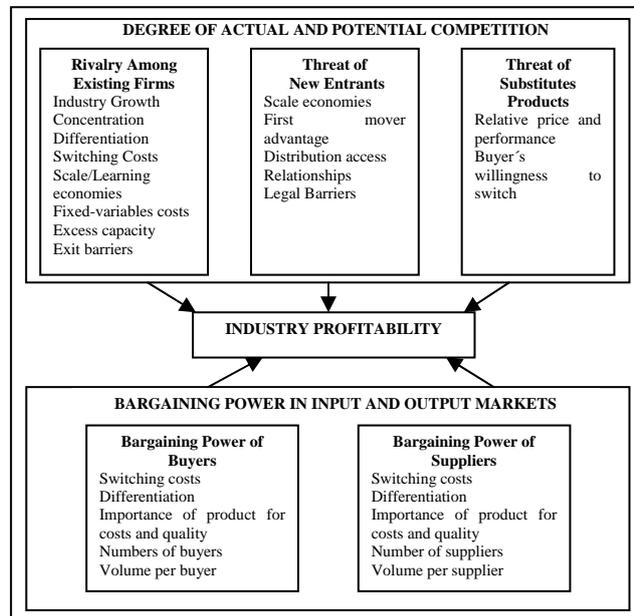


Figure 1. Industry Structure and Profitability

Our research in the Brazilian capital market follows this background and intends to explore the relevance of the industry factor when detecting the presence of earnings management. The null hypothesis of our regression is:

H_0 : The industry (sector) is an important explanatory factor in detecting earnings management

As mentioned by Beneish (2001), in the context of financial institutions and insurance companies, certain industries provide more incentive to manipulate than others because according to Healy and Wahlen (1998, p. 13) "loan loss reserves for banks and property casualty claim loss reserves are highly dependent on management's judgment, are directly related to their most critical assets and liabilities [...]". According to Beneish (2001, p. 5), "much of the evidence of earnings management is dependent on firm performance, suggesting that earnings management is more likely to be present when a firm's performance is either unusually good or unusually bad." Our paper expands this conception to a general context of several industries related on the Economatica's database and investigates minutely which of them may have atypical incentives or lack of incentives to earnings management. These practices contribute to increase informational asymmetry.

The corporate governance normally intends that its effects reduce the informational asymmetry because reduce the opportunities that manager can be to manipulate the results.

3. The Model

Several econometric models are used to test for the occurrence of earnings management. Each of these models differ in aspects such as the accounts used as explanatory variables and the estimation procedure.

The Jones modified model (1991) is the most widely used because of its simplicity, but Kang and Sivaramakrishnan (1995) (hereafter KS) developed a new and supposedly more efficient model. One critique of the Jones model is that since the independent variables are accounting numbers there will be correlation between the errors (Discretionary Accruals) and the regressors if earnings are managed; causing the OLS estimates to be inconsistent and biased. To account for this problem KS uses the Instrumental Variable method. Furthermore, according to Schmalensee (1985, p. 343) "the link between the real economic profitability dealt with in theoretical discussions and the accounting returns used in empirical work is weakened by inflation". In this sense, Martinez (2001) draws attention to another advantage of the KS model which resides in the fact that it works with absolute year results (e.g. revenue in year t) instead of the yearly variation used by Jones (e.g. Δ Revenue, divided by total assets_{t-1}) and this way nearly eliminates the effect of the inflation factor. Finally KS work exclusively with accounting numbers and use more accounts than Jones Modified Model. The results, therefore, are more robust and precise.

The KS Model (1995) is:

$$AB_{i,t} = \phi_0 + \phi_1 [\delta_{1,i} REV_{i,t}] + \phi_2 [\delta_{2,i} EXP_{i,t}] + \phi_3 [\delta_{3,i} GPPE_{i,t}] + \beta PART_{i,t} + \varepsilon_{i,t}$$

Where:

- $AB_{i,t}$ = accrual balance
= $AR_{i,t} + INV_{i,t} + OCA_{i,t} - CL_{i,t} - DEP_{i,t}^*$
- $A_{i,t}$ = accruals
= $\Delta AR_{i,t} + \Delta INV_{i,t} + \Delta OCA_{i,t} - \Delta CL_{i,t} - \Delta DEP_{i,t}^*$
- $AR_{i,t}$ = receivables, excluding tax refunds
- $INV_{i,t}$ = inventory
- $OCA_{i,t}$ = other current assets than cash, receivables, and inventory
- $CL_{i,t}$ = current liabilities excluding taxes and current maturities of long-term debt
- $DEP_{i,t}$ = depreciation and amortization
- $REV_{i,t}$ = net sales revenues
- $EXP_{i,t}$ = operating expenses (cost of goods sold, selling and administrative expenses before depreciation)
- $GPPE_{i,t}$ = gross property plant and equipment
- $NTA_{i,t}$ = net total assets
- $\delta_{1,i}$ = $AR_{i,t-1} / REV_{i,t-1}$
- $\delta_{2,i}$ = $NV_{i,t-1} + OCA_{i,t-1} - CL_{i,t-1} / EXP_{i,t-1}$
- $\delta_{3,i}$ = $DEP_{i,t-1} / GPPE_{i,t-1}$

This model utilizes balance sheet accounts, current and non-current, to isolate the part of discretionary accruals consisting of the residuals (errors) of the regression above stated.

Before the model was used some adaptation to Brazilian accounting proved necessary. Some accounts used in the model had to be adjusted due to the non existence of a perfectly correspondent account to be used as the variables *GPPE*, *EXP*, *OCA* and *CL* in Brazilian financial reports.

In fact, other limitations emerged when defining the period and accounts. When the number of years

was extended, the sample size reduced automatically making it difficult to obtain more information since there was no data available for extended periods for several companies. To account for the industry factor n-1 (where n is the number of industries) dummy variables were included; one for each sector except one. The dummy equals one when the company is of the sector described by it and 0 otherwise.

We can rewrite the model putting the dummy variable to separate each industry, where:

$$AB_{i,t} = \phi_0 + \phi_1 [\delta_{1,i} REV_{i,t}] + \phi_2 [\delta_{2,i} EXP_{i,t}] + \phi_3 [\delta_{3,i} GPPE_{i,t}] + Dummy + \varepsilon_{i,t}$$

Our expectation is that the inclusion of these dummy variables will reveal the explanation power of the industry factor over the regression.

4. Sample Selection and Results

The sample on this paper was taken from Economática and consists of 156 organisations from showing 448 observations excluding the financial industry including financial services, banks and insurance because of the specificity of the sector and the agribusiness sector due to the shortage of available data for it. The regression utilized the data from the period between and including 2000 and 2003. The data is also discriminated by year and industry. To account for the industry factor n-1 (where n is the number of industries) dummy variables were included; one for each sector except one. The dummy equals one when the company is of the sector described by it and 0 otherwise.

Table 1. The Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
REV	0.094108	0.038621	2.436691	0.0152
EXP	0.130923	0.014295	9.158530	0.0000
GPPE	-0.312912	0.145665	-2.148162	0.0323
Food	-0.023417	0.021175	-1.105925	0.2694
Commerce	-0.057216	0.026332	-2.172856	0.0303
Building Companies	0.021470	0.023729	0.904797	0.3661
Electronics	-0.078127	0.026121	-2.990937	0.0029
Electricity	-0.004343	0.015225	-0.285241	0.7756
Machines	0.007273	0.045206	0.160887	0.8723
Mining	0.000793	0.037074	0.021386	0.9829
nonmetallic minerals	-0.042894	0.028523	-1.503829	0.1334
cellulose	-0.035016	0.029392	-1.191333	0.2342
Oil and Gas	-0.032623	0.033591	-0.971198	0.3320
Chemistry	-0.010856	0.018320	-0.592601	0.5538
Siderurgy and metallurgy	-0.008952	0.015883	-0.563631	0.5733
Telecommunication	-0.078985	0.024916	-3.170010	0.0016
Textile	-0.052786	0.020269	-2.604261	0.0095
Transport	-0.039850	0.031926	-1.248182	0.2126

The results presented in table 1 show that only in Commerce, Electronics, Telecommunications and Textiles sectors detected earnings management

based 95% significance level. Table 2 shows our results and Coefficients:

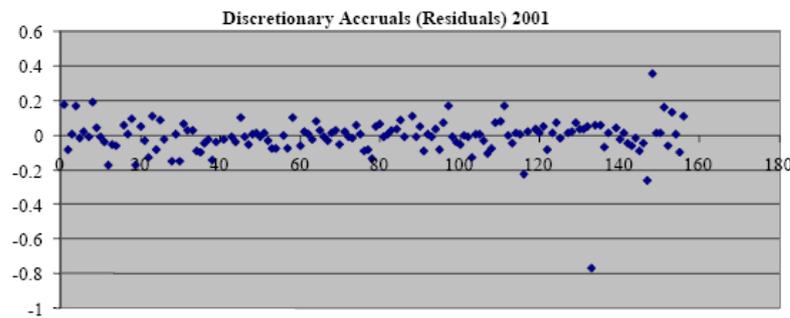
Table 2. The Regression Statistics

R-squared	0.252851	Mean dependent var	0.033744
Adjusted R-squared	0.223313	S.D. dependent var	0.123267
S.E. of regression	0.108635	Akaike info criterion	1.562302
Sum squared resid	5.074647	Schwarz criterion	1.397377
Log likelihood	367.9557	F-statistic	8.560081
Durbin-Watson stat	2.006679	Prob(F-statistic)	0.000000

The R-squared shows a relevant explanation power of the independent variables. According to the results 25.3% of the dependent variable is explained by the explanatory variables. However, the t-statistic test on each of the dummy variables tell us only four

of them (Commerce, Electronics, Telecom munications and Textiles) are statistically significant.

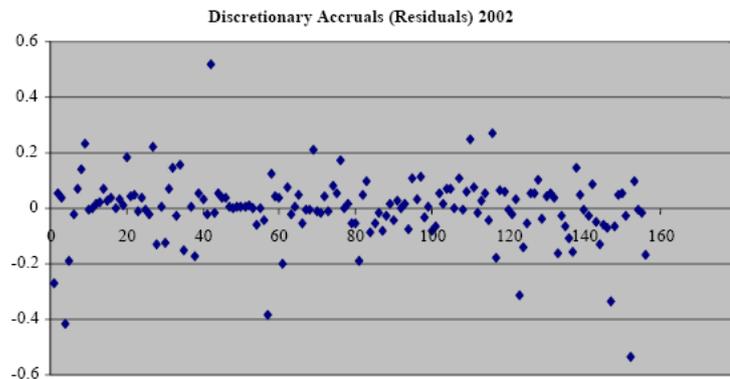
There is no reason to suspect the presence of heteroskedasticity or autocorrelation of residuals as the following graphs of the estimated residuals suggest.



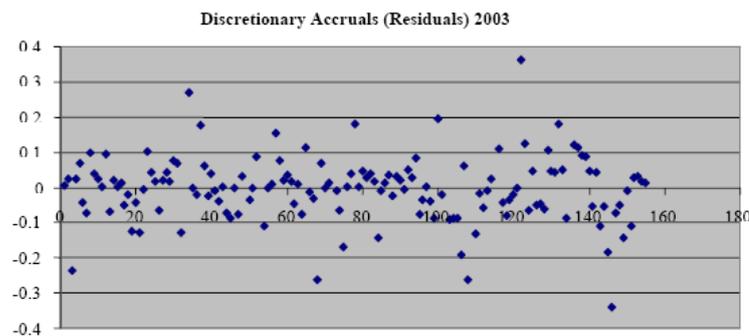
Graphic 1. Discretionary Accruals 2001

The discretionary accrual on 2001 is more concentrated of that the others years, maybe have

some particularity or for being the first year of the test some effects of the model force to this.



Graphic 2. Discretionary Accruals 2002



Graphic 3. Discretionary Accruals 2003

In each year the residuals seem fairly distributed around a mean of zero. However, it appears to be a tendency towards a greater dispersion around the mean on later years. It is easy to see how in 2003 it is easier to find residuals further from the 0 axis than in 2002 and even more in 2001.

5. Conclusions and Implications for Future Research

In contrast with idea initiated by Beneish (2001) our regression results do not allow us to confirm the null hypothesis and lead to discard the industry factor as an explanatory variable in earnings management research.

These findings contribute mainly in the debate about the determinants of earnings management practices indicating regulatory incentives to manipulate, which are the most apparent differences between industries, play a lesser role for managers when balancing the pros and cons of manipulating their results.

Further research should focus on other external determinants of earnings management and intensify the search for forms of including incentives which come from outside the company in the calculation of the discretionary accruals.

References

- a. ARTH, Mary E.; CRAM, Donald P.; NELSON, Karen K. Accruals and the Prediction of Future Cash Flows. *The Accounting Review*. v. 76, n. 1, jan., 2001.
2. BENEISH, Messod D. Earnings management: a perspective. *Managerial Finance*. n. 27, v. 1, p. 3-17, 2001.
3. BUSHMAN, Robert M.; SMITH, Abbie J. Financial accounting and corporate governance. *Journal of Accounting and Economics*. V. 32, p. 237-333, 2001.
4. DECHOW, Patricia M.; SLOAN, Richard G.; SWEENEY, Amy P. Detecting earnings management. *The Accounting Review*. v. 70, n. 2, p. 193-225, apr., 1995.
5. DECHOW, Patricia M.; SKINNER, Douglas J. Earnings management: reconciling the views of accounting academics, practitioners, and regulators. September, 1999. Disponível em: <<http://www.ssrn.com>>. Acesso em: 11 jun. 2005.
6. DEGEORGE, Francois *et al.* Earnings management to exceed thresholds. *The Journal of Business*. n. 71, v. 1, p. 1-33, jan, 1999.
7. GHEMAWAT, Pakaj. Competition and business strategy in historical perspective. *Business History Review*. v. 76, p. 37-74, Spring 2002.
8. GLUCK, Frederick W. A fresh look at strategic management. *Journal of Business Strategy*. v. 6, n.2, p. 4-19, Fall 1986.
9. HEALY, Paul Murray; WAHLEN, James Michael. A review of earnings management literature and its implications for standard setting. November, 1998. Disponível em: <<http://www.ssrn.com>>. Acesso em: 11 jun. 2005
10. IUDÍCIBUS, Sérgio; LOPES, Alessandro Broedel. *Teoria avançada da contabilidade*. São Paulo: Atlas, 2004.
11. JONES, J. J. Earnings management during import relief investigations. *Journal of Accounting Research*. v. 29, n. 2, p. 193-228, Autumn 1991.
12. KANG, Sok-Hyon; SIVARAMAKRISHNAN, K. Issues in testing earnings management and an instrumental variable approach. *Journal of Accounting Research*. v. 33, n. 2, p. 353-367, Autumn 1995.
13. LOPES, Alessandro Broedel. The Value Relevance of Brazilian Accounting Numbers: an Empirical Investigation. *In: ENCONTRO ANUAL DA ASSOCIAÇÃO NACIONAL DOS PROGRAMAS DE PÓS-GRADUAÇÃO EM ADMINISTRAÇÃO*, 26, 2001, Salvador, BA. *Resumo dos Trabalhos*. Bahia: ANPAD, 2002. 1 CD-ROM.
14. MARTINEZ, Antônio Lopo. "Gerenciamento" dos resultados contábeis: estudo empírico das companhias abertas brasileiras. São Paulo, 2001. Tese (Doutorado em Ciências Contábeis) – Programa de Pós-Graduação em Ciências Contábeis, Departamentos de Contabilidade e Atuaria, Faculdade de Economia, Administração e Contabilidade da Universidade de São Paulo.
15. PALEPU, Krishna G. *et al.* *Business analysis & valuation: using financial statements*. 3. ed. Thomson Learning: USA, 2004.
16. PORTER, Michael E.; McGahan, Anita M. How much does industry matter, really? *Strategic Management Journal*. v. 18, p. 15-30, jul., 1997.
17. RUMELT, Richard P. How much does industry matter? *Strategic Management Journal*. v. 12, n. 3, p. 167-185, mar. 1991.
18. SCHIPPER, Katherine. Commentary on earnings management. *Accounting Horizons*. Sarasota, v. 3, p. 91-102, dec., 1999.
19. SCHMALENSEE, Richard. Do markets differ much? *The American Economic Review*. v. 75, n. 3, p. 341-351, jun., 1985.
20. TUKAMOTO, Yhurika Sandra. Contribuição ao estudo do gerenciamento de resultados: uma comparação das companhias abertas brasileiras emissoras de ADR e não emissoras de ADRs. São Paulo, 2004. Dissertação (Mestrado em Ciências Contábeis) – Programa de Pós-Graduação em Ciências Contábeis, Departamentos de Contabilidade e Atuaria, Faculdade de Economia, Administração e Contabilidade da Universidade de São Paulo.
21. WALKER, Martin; WANG, Pengguo. Towards na Understanding of Profitability Analysis Within the Residual Income Valuation Framework. Working Paper, Manchester University, 2001.

PERSONAL TAXATION, CORPORATE AGENCY COSTS AND FIRM PERFORMANCE

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Abstract

This paper investigates the effect of personal-tax progressivity on management performance and agency costs by examining measures of corporate operating efficiency. We study a sample of US-based manufacturing and service firms and variations in across-state tax policy. Using matched-pair testing and regression analysis, we find evidence consistent with the hypothesis that increased personal-tax progressivity negatively impacts management productivity and is manifested in reduced firm efficiency. We control for several other factors that the literature suggests is relevant to firm operating efficiency and find that our results are robust.

Keywords: Corporate governance; Agency costs; Corporate performance; Personal taxes, Tax policy

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1. Introduction

Interest in tax policy has been spurred by recent developments in Eastern Europe, with a particular emphasis on the issue of how the burden of taxes should be distributed among individuals in different income groups. Since 1994, nine Eastern European countries have adopted a flat tax system.¹ This is in stark contrast to many Western European countries that maintain the more traditional progressive system that has several tax brackets and marginal rates that increase with personal income. Given the long-term trend toward economic integration and capital mobility, how tax policy may affect economic competitiveness is of increasing importance to public policy makers, investors and researchers alike. While economic competitiveness has many dimensions, one potentially important dimension that has received little attention to date is how personal taxes may impact firm efficiency. In this paper, we attempt to answer this question by analyzing the

empirical relationship between personal-tax progressivity and firm operating performance.

The use of incentives to help align managers' interests with the interests of shareholders is pervasive both in theory and in practice. These incentives are intended to reduce agency costs and drive firm efficiency. While the relationship between incentive design and firm agency costs has received much attention, what has been largely ignored is how the taxation of incentives may impact agency costs.² In the financial economics literature, the dominant approach to assessing the impact of tax policy is the global contracting perspective, which requires that the tax positions of all parties to a contract be considered (Scholes and Wolfson, 1992). Under this framework, it is suggested that contract arrangements be set up in a manner that minimizes the present value of the total costs to all contracting parties. In practice, the analysis often exclusively focuses on tax payments instead of other contracting costs. The tax research dealing with managerial incentives generally

¹ The countries that have introduced some form of a flat tax system, along with the year of introduction, are: Estonia (1994), Lithuania (1994), Latvia (1995), Russia (2001), Serbia (2003), Ukraine (2004), Slovakia (2004), Georgia (2005) and Romania (2005) [Based on *The Economist* (April 16, 2005) article titled 'The Case for Flat Taxes'].

² For example, Holmstrom (1979), Grossman and Hart (1983), Gibbons and Murphy (1992) and Choe (2005) provide prescriptive theories of efficient compensation design. Coughlin and Schmidt (1985), Murphy (1985), Jensen and Murphy (1990) and Hall and Liebman (1998) provide descriptive analyses of compensation structure and its effect on performance. However, these papers do not address taxation.

analyzes tax effects on compensation design without addressing the potential impacts on managerial behavior. The extraction of private benefits, which may be thought of as an untaxed form of compensation, represents a cost to the shareholders but is not considered in the research. This general approach is illustrated in works of Miller and Scholes (1982), Hite and Long (1982), Abowd and Bognanno (1995), Austin, Gaver and Gaver (1998), Hall and Liebman (2000) and Klassen and Mawani (2000). Katascak (2004) also examines the relationship between tax policy and compensation design, but unlike the other cited papers, his model treats agency costs as endogenous and predicts that an increase in marginal personal-tax rates may diminish managerial effort.

Public and labor economics researchers recognize that there can be a wide range of behavioral responses to personal-tax policy changes, including changes in capital accumulation, labor supply, entrepreneurial activity, tax evasion and labor productivity. This recognition has influenced researchers to place more emphasis on assessing tax policy impacts by examining the response of aggregate economic measures, such as taxable income or gross domestic product, in order to capture the net effect of a variety of behavioral responses. While some of the specific responses, such as labor supply effects, have been studied extensively, there is limited direct research on productivity or worker effort effects. Feldstein (1999) suggests that workers subject to higher marginal rates of taxation may reduce their taxable income by exerting less effort (accepting less responsibility, avoiding travel, etc.) and by receiving 'compensation' in forms that are untaxed (i.e. various types of fringe benefits and perquisites). Although not expressed in the terminology of corporate governance research, it is clear that he is suggesting that personal taxation could impact corporate agency costs. Feldstein's suggestion that progressivity and high marginal tax rates may negatively impact work effort is consistent with the theoretical analyses of Sandmo (1994) and Andersen and Rasmussen (1999), however little empirical research has been directed at assessing this impact at the employee or firm level.³

In this paper, we examine whether personal-tax progressivity has an effect on managerial performance as reflected in their firms' operating efficiency. Progressivity is measured with respect to the total tax burden on individuals at different income levels.⁴ A sample of US-based firms is

subjected to matched pair testing and cross-sectional regression analysis to determine if tax progressivity is negatively related to firm performance. The main analytical results, based on both methodologies and three separate measures of performance, indicate a significant negative relationship between tax progressivity and firm performance, which is consistent with the theoretical prediction. We also test the robustness of our results by controlling for other factors suggested by the literature to be important to firm performance; we continue to find the significant negative relationship between personal-tax progressivity and performance.

In Section 2 of this paper we describe a simple theoretical framework in order to motivate the paper and develop the hypotheses for testing. Section 3 describes our data set and discusses our firm performance measures and our personal-tax progressivity variable. Also included is a discussion and description of other independent variables that serve as control factors. Section 4 presents our empirical tests and discusses the results. Section 5 concludes.

2. Theoretical framework: predicted effect of personal-tax progressivity on corporate agency costs

A managerial employment contract establishes an agency relationship, since the manager (the agent) is acting on behalf of the firms' owners (the principals) and has been delegated, either explicitly or implicitly, decision-making authority over some set of job-related factors. This decision-making authority gives managers, particularly senior managers and executives, control over firm resources. The agent-made decisions about how firm resources will be utilized affect both the economic performance of the firm and the personal utility that the manager derives from his or her position with the firm. Given that there is some optimal decision set (optimal from the point of view of the principals), deviations from the optimal levels constitute a 'purchase' of non-pecuniary benefits by the agent and results in a net dollar cost to the firm called the residual loss. Principals set up systems of incentives to minimize the overall agency cost, which includes the residual loss.⁵ The performance incentives include pecuniary rewards such as bonuses and profit sharing and are typically subject to taxation at the personal level, whereas the non-pecuniary benefits associated with employment (i.e. perquisites, on-the-job leisure, etc.) are generally not taxed.

To illustrate the potential impact of personal-tax progressivity, we will consider a very simple model

³ One notable exception is the research of Sillamaa (1999), who examines work effort responses to taxation in an experimental setting and finds that work effort increases when the top marginal tax rate is reduced. To the best of our knowledge, there has been no previously published research that has tested the hypothesized negative productivity effect of tax system progressivity using firm level performance data.

⁴ Progressivity is a measure of tax function slope. A tax system is considered progressive if the effective tax rate increases with

income; the greater the rate of increase, the more progressive the tax system is considered.

⁵ This agency framework is similar to that of Jensen and Meckling (1976). The principal minimizes overall agency costs, which includes residual losses as well as the costs of monitoring and providing incentives to the agent.

in which a manager undertakes some set of duties for a firm. The manager maximizes utility, which is derived from both taxable pecuniary benefits and non-taxable non-pecuniary benefits (all other factors associated with employment that provide utility). Assume that the manager can perform at a normal level and receive a wage of W or can perform at a high level and receive a wage of W plus a positive bonus of B . The effective personal-tax rate in the normal and high income states are t_N and t_H respectively. High performance results in no utility from non-pecuniary benefits, while normal performance provides a strictly positive amount of utility associated with these non-pecuniary employment related factors. We also assume that after tax compensation is an increasing function of before tax compensation (the marginal personal-tax rate is always less than one) and that the marginal utility of consumption of purchased goods is positive.

The employee will choose to perform at the high level if the utility derived from earning $W + B$ exceeds the utility derived from earning W plus the utility derived from non-pecuniary benefits in the normal performance state. If we assume an additive utility function and denote U_G as the utility derived from the consumption of purchased goods and \bar{U}_A as the utility derived from non-pecuniary benefits in the normal performance state, then the condition necessary for high performance can be stated as follows:

$$U_G((1-t_H)(W+B)) > U_G((1-t_N)(W)) + \bar{U}_A \quad (1)$$

If we set t_H equal to $t_N + P$, where P is a measure of personal-tax progressivity, this condition can be stated as:

$$U_G((1-t_N-P)(W+B)) > U_G((1-t_N)(W)) + \bar{U}_A \quad (2)$$

The left hand side of (2) is a decreasing function of P , while the right hand side is unaffected by P . Therefore, given fixed levels of t_N , W , B and \bar{U}_A , the high performance condition will be satisfied for levels of P below some point P' and will not be satisfied for levels of P above P' . This suggests that progressivity may be negatively related to performance. Alternatively, one can think of P as an exogenous variable and the compensation system component, B , as endogenous. In this case, the principal will adjust the size of the bonus B to ensure that the high performance condition will be met (assuming high performance is worth the cost of the necessary bonus). Here, we would see a positive relationship between B and P . Greater progressivity would necessitate a larger bonus in order to ensure high performance. The bonus is, of course, an agency cost, since it is a cost of aligning the interests of the agent and the principal. Although the principal is still able to elicit high performance, it is achieved at a higher cost to the firm when personal-tax

progressivity is increased. In either case, greater progressivity may cause the overall efficiency of the firm to decline. In the former case, (where B is not endogenous) lower managerial performance may be utility maximizing and give the result of lower corporate operating efficiency. In the latter case, with B endogenous, a higher B is required but this results in less corporate productivity net of compensation costs.

It can also easily be seen that the above discussion and conclusions are not dependent on P being a positive value, as would normally be associated with a progressive tax system. The value of P can be positive or negative and the implication of a change in the value of P remains the same. As such, the hypothesized effect of an increase in personal-tax progressivity applies whether the tax system is initially regressive, proportional or progressive.

While our model is a very simplified representation, it does characterize the intuition behind the hypothesis. A pecuniary reward for good performance is less desirable if it is going to be taxed at a higher rate. In response to the higher tax rate, either the reward has to be increased or managerial effort will suffer. In a general equilibrium, with a continuous range of performance possibilities, we would anticipate tax policy changes to result in responses in both managerial effort (as measured by the residual loss) and the incentive system. However, since both responses are reflected in the firm's overall agency cost, we are drawn to the same conclusion that personal-tax progressivity is negatively related to managerial performance which is manifested in corporate operating efficiency.

Our hypothesis regarding the negative productivity impact of increased tax progressivity is generally consistent with the implications of several models and theories based on a variety of response mechanisms. Sandmo's (1994) promotion competition model predicts that taxation that reduces the after-tax income differential between a promotion and a no-promotion state reduces the aggregate level of effort within a firm. Feldstein and Wrobel (1998) hypothesize that greater personal-tax progressivity reduces economic efficiency based on the ability of high-skilled labor to relocate to more favorable tax jurisdictions. Katuscak's (2004) agency model predicts that increased taxation of executives weakly diminishes the equilibrium level of managerial effort. Alford's (2005) agency model, which includes imperfect monitoring of productivity and compensation discontinuities, also suggests a negative relationship between personal-tax progressivity and performance.

3. Data and variables

3.1. Data

Our sample consists of US-based firms in the manufacturing and service sectors with cross-sections

drawn from 1995 and 2002.⁶ There were 1,761 firm observations in 1995 and 1,785 firm observations in 2002. Firm-specific accounting data was obtained from the Compustat database using annual report information. State data regarding taxation was obtained from four sources: (1) the Institute on Taxation & Economic Policy ([ITEP], 1996 and 2003); (2) the National Bureau of Economic Research; (3) the Federation of Tax Administrators⁷ and (4) the Tax Foundation. We use an index developed by Ferris, Lawless and Noronha (2004) as a proxy for the state corporate legal environment. The state data for the appropriate year was then matched to the firms based on the firm's primary location of operation; except for the legal environment measure, which is matched to firms based on the firm's state of incorporation. A listing of variables, along with each variable's definition and source, is shown in Table 1.

All firms from the Compustat database were included in the sample if they met the following criteria: (1) primary location of operation was in the US; (2) the firm's primary industry was in either the manufacturing or service sector; and (3) the firm had more than 25 and fewer than 1000 employees (fewer than 250 for service sector firms).

This sample construction offered a number of significant advantages. By selecting only US firms, we largely control for a number of factors that may affect firm performance and variable measurement. These factors include federal regulations, the capital market environment, product market competition and the standard used in generating accounting data. By selecting only small firms, it is more likely that operations and personnel are more concentrated in one state and that the majority of management personnel are subject to the same state's tax system. Also, we are better able to control for industry related factors, since smaller firms tend to be less diversified across different industries.

3.2. Dependent variables: firm performance

Greater personal-tax progressivity is hypothesized to increase firm agency costs, through higher levels of non-pecuniary benefits and/or through higher costs of providing appropriate performance incentives. This effect should be reflected in various measures of firm operating performance. We use three accounting-based corporate performance measures because they are able to isolate the specific dimensions of corporate efficiency in which we are interested.

The first measure is the firm's expense ratio (ER), which is the ratio of selling, general and

administrative expenses to sales. The ER is intended to capture how well the firm controls expenses, including certain types of perquisite consumption. The second measure is the firm's total asset turnover (TAT), which is the ratio of sales to total assets. The TAT indicates the efficiency with which the firm utilizes its assets. It reflects the performance outcome of past investment decisions, specifically, how productive the firm's assets are in generating sales. The third measure is the operating return on assets (OROA), which is the ratio of earnings before interest, taxes, depreciation and amortization to the total assets. The OROA reflects the overall operating efficiency of the firm.

Holding non-agency factors constant, a higher value for ER and lower values for both TAT and OROA are consistent with management choosing a lower level of effort to maximize their utility – leading to less cost control, less utilization of assets and an overall lower operating return. In addition, if the compensation function (*B* component) is adjusted to compensate for higher personal-tax progressivity then the same results for ER (a higher value) and OROA (a lower value) would be expected. Thus, we can use these variables as indicators of inferior corporate performance that results from higher incentive costs caused by higher personal-tax progressivity.

3.3. Personal-tax progressivity measurement

In order to test the personal-tax progressivity hypothesis, it is necessary to construct a variable that measures the progressivity of each state's tax system. Since all forms of state and local taxation (income taxes, excise taxes, sales taxes and property taxes) affect the purchased consumption of an agent, we are interested in the combined burden of the overall tax system.⁸ Taking into consideration alternative forms of taxation, other than personal income tax, is particularly important in this context since personal income tax only accounts for about 22% of the total tax revenue of state and local governments (US Census Bureau, 2004). Sales, excise and property taxes are important forms of revenue for state and local governments. The existence and design of these forms of taxation, along with the structure of the personal income tax, together determine how the burden of taxation is distributed among individuals in different income groups.

Personal-tax progressivity can be measured in a variety of ways and the choice of the most suitable

⁶ The sample was limited to these years based on availability of the tax progressivity measure that we used.

⁷ The Federation of Tax Administrators (FTA) corporate tax data for 2002 was accessed on-line. For 1995, corporate tax data was taken from The Council of State Governments (1996), which sourced data from the FTA.

⁸ It is not only the income tax that affects the agent's purchased consumption. For instance, with a sales tax of s and no income tax, X dollars of income can purchase $X / (G(1 + s))$ units of a good with a price of G . This is equivalent to having no sales tax and an effective income tax rate of $t = 1 - (1 + s)^{-1}$, since it results in the same purchasing power given X dollars of pre-tax income and a good price of G .

index depends, in part, on the purpose for which it is being measured. Since we are attempting to assess how personal taxes affect firm efficiency based on behavioral responses of managers, it is desirable to measure progressivity over a relevant income range. Since all firm managers are delegated some decision making authority and may, therefore, influence firm agency costs, we measure personal-tax progressivity over the upper half of the income distribution.

The specific index used in this paper is a measure of the spread in tax rates, similar in form to that used by Feldstein and Wrobel (1998) and Gentry and Hubbard (2000, 2004). We measure personal-tax progressivity in terms of the difference in the tax rate at high and moderate income levels.⁹ We define our tax progressivity measure as the effective tax rate on the highest 5% income group minus the effective tax rate on the middle 20% income group. Measuring the tax rates based on distributional positions within the state, as opposed to at specific dollar income levels, takes into account real income variations across states and may therefore be a better measure of state policy regarding the distribution of the tax burden (Chernick, 1997). The effective tax rate used in constructing the index is the percentage of income paid (directly or indirectly) for state and local taxes. This is measured net of the federal deductibility of state taxes. Information on the method (i.e. tax incidence assumptions) used to generate the effective tax data can be found in the source documents (ITEP, 1996 and 2003). Also, both Chernick (1997) and Reschovsky (1998) provide commentary on the ITEP methodology.

A potential problem with this measure of personal-tax progressivity is that it is not strictly predetermined, since behavioral responses to the tax system can affect the income distribution, which in turn influences the progressivity measure.¹⁰ In order to deal with this potential endogeneity problem, we also perform two-stage least squares regressions in which we instrument for our progressivity measure. The instrumental variable is the top marginal personal income tax rate (total of state and federal income taxes) net of deductibility of state income tax on the federal return and federal income tax on the state return.¹¹ This variable has a high correlation

with our progressivity measure and, since it depends only on variation in state tax laws and not, at least in any obvious way, on individual or firm responses to the tax system, it is considered exogenous.

3.4. Control variables

While we are interested in the potential effect of tax structure on firm performance, we must also control for other potentially important determinants of firm performance. The performance variables that we use are frequently found in financial economics and accounting research and we rely on the same control variables typically found in this research. First, it has long been thought that characteristics of the firm's financial structure can influence its performance (Berle and Means, 1932). Firm creditors provide monitoring of management behavior and the influence of creditors would increase as leverage increases. Also, high leverage requires operating cash flows to meet debt obligations and places the firm at risk of insolvency, which may increase managerial performance incentives (Jensen 1986). Leverage is measured as the ratio of total liabilities to total assets.¹²

Firm size may affect our performance variables for a variety of reasons, including potential economies of scale. Size is measured as the natural logarithm of firm net sales. The relative amount that a firm invests in fixed capital may affect firm agency costs since tangible assets are more easily monitored by outsiders than certain non-tangible assets. Furthermore, the relative investment in fixed assets is indicative of the firm's technology and may reflect a specific management strategy or reaction to local input cost conditions. We measure the relative investment in fixed capital using the fixed asset ratio, which is fixed assets divided by total assets. The squared values of the leverage, size and fixed asset ratio variables are also incorporated into the regression models to allow for nonlinearities in their relationships to performance. Two further firm-specific control variables are also incorporated into the analysis. The firm's sales growth is included, since it may be indicative of the firm's product lifecycle stage, and the firm's industry is included as a control for obvious reasons.

In addition to the firm-specific variables, there may be factors in the firm's operating environment, in addition to tax progressivity, that affect its performance. It should be noted that intranational

⁹ This is conceptually similar to Gentry and Hubbard (2004). They use the difference in the marginal tax rate in an average successful state (finding a new job that pays more) and a benchmark state (the worker's current income level). We use the difference in the effective tax rate between a successful state (earning greater rewards through promotion, bonuses, etc.) and a benchmark state (income at a moderate level of productivity). In both cases, the progressivity index is a measure of the tax function average slope over some income range.

¹⁰ We wish to use the tax parameter to explain agent behavior, however agent behavior may influence our tax parameter since it is based on both the statutory tax rates and the income distribution (income distribution may be influenced by responses to the tax system).

¹¹ The data is based on a taxpayer with a wage income of \$250,000 who is married and is filing jointly. The data series is from the National Bureau of Economic Research TAXSIM model and

information on the model and this data series are available from Feenberg and Coutts (1993) and the NBER website (www.nber.org/~taxsim).

¹² Another aspect of the ownership structure that is a possible determinant of performance is the equity distribution. Holderness (2003) provides a recent survey of the research and, based on the mixed evidence cited, he concludes that equity ownership characteristics appear to have little impact. Nonetheless, the omission of equity related control variables is further discussed in Sub-section 4.6.

variation in environmental factors is rarely considered in models explaining the accounting-based measures of performance used in this paper. Despite limited guidance in the literature, we attempt to identify the most relevant potential influences.

State and local government program spending is controlled for by incorporating a variable measuring the average tax burden. This variable is defined as the total state and local tax burden as a percentage of total income in the state. The state corporate income tax rate is also a potentially significant factor influencing firm performance, for which we control.¹³ Finally, as noted by Cary (1974), the corporate legal environment varies within the US and affects investors' rights and potentially influences managerial behavior. Since corporate legal jurisdiction depends on the state of incorporation and not on the physical business location, we include in the analysis a state-dependent legal environment measure (LEM) based on the firm's state of incorporation. The LEM index used was developed by Ferris, Lawless and Noronha (2004).¹⁴ Summary statistics for dependent and independent variables are provided in Table 2.

4. Empirical analysis: matched pair testing and regression analysis

4.1. Matched pair testing

Our initial examination of the potential impact of tax progressivity utilizes a matched pair testing technique. The advantage of this procedure is that it concentrates the analysis on those firms facing the most extreme tax environments, which may help overcome limited variation in our progressivity variable. The data set for the matched pair testing consists of a 1995 sample of 1,761 firms and a 2002 sample of 1,785 firms. Each sample is organized into quintiles based on the personal-tax progressivity measure. Firms in the highest progressivity quintile are matched to firms in the lowest progressivity quintile based on both industry (four digit primary SIC match) and firm size.¹⁵ If no match based on these criteria is possible, the firms are excluded from

testing. The performance of the matched firms is then compared in an attempt to determine if there are systematic differences based on the tax environment in which the firm operates. A data series of performance differences is created by subtracting the value of the low quintile firm performance parameter from the value of the performance parameter of the matched high quintile firm. This is done for all three of our performance measures (ER, TAT and OROA) in both cross-sections.

Two types of tests on the matched firms' performance differences are conducted for all three measures of firm performance. The first test is a simple matched pair t-test. The mean value and standard error of the mean for each performance difference data series is calculated. This is used to calculate a t-statistic; a p-value is reported based on the null hypothesis of zero mean difference with a two-sided alternative hypothesis.¹⁶ Since this first test assumes a normal distribution of the performance difference data series, which may not hold, we also perform a second non-parametric test.

The second test is the Wilcoxon signed rank test, which utilizes the same three data series (difference in performance between the high quintile firm and its matched low quintile firm). It, however, tests the hypothesis that the median difference is zero and it makes no assumption regarding the form of the distribution. Again, a p-value based on a two-sided alternative hypothesis is reported.

Our model suggests that the firms located in a state with a higher level of tax progressivity should have inferior performance to a matched firm that operates in a state with a lower level of tax progressivity. As such, we would expect a positive mean and positive median difference for ER and a negative mean and negative median difference for both TAT and OROA.

4.2. Matched pair test results

The matched pair test results are presented in Table 3. From our high and low progressivity quintiles, we were able to create 129 firm matches in our 1995 sample and 157 firm matches in our 2002 sample. The average difference in the personal-tax progressivity index faced by high and low quintile matched firms was 3.14 in 1995 and 3.03 in 2002.

As shown in Panel A, the average performance of firms located in states with high personal-tax progressivity was inferior to that of the matched firms located in low progressivity states. This average performance difference was consistent across all three performance measures in both the 1995 and 2002 samples. We observe a positive mean difference for ER and a negative mean difference for

¹³ We also tried including controls for the state's per capita income (based on U.S. Department of Commerce data (2003)) and a variable measuring the effective overall tax rate on the highest five percent income group (based on ITEP data (1996, 2003)). The former was insignificant in most regression specifications. The latter was not consistently significant and it contributed to multicollinearity problems. Although not reported, the inclusion of these variables does not significantly change the results or conclusions with respect to our progressivity measure.

¹⁴ As a robustness check, an alternative legal environment control variable (a dummy variable for incorporation in Delaware) was also tested in the regressions (as per Daines (2001)). Approximately 58% of our sample firms are incorporated in Delaware. This alternative control procedure leads to the same conclusions with respect to our progressivity measure.

¹⁵ The natural logarithm of the high quintile firm's sales divided by the low quintile firm's sales had to be less than 0.405 in absolute value. This meant that the smaller firm's sales were at least 67% of the larger firm's sales.

¹⁶ Statistical tests based on two sided alternative hypotheses are used because they are the standard in this type of literature. In actuality, given our one-sided hypothesis, our reported p-values may be divided by two to reflect one-sided tests.

both TAT and OROA. The performance differences are economically significant and consistent with the hypothesized impact of personal-tax progressivity. If we assume that the firm performance differences are normally distributed, the results associated with ER are statistically significant at the 1% level for both samples; the results for OROA are statistically significant at the 1% level for 1995 and the 5% level for 2002; the result for TAT is significant at the 10% level for 1995. Only the 2002 test associated with TAT was statistically insignificant (although it is significant at the 10% level given the more appropriate one-sided test).

The non-parametric test results are presented in Panel B. The median difference for all three performance measures in both years is consistent with the hypothesis. In addition, for both sample years the Wilcoxon sum of ranks is greater for positive observations (positive observations of the performance difference) for ER and greater for negative observations for both TAT and OROA. This is also consistent with the hypothesis. The Wilcoxon test indicates statistically significant results for all three performance measures for both years. All results are significant at the 5% level, with three of the six results significant at the 1% level.

Overall, the evidence from the matched pair testing is consistent in sign with the tax progressivity hypothesis and is statistically significant. Next, we investigate the robustness of our results by conducting regression analysis that includes additional control variables.

4.3. Regression testing

The cross-sectional data is pooled and analyzed with both ordinary least squares and two-stage least squares regressions.¹⁷ While this methodology has certain drawbacks in terms of addressing potential omitted variables bias, it also has advantages in this context. First, even if we had annual data on the progressivity variable, it would tend to be stable, changing little from one year to the next. With low levels of temporal variation ('within subject variation') in the independent variable of interest, fixed effects estimation using panel data may not detect a relationship even if one exists (Zhou 2001). Second, we may expect that the relationship between annual changes in the tax system and annual changes in firm performance would be weak since the effect of altered managerial behavior may not be reflected immediately in the accounting-based performance measures. This leads us to believe that there could be a relationship between the levels of the variables, even if there is no apparent relationship in the annual changes. As such, we depend on pooled cross-sectional variation to determine if there is a potential

relationship between personal-tax progressivity and firm performance.

In setting up our regression models for testing it was recognized that two of our three performance variables, ER and TAT, have skewed distributions and are, by construction, non-negative. Each is transformed by taking its natural logarithm.¹⁸ The transformed variables are denoted LER and LTAT respectively. In using a semi-log model (log-linear) to explain these two performance measures, we assume that unit changes in our independent variables result in a constant percentage change effect on the ER and TAT variables. The hypothesized coefficient on our progressivity measure remains unchanged as a result of this specification.

The tax progressivity measure and all of the control variables discussed in Sub-section 3.4 are included in the regressions. As previously noted, the 2SLS regressions treat progressivity as endogenous and utilize an additional variable as an instrument, which is the statutory top marginal personal income tax rate in the state. Separate intercepts for each year are included and fixed industry effects are based on the firm's 2-digit primary SIC.

4.4. Regression test results

The regression results are presented in Table 4. The regressions examine the effect of personal-tax progressivity on the firm performance variables: LER, LTAT and OROA. The sign of the slope coefficient on progressivity is consistent with our theoretical expectation in all six regressions. Our hypothesis suggests that higher personal-tax progressivity should be associated with decreased performance (higher ER, lower TAT and lower OROA).

Based on OLS estimation, the slope coefficient on progressivity is statistically significant at the 1% level for all three performance measures. In the 2SLS regressions, the slope coefficient on progressivity is statistically significant at the 5% level for both LER and OROA, but is not significant for LTAT (p -value is 0.16). Consistent with the matched-pair testing, the overall regression results are generally supportive of the hypothesized negative impact of progressivity on firm performance.

It was also noted that our sample consists of a significant number of firms in financial distress; approximately 8% of the firms in the sample had a leverage variable of one or more. Since the situation of these firms is not representative of normal operating conditions and may significantly impact the coefficient estimates, we repeated the regressions

¹⁷ Separate regressions on unpooled data were also run, testing each year's cross-section independently, with similar results (not shown).

¹⁸ Regressions using the untransformed variables (ER and TAT) resulted in residuals that were highly skewed. Regressions using the transformed variables (LER and LTAT) resulted in residuals with distributions that more closely corresponded to a normal distribution.

with these firms excluded from the analysis. Similar results were found.

4.5. Sensitivity analysis: omitted variables bias

As with most empirical research, a significant area of concern is that our testing techniques could be subject to bias induced by the omission of significant control variables. In the case of the matched pair testing, the high and low quintile firms may systematically differ in terms of some other factor, apart from tax progressivity, and this other factor may actually be driving the apparent performance differences. In order to partially address this concern, the matched firms from the progressivity tests are compared in terms of ten other variables. These include: sales growth; two measures of firm leverage (ratio of liabilities to total assets and ratio of total long term debt to total assets); two measures of relative dependence on fixed assets (ratio of fixed assets to total assets and ratio of fixed assets to employees); firm size¹⁹; the relative income level in the firm's home state; and three tax variables of the firm's home state (average tax burden, the corporate tax rate and the effective tax rate on the highest 5% income group). For six of the ten variables there is no evidence of a systematic difference in the characteristics of the high and low quintile firms. The differences for several of the variables are both economically and statistically insignificant for at least one of the two years. Also, several variables have positive differences in one year and negative differences in the other. As such, there is no evidence to suggest that the performance difference between our high and low progressivity firms should be attributed to any of these six other factors that were not controlled for in the matching process.

For the four other variables (fixed asset to total asset ratio and the three tax related variables) there is some evidence of systematic differences between the high and low progressivity firms. To assess the potential effect of failing to control for these four factors, we regress the performance differences on the differences in each of the four variables. We find that these four factors appear to have little explanatory power with respect our performance differences. The F-statistic is insignificant and the adjusted R-squared is less than 2% for five of the six regressions (there are six regressions based on two sample years and three different performance measures). As such, we conclude that there is no substantive evidence that our matched pair test results are driven by these omitted control factors.

Our regression testing utilizes variables not included in our firm matching procedure and, as such, is less susceptible to omitted variables bias. As

previously noted in Sub-section 3.4, a number of additional control variables, not reported in our main results, are tested in alternative regression specifications to help guard against this potential problem. Furthermore, it is expected that the omission of certain potential control variables may actually bias against the identification of a tax progressivity effect. We do not, for instance, control for characteristics of the firm equity structure, such as ownership concentration or structure. However, ownership concentration and structure may respond to exogenous environmental factors that affect firm agency costs (La Porta, Lopez-de-Silanes, Shleifer and Vishny, 1998). If we assume that an increase in personal-tax progressivity would tend to drive up agency costs and lower firm operating performance, we should expect that the equilibrium level of ownership concentration (and other agency cost control mechanisms, such as the compensation system) would adjust to partially offset the negative effect of increased tax progressivity. As such, the effect of a change in progressivity may be obscured by the reaction of agency cost control mechanisms for which we have incomplete controls.

Another omitted variables issue stems from the nature of our data set. The number of firm observations from each state in our sample is not the same; the larger states contribute far more observations to the sample. This increases the risk of an endogeneity problem, as progressivity differences are more likely to be correlated with omitted state-related variables under these circumstances. As such, our results may be sensitive to omitted state effects.

This is particularly problematic in the matched-pair testing because California has the highest firm representation and is also one of the most progressive tax states. As a result, our high progressivity quintile of firms consists almost entirely of California firms in both years. The state representation is much broader in the low progressivity quintile and changes significantly from 1995 to 2002. Since our high progressivity group of firms consisted almost exclusively of California firms in both years, the observed performance differences in the matched firms could be driven by some other factor unique to California. Unfortunately, there is no conclusive way to test this. If we remove the California firms we decrease both the variation in progressivity across our matched firms (which is already low) and we also significantly reduce the sample size. Lack of significance is the end result.

To assess the potential bias in our regression results, we consider performing fixed state effects regressions using a partial set of state dummy variables.²⁰ Unfortunately, such regressions are subject to severe multicollinearity, which makes the regression coefficients and significance levels unreliable. Although there is no consensus on when

¹⁹ Although size, as measured by firm sales, was controlled for in the matching procedure, it was checked anyway to ensure that good size matching had been achieved.

²⁰ A state dummy variable is assigned for each state contributing 5% or more of the firm observations.

multicollinearity is excessive, there are a number of guidelines suggested in the econometrics literature. Belsley, Kuh and Welsch (1980) suggest that a condition number in excess of 20 is suggestive of a potentially serious problem; the condition number associated with the explanatory variable matrix for our fixed state effects regression is 73. Another guideline, suggested by Klein (1962), indicates that if $R_k^2 > R^2$, then the multicollinearity is severe.²¹

$R_{progressivity}^2$ is 0.71, which is well in excess of the coefficient of determination in each of the fixed state effects regressions. Finally, the variance inflation factor (VIF) with respect to the progressivity coefficient is 3.5. Allison (1999) suggests that a VIF exceeding 2.5 is problematic.

Recognizing that the fixed state effects model is subject to a severe multicollinearity problem indicates that, given our sample limitations, it is difficult to disentangle progressivity differences and state effects. In our sample, much of the variation in the progressivity measure is contributed by the firm observations from a small number of states, particularly California (a high progressivity state contributing the largest number of observations). Removing California firms from the sample reduces the standard deviation of the progressivity measure by 24% and reduces the sample size by 26%. Hence removing California firms from the sample may leave too little variation to detect progressivity effects, while specifically trying to control for omitted California (and other states') effects leads to high multicollinearity.

5. Conclusions

Most firms reward performance, either explicitly or implicitly, with greater taxable compensation to managers. If, however, greater compensation is subject to higher taxation, we would expect that the effectiveness of the reward will be diminished or that the firm will have to increase the size of the pretax reward.²² This expectation is straightforward and intuitive but rarely discussed in the finance literature that analyzes firm performance or agency costs. In addition, there are many difficulties in attempting to empirically assess this expectation. The performance characteristics of an international sample of firms would be affected by a multitude of differential factors and is fraught with various measurement problems. A US sample, such as we have used, helps

limit the number of control factors, but greatly limits the degree of tax-system variation in the sample. Despite the inherent analytical difficulties, the effect of personal-tax progressivity on firm performance is an important empirical issue to attempt to characterize.

To summarize our analytical findings, we have found evidence consistent with the hypothesized negative impact of personal-tax progressivity on managerial performance and firm efficiency. Our results are robust to various control variables suggested by the literature and hold under both a matched pair analysis and a regression analysis. The personal-tax progressivity hypothesis, if true, has significant public policy implications. In addition, the personal-tax progressivity hypothesis has potentially important methodological implications for other research into firm efficiency and agency costs. If a jurisdiction's personal-tax policy is a significant determinant of performance, then characteristics of the tax system, such as personal-tax progressivity, should be controlled for in cross-jurisdictional (particularly cross-country) studies of firm performance.

References

1. Abowd, J., Bognanno, M., 1995. International differences in executive and managerial compensation. In: Freeman, R., Katz, L. (Eds), Differences and Changes in Wage Structures. The University of Chicago Press, Chicago, 67-103.
2. Alford, S.C., 2005. Tax policy and labor quality: an agency perspective with performance thresholds. University of Manitoba Working Paper, Feb 2005.
3. Allison, P.D., 1999. Multiple Regression: A Primer. Pine Forge Press, Thousand Oaks, CA.
4. Andersen, T.M., Rasmussen, B.S., 1999. Effort, taxation and unemployment. Economics Letters, 62, 97-103.
5. Austin, J., Gaver, J., Gaver, K., 1998. The choice of incentive stock options vs. nonqualified options: a marginal tax rate perspective. Journal of the American Taxation Association 20, 1-21.
6. Belsley, D.A., Kuh, E., Welsch, R.E., 1980. Regression Diagnostics. John Wiley and Sons, New York.
7. Berle, A.A., Means, G.C., 1932. The Modern Corporation and Private Property. Macmillan, New York.
8. Cary, W.L., 1974. Federalism and corporate law: reflections upon Delaware. Yale Law Journal 88, 663-707.
9. Chernick, H., 1997. Tax progressivity and state economic performance. Economic Development Quarterly 11, 249-267.
10. Choe, C., 2005. Optimal CEO compensation: some equivalence results. Journal of Labor Economics, Forthcoming.
11. Coughlan, A., Schmidt, R., 1985. Executive compensation, management turnover, and firm performance: an empirical investigation. Journal of Accounting and Economics 71, 43-66.
12. Council of State Governments (CSG), 1996. The Book of States 1996-97 Edition. CSG: Lexington, Kentucky.
13. Daines, R., 2001. Does Delaware law improve firm value? Journal of Financial Economics 62, 525-558.

²¹ R_k^2 is the coefficient of determination from a regression of explanatory variable k on the other explanatory variables in the original regression model. R^2 is the coefficient of determination of the original regression model.

²² Similarly, if greater compensation is subject to lower taxation, we would expect that the effectiveness of the reward to be enhanced, leading to either greater productivity or a lower firm cost to provide appropriate incentives.

14. Federation of Tax Administrators, 2002. Range of state corporate income tax rates. http://www.taxadmin.org/fta/rate/tax_stru.html (accessed Nov 2002).
15. Feenberg, D., Coutts, E., 1993. An introduction to the TAXSIM model. *Journal of Policy Analysis and Management* 12, 189-194.
16. Feldstein, M.S., 1999. Tax avoidance and the deadweight loss of the income tax. *The Review of Economics and Statistics* 81 (4), 674-680.
17. Feldstein, M.S., Wrobel, M.V., 1998. Can state taxes redistribute income? *Journal of Public Economics* 68, 469-396.
18. Ferris, S.P., Lawless, R.M., Noronha, G., 2004. The influence of state legal environments on firm incorporation decisions and values. CORI Working Paper No. 2004-13, Oct 2004.
19. Gentry, W.M., Hubbard, G.R., 2000. Tax policy and entrepreneurial entry. *American Economic Review* 90, 283-287.
20. Gentry, W.M., Hubbard, R.G., 2004. The effects of progressive income taxation on job turnover. *Journal of Public Economics* 88, 2301-2322.
21. Gibbons, R., Murphy, K., 1992. Optimal incentive contracts in the presence of career concerns: theory and evidence. *Journal of Political Economy* 100, 468-505.
22. Grossman, S., Hart, O., 1983. An analysis of the principal-agent problem. *Econometrica* 51, 7-45.
23. Hall, B., Leibman, J., 1998. Are CEOs really paid like bureaucrats? *Quarterly Journal of Economics* 1133, 653-691.
24. Hall, B., Liebman, J., 2000. The taxation of executive compensation. *Tax Policy and the Economy* 14, 1-44.
25. Hite, G.L., Long, M.S., 1982. Taxes and executive stock options. *Journal of Accounting and Economics* 4, 3-14.
26. Holderness, C.G., 2003. A survey of blockholders and corporate control. *Economic Policy Review* 9 (1), 51-63.
27. Holmstrom, B., 1979. Moral hazard and observability. *Bell Journal of Economics* 10, 74-91.
28. Institute on Taxation & Economic Policy (ITEP), 1996. Who pays? A distributional analysis of the tax systems in all 50 states. ITEP, Washington, DC.
29. Institute on Taxation & Economic Policy (ITEP), 2003. Who pays? A distributional analysis of the tax systems in all 50 states: second edition. ITEP, Washington, DC.
30. Jensen, M.C., 1986. Agency costs of free cash flow, corporate finance, and takeovers. *American Economic Review* 76, 323-329.
31. Jensen, M.C., Meckling, W., 1976. Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* 3, 305-360.
32. Jensen, M.C., Murphy, K.J., 1990. Performance pay and top management incentives. *Journal of Political Economy* 98, 225-264.
33. Katuscak, P., 2004. The impact of personal income taxation on executive compensation. Working Paper, University of Michigan.
34. Klassen, K.J., Mawani, A., 2000. The impact of financial and tax reporting incentives on option grants to Canadian CEOs. *Contemporary Accounting Research* 17, 227-262.
35. Klein, L.R., 1962. *An Introduction to Econometrics*. Prentice-Hall, Englewood Cliffs, New Jersey.
36. La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 1998. Law and finance. *Journal of Political Economy* 106, 1113-1155.
37. Miller, M.H., Scholes, M.S., 1982. Executive compensation, taxes, and incentives. In: Sharpe, W.F., Cootner, C.M. (Eds.), *Financial Economics: Essays in Honor of Paul Cootner*. Prentice-Hall, Englewood Cliffs, New Jersey, 179-201.
38. Murphy, K., 1985. Corporate performance and managerial remuneration: an empirical analysis. *Journal of Accounting and Economics* 7, 11-41.
39. National Bureau of Economic Research, 2004. Maximum state income tax rate 1977-2002. <http://www.nber.org/~taxsim/state-rates/> (accessed Feb 2004).
40. Reschovsky, A., 1998. The progressivity of state tax systems. In: Brunori, D. (Ed.), *The Future of State Taxation*. The Urban Institute Press, Washington, DC.
41. Sandmo, A., 1994. The tax they pay may be your own: promotion, taxes and labour supply. *Scandinavian Journal of Economics* 96, 463-479.
42. Scholes, M.S., Wolfson, M.A., 1992. *Taxes and Business Strategy: A Planning Approach*, Prentice Hall, Englewood Cliffs, New Jersey.
43. Sillamaa, M.A., 1999. How work effort responds to wage taxation: an experimental test of a zero top marginal tax rate. *Journal of Public Economics* 73, 125-134.
44. Tax Foundation, 2005. 50-state comparison of state and local tax burdens: 1970-2005. <http://www.taxfoundation.org/statelocal.html> (accessed Apr 2005).
45. U.S. Census Bureau, 2004. State and local government finances by level of government and by state 2001-02. <http://www.census.gov/govs/www/estimate02.html> (accessed March 2005).
46. U.S. Department of Commerce, Bureau of Economic Analysis, 2003. Annual state per capita personal income. <http://www.bea.doc.gov/bea/regional/spi/> (accessed Feb 2003).
47. Zhou, X., 2001. Understanding the determinants of managerial ownership and the link between ownership and performance: comment. *Journal of Financial Economics* 62, 559-571.

Appendices

Table 1. Variables information

Variable	Definition	Source
ER	The firm's expense ratio calculated as selling, general and administrative expenses divided by net sales.	Compustat
LER	Natural logarithm of ER.	
TAT	The firm's total asset turnover calculated as net sales divided by total assets.	Compustat
LTAT	Natural logarithm of TAT.	
OROA	The firms operating return on assets, calculated as the earnings before interest, taxes, depreciation and amortization divided by the firm's assets.	Compustat
Progressivity	Progressivity measure, which is the effective tax on the highest 5% income group minus the effective tax on the middle 20% income group in the state in which the firm operates.	ITEP 1996 & 2003
Top marginal income tax rate	The maximum marginal personal income tax rate (combined state and federal income taxes) in the state in which the firm operates.	National Bureau of Economic Research
Leverage	Leverage as measured by the firm's ratio of total liabilities to total assets.	Compustat
Size	Size as measured by the natural logarithm of firm net sales.	Compustat
Fixed asset ratio	Fixed asset to total asset ratio as measured by the firm's net property, plant and equipment divided by the firm's total assets.	Compustat
Sales growth	Sales growth percentage, which is the annualized 3 year sales growth percentage based on sales data from annual reports.	Compustat
Average tax	Average tax, which is the total state and local tax burden as a percentage of total state income in the state in which the firm operates.	Tax Foundation
Corporate tax	Corporate tax, which is the state corporate income tax rate (or equivalent tax on corporate income) in the state in which the firms operates. Calculated net of federal tax deductibility if applicable. Where tax rate is not flat, the top marginal rate was used.	Federation of Tax Administrators
LEM	Legal Environment Measure, which is an index describing the corporate legal environment of the state where the firm is incorporated.	Ferris, Lawless and Noronha (2004).
Industry dummy	Industry effects used in the regressions were based on the primary standard industrial classification (SIC) code of the firm.	Compustat

Table 2. Summary statistics for variables

Variable	Mean	Median	Standard deviation	Minimum	Maximum
ER	0.932	0.370	5.966	0.010	213.962
TAT	1.153	1.045	0.891	0.000	13.932
OROA	-0.095	0.045	0.703	-29.060	1.162
Progressivity (%)	-2.857	-2.800	1.213	-6.320	-0.560
Top marg. inc. tax rate (%)	41.915	42.320	2.422	36.680	44.920
Leverage	0.542	0.398	0.870	0.016	25.820
Sales (millions \$)	52.485	24.628	96.315	0.000	2744.191
Fixed asset ratio	0.199	0.140	0.176	0.000	0.937
Sales growth (%)	52.386	9.936	762.153	-100.000	41970.
Average tax (%)	10.141	10.100	1.050	6.900	13.000
Corporate tax (%)	7.643	8.840	2.342	0.000	10.750
LEM	15.143	16.660	3.995	5.780	27.770

Table 3. Matched pair testing: comparison of firms in most progressive tax environment and matched firms in least progressive tax environment

Panel A: Parametric Test of Performance Difference				
	Progressivity	ER	TAT	OROA
Matches from 1995 sample (129 matches):				
Matches with parameter data for both firms	129	105	118	128
Hypothesized difference	-	positive	negative	negative
Mean difference	3.143	0.227	-0.152	-0.162
p-value	-	.0013	.0502	.0005
Matches from 2002 sample (157 matches):				
Matches with parameter data for both firms	157	113	155	155
Hypothesized difference	-	positive	negative	negative
Mean difference	3.030	.272	-0.118	-0.087
p-value	-	.0001	.1237	.0459
Panel B: Non-Parametric Test of Performance Difference				
	Progressivity	ER	TAT	OROA
Matches from 1995 sample (129 matches):				
Matches with parameter data for both firms	129	105	118	128
Hypothesized difference	-	positive	negative	negative
Median difference	2.980	0.079	-0.112	-0.062
# of observations > 0 (mean rank)	-	66 (60.41)	47 (54.88)	43 (60.06)
# of observations < 0 (mean rank)	-	39 (40.46)	69 (60.96)	85 (66.75)
Wilcoxon signed rank z-statistic	-	3.849	2.240	3.674
p-value	-	.0001	.0251	.0002
Matches from 2002 sample (157 matches):				
Matches with parameter data for both firms	157	113	155	155
Hypothesized difference	-	positive	negative	negative
Median difference	2.440	0.157	-0.090	-0.074
# of observations > 0 (mean rank)	-	75 (63.03)	58 (76.23)	66 (73.16)
# of observations < 0 (mean rank)	-	38 (45.11)	93 (75.85)	89 (81.59)
Wilcoxon signed rank z-statistic	-	4.314	2.445	2.172
p-value	-	.0000	.0145	.0298

Firms were assigned to quintiles based on the progressivity measure. Firms in the highest and lowest quintiles were matched based on industry (same four digit primary SIC) and size (similar level of sales). Firms that could not be matched were excluded from testing. Differences are calculated as the high quintile firm performance parameter minus the performance parameter of its matched low quintile firm. In Panel A, the p-values are based on a standard t-test of the null hypothesis of zero mean difference (two-sided). In Panel B, the p-values are based on a normal approximation to the Wilcoxon signed rank test of the null hypothesis of zero median difference (two-sided with correction for both continuity and ties). Variable definitions and sources are provided in Table 1.

Table 4. Regressions of firm performance on personal-tax progressivity and control variables

Independent variable	Dependent variable (and estimation method)					
	LER (OLS)	LER (2SLS)	LTAT (OLS)	LTAT (2SLS)	OROA (OLS)	OROA (2SLS)
Progressivity	0.067 (0.012)***	0.032 (0.016)**	-0.050 (0.013)***	-0.023 (0.016)	-0.023 (0.008)***	-0.024 (0.011)**
Leverage	-0.115 (0.026)***	-0.117 (0.027)***	0.439 (0.040)***	0.440 (0.040)***	0.066 (0.092)	0.066 (0.092)
Leverage squared	0.006 (0.002)***	0.006 (0.002)***	-0.016 (0.003)***	-0.016 (0.003)***	-0.037 (0.008)***	-0.037 (0.008)***
Size	-2.627 (0.228)***	-2.631 (0.229)***	3.477 (0.162)***	3.481 (0.161)***	0.757 (0.171)***	0.757 (0.170)***
Size squared	0.068 (0.007)***	0.068 (0.007)***	-0.095 (0.005)***	-0.095 (0.005)***	-0.019 (0.005)***	-0.019 (0.005)***
Fixed asset ratio	-0.270 (0.259)	-0.319 (0.259)	1.542 (0.252)***	1.581 (0.252)***	-0.422 (0.154)***	-0.424 (0.151)***
Fixed asset ratio squared	-1.001 (0.420)**	-0.950 (0.418)**	-2.474 (0.368)***	-2.516 (0.368)***	0.549 (0.249)**	0.550 (0.243)**
Sales growth	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)*	0.000 (0.000)**
Average tax	0.021 (0.012)*	0.015 (0.013)	-0.013 (0.014)	-0.008 (0.014)	0.020 (0.008)***	0.020 (0.008)**
Corporate tax	-0.003 (0.007)	0.008 (0.007)	0.000 (0.008)	-0.009 (0.008)	0.000 (0.003)	0.000 (0.004)
LEM	0.007 (0.003)**	0.005 (0.003)*	-0.017 (0.003)***	-0.016 (0.003)***	-0.004 (0.002)**	-0.004 (0.002)**
Observations	2976	2976	3296	3296	3294	3294
Adjusted R-squared	0.520	0.519	0.532	0.532	0.630	0.630

Coefficient estimates with standard errors shown in parenthesis (robust to heteroskedasticity). Both year effects and industry effects are included, but not reported. Dependent (firm performance) variables are the natural logarithm of the expense ratio (LER), the natural logarithm of the total asset turnover (LTAT) and the operating return on assets (OROA). In the two-stage least squares regressions, progressivity is treated as endogenous and the statutory top marginal income tax rate is used as an instrument. Variable definitions and sources are provided in Table 1.

* Significant at 10%

** Significant at 5%

*** Significant at 1%

PYRAMIDING EFFECT ON FIRM'S INVESTMENT DECISION AMONG MALAYSIAN DISTRESS COMPANIES

Fauzias Mat Nor & Bany Ariffin***

Abstract

It is documented by La Porta, Lopez and Shleifer (1999) that ultimate owners, around the world usually control an array of affiliated companies through hierarchical intermediary corporations forming a *Pyramidal Ownership Structure*. A direct results of this pyramidal ownership structure is divergence of cash flow rights from control rights in the hand of the largest shareholders (Claessens, Djankov and Lang 2000). This paper investigate the impact of this separation of cash flow rights from control rights resulting from this pyramidal forms of ownership structure on firm's investment decisions. In particular, our objective is to examine whether such separation affects the investment decisions among Malaysian listed distress Companies. Our findings lends support to the *over investment* problem, where by the separation of cash flow rights and control rights have lead to the increase of inefficient investment among the distress companies. The main source of financing for this inefficient investment activity is the firm's retained earnings. Consequently, the exploitation of such firm's resources in order to finance this inefficient investment activities of the ultimate owner's then lead to negative market valuation.

Keywords: corporate control, ownership, pyramidal structures

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Introduction

It is documented by La Porta, Lopez and Shleifer (1999) that ultimate owners, around the world usually control an array of affiliated companies through hierarchical intermediary corporations forming a pyramid holding. In this study, following the definition of Attig, Fischer and Gadhoum (2004) a pyramid holding is an entity (ie. group of companies) whose ownership structure displays a top-down chain of control starting with an ultimate owner (at the apex) with successive lower layers of firms

A direct result of this pyramidal ownership structure is divergence of cash flow rights from control rights in the hand of the largest shareholders (Claessens, Djankov and lang 2000). This paper investigates the impact of this separation of cash flow rights from control rights resulting from this pyramidal form of ownership structure on firm's investment decision. In particular, our objective is to examine whether such separation affects the

investment decisions among Malaysian listed distress companies.²³

It was noted in Gupta (2002), Saxena and Wong (2002) that one of the distinguished characteristics of the Asian firms *including* Malaysian firms is that they had excessive investment level that produce inferior return. They then postulate that, it is this excessive investment problem as a probable cause for these firms financially distress performance. The significant numbers of failing firms ultimately trigger the Asian financial crisis (Driffield, Mahambare and Pal 2005). This study would try to investigate if such mismanagement of the investment policy among the companies particularly Malaysian firms is due to the separation of cash flow rights from ownership rights.

²³ Listed distress firms are those institutions that have *failed* to comply with the obligations set under Malaysian practice note that causes them to be de-listed/ suspended from trading. Among the commonly violated provision on this practice note is - deficit in the adjusted shareholder' equity of the listed issuer on a consolidated basis. See Fauzias and Ruzita (2004) for more examples of practice note violations.

Claessens et.al (1999, 2002) analyzes a sample of East Asian firms and have found that most of the East Asian firms display a high degree of separation cash flow rights from control rights in the hand of largest shareholders as a result of the pyramid structure of ownership. Consequently, this separation of cash flow and control rights, exert a direct negative impact on Asian firms corporation valuation. However both of these studies did not empirically identify, which channel does the divergence of cash flow rights from control rights affect firm's valuation.

Fauzias and Bany (2005) extended Claessens's study. They discover existence of pyramid structure within the Malaysian financial distress groups and there is a separation of cash flow and control right among these firms. They even pointed out that as a result of the separation there was minor occurrences of minority expropriation among the financial distress firms connected through a pyramid structure and it came in the form of excessive use of leverage.

Hence, it seems with Claessens et.al (1999, 2002) findings and more importantly the discovery of Fauzias and Bany (2005), it warrants us to investigate the influence of separation of cash flow and control rights even more – this time on over investment problem. Thus we extent the two prior studies on separation of cash flow rights and control rights by proposing a model that link separation of cash flow and control rights with another forms of minority expropriation which is *over investment* practices that may occur among Malaysian distress firms.

The theoretical arguments and findings of Holmen and Hogfeldt (2005) provide some justification as to why there could exist a relationship between the separation of cash flow rights and control rights with firm's over investment practices. Under their overinvestment hypothesis, it is argue that the ultimate owners have the tendency to engage in inefficient investment activities. What drives the ultimate owners to do so is their highly leveraged control over firm's internal resources. ie. cash flows or retained earnings in firms located at the lower part of the pyramid

Accordingly, ultimate owners would not hesitate to engage in such wasteful investment because they are blessed with significant amount of resources within their control due to the pyramiding structure. In addition, even if the investment went under, the loss will not be proportionately shared between the minority shareholders and the ultimate owners. As a matter of fact the ultimate owner's losses will be significantly marginal as compared to the loss of the minority shareholders. Again all are due the pyramiding structure. However, if the investment turns out to be well, significant portion of the returns will reside in the hand of the ultimate owners due to their leveraged control over the firm's resources. Their findings on pyramid affiliated Swedish firms support for the overinvestment hypothesis. They discover that ultimate owners in Sweden equipped

with highly leveraged control tend to make firms overcapitalized and thus leads to overinvestment.

How does Pyramiding Creates Separation of cash flow rights and control rights

To understand how firms formed in pyramid group create the separation of cash flow rights and control rights, which then may lead to value destruction as mentioned earlier, we must first understand the nature of the pyramid group itself. As noted by Wolfenzon (2004), pyramid structures are defined as owning a majority of the stock of one corporation which in turns holds a majority of the stock at another. Take for example Halim bin Saad a Malaysian entrepreneur who owns 28.3% of Renong Berhad (see figure 1), which at one time was among the biggest conglomerate in the country. The 28.3% stakes makes Halim the majority stockholder and ultimate owner of Renong Berhad.

At the same time, the Renong owns 32.5% of shares in United Engineers Malaysia (UEM). Just like previously, this make Renong the controlling stockholder and ultimate owner of UEM. The fact that Halim controls Renong Berhad and Renong Berhad on the hand, is a major shareholder of UEM, this provide the rights for Halim to control UEM also. Figure 1 below provides an example how these group of corporations are formed into a pyramid structure.

Because ownership only arise with investment, cash flow rights (CFR) also proxy for owner's investment in a company (Morck and Yeung 2004). Control rights (CR) on the other hand represent voting rights for the controller (Claessen et al 2000). Logically, owner's voting rights in a company should equal owner's cash flow rights that arise from his actual investment. But due to the pyramid structure as observed in figure 1, these two are no longer equal.

In this pyramid group, Halim has a direct ownership only in Renong. For the rest of the firms, the ownership comes indirectly. For instance the Halim ownership in UEM comes through Renong Berhad, and this because Renong Berhad owns UEM. For Kinta Kelas, the Halim's ownership arises from his stake in Renong Berhad and UEM.

Let us now quantify the actual ownership that Halim has in Kinta Kelas. The actual ownership is proxy by the CFR.:

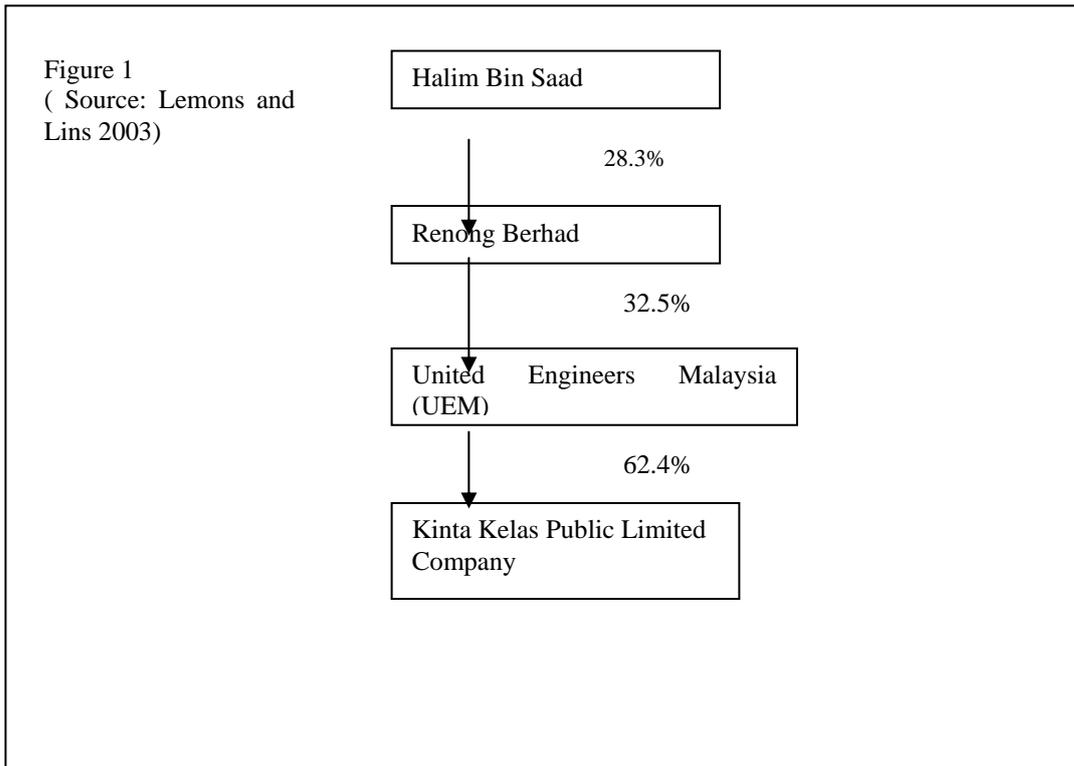
$$\begin{aligned} \text{CFR in Kinta Kelas} &= 28.3\% \times 32.5\% \times 62.4\% \\ &= 0.05739 \sim 5.73\% \end{aligned}$$

Halim's CFR or ownership in Kinta Kelas equals 5.73% only. Since theoretically ownership arise from one's investments, if the amount of ownership of in Kinta Kelas is 5.73 % that means his investment in Kinta Kelas is also 5.73%. Let us now put some dollar figures into the example. Assume, the value of Kinta Kelas is RM10,000,000 because ownership comes with one's investment (Morck & Yeung 2004,

Claessen et al. 2000), Halim's investment in Kinta kelas is only RM573,000.

Halim's indirect control on Kinta Kelas is proxy by the control rights (CR). The control arise from Halim controlling stake in Renong , which then control UEM, and finally controls Kinta Kelas. Laporta et al (1999) and Claessens et. al (2000) defines the weakest link in the line of control as the control rights. With this definition, the control right that Halim has on Kinta Kelas is 28.3%. In practical with these control rights, Halim has the rights to influence (indirectly through Renong and UEM) over

matters such as firm policy, appointing BOD and etc in Kinta Kelas. Evidently, because of the pyramid structure, with 5.73% of ownership or RM 573,000 worth of investment Halim has 28.3% of controls in a firm (Kinta Kelas) worth RM10,000,000. This significant separation of ownership and control clearly deviate from the traditional idea of one share – one vote (Grossman and Hart 1988). Crucially, the incentives to expropriate the minority shareholders may also arise from this separation (Claessens et. al 2000).



As in Laporta et al (1999), Claessens et al (2000), the separation can be observed by looking at the ratio of CFR to CR. Using the above examples to illustrate;

The separation of CFR& CR in Kinta Kelas = Halim's CFR/ Halim's CR
 $= 5.73\% / 28.3\% = 0.2024$

Hence, the smaller the ratio indicates larger separation between the two CFR and CR. And this has some detrimental effect over firm valuation. The following example will illustrate such effect.

In example one, let us assume that Halim at the apex of the pyramid has ordered Kinta Kelas to venture in a highly risky business. Because of some unfortunate events, the business venture failed and it lead to one million decrease in the value of Kinta Kelas. Since UEM has 62.4% of ownership in Kinta kelas, this one million decrease in value of Kinta Kelas would translate into RM624,000 decrease in the value of UEM, a RM202,800 (32.5% of

RM624,000) in the value of Renong, and finally a RM57,392 (28.3% of RM 202,800) decrease in Halim's total wealth. Hence, a million dollar hit on the value of Kinta Kelas ultimately translates into a fall of RM57, 392 in the ultimate owners wealth at the apex of the pyramid. With such minimal losses to the ultimate owner, this encourages him to venture into more risky investment utilizing firms located at the lower tiers of the pyramid (Morck & Yeung 2004).

Our second example is on Inter-corporate transfer of wealth among pyramid firms to the advantage of the family firms (Johnson, La Porta, Lopez and Shleifer 2000) and it is called *tunneling*. To see this, suppose an asset of Kinta kelas (see figure 1) rises in value by a million RM. As already noted, only RM57,392 of this gain ultimately accrues to Halim at the pyramid's apex. The rest is diverted to one level after another.

The fact that the Halim control Kinta Kelas's board, Halim might order Kinta Kelas to sell the assets to a firm in a higher tier of the pyramid at cost. For example, if Kinta kelas sells the asset (the one that worth RM 1 million) to Renong at a minimal costs, the additional million dollars shows up in Renong instead. Since there is only one layer separating Renong and the ultimate owner (Halim), a RM 1 million increase in Renong value, will cause Halim's wealth to raise by RM283,000 (28.3% of RM1,000,000) instead of only RM 57, 392. This value (RM57,392) is the value accrued to Halim if the assets value had to pass through all of other firms in the group; (Kinta Kelas, UEM and Renong). Tunneling such as this is an agency problem where controlling family moves wealth out of firms whose cash flow mainly go to public shareholders and into firms whose cash flows accrue mainly to the controlling shareholder.

Empirical evidences on the minority shareholder expropriation for firms located in a business group that are formed as pyramidal structure has been documented by several researchers. Claessens et al (1999, 2002) find some evidence that firms in business groups organized as pyramid have lower Tobin's Q before the start of the Asian financial crisis. Bae, Kang and Kim (2002) find that Korean Chaebols use merger and acquisition transaction between member firms to expropriate shareholders of the bidder firm and benefit the controlling family. Friedman, Johnson and Mitton (2003) discover that among the Asian business group, ultimate owners sometimes "prop up" (inject money) into failing firms as to protect the family empire even though such act are financially unjustifiable. Khanna and Rivkin (2001) study business groups in 15 countries. They find in all 15 countries, only three affiliations that add value to member firms. Because the number of success is so small they conclude that pyramiding business group is more value destroying rather than value adding. Finally, Khanna and Palepu (2000) analyze the performance of business groups in India and find that only members of the largest groups have positive valuation. Member firms of medium-sized Indian groups have valuation below their independent counterpart (not part of any business group). Similarly, since the positive impacts from forming a business group are not comprehensive to all Indian groups and only small number benefited from it, they too conclude those pyramidal business groups are not warranted. Minority shareholders expropriation may also take several other forms. Johnson et al (2000) provide some examples: charging high (or low) interest rate loans to member firms in the pyramid chain, selling of inputs and purchasing of outputs at non-market prices among member firms, leasing of assets and guarantee other companies borrowing without proper justifications are few of the ways companies may tunnel resources across each other at the expense of the minority

shareholders and this may directly affect firm valuation (Bertrand, Mehta and Mullainathan 2002).

On the local scene, Fauzias and Bany (2005) discover that the pyramiding structure has some marginal bearing over the capital structure decision of Malaysian distress companies. Using the *non-dilution entrenchment effect hypothesis* (Du and Dai 2004, Boubaker 2003) the authors explain the findings. Because of the pyramiding structure, the ultimate owners must simply *raise* firm leverage in order to prevent the dilution of their shareholding dominance in firms located at the bottom of the pyramid structure. The excessive use of leverage in order to protect their dominance in these firms was done without any prior regard for risk. The reason for this is because with such a small cash flow rights, the ultimate owner will bear small loss if financial distress occurs but gain enormously from the financing policy (capital structure) if everything goes well for these firms.

Hypothesis Testing

Holmen and Hogfeltd (2005) have found that Swedish firms controlled through a pyramid, do not pay dividend as much as non affiliated firms. The reason for this is because the parent firms at the apex of the pyramid structure are subjected to double taxation on the dividend income receive from their subsidiaries located at the bottom of the pyramid structure. As a result of this, most of the time the subsidiaries will reinvest into the company their earnings. Holmen and Hogfeld (2005) hypothesize because of ultimate owners controls over these subsidiaries that derive from the pyramidal structure, they will then exploit these retained earnings and the exploitation comes in the form of engaging in an inefficient investment. The exploitation by the ultimate owners was inevitable because they are blessed with control over abundant of firm resources and there is no negative repercussion on the ultimate owner if they failed to capitalize on these resources optimally²⁴. From Holmen and Hogfeld (2005) empirical testing, they first observe a highly significant negative relationship of firm's Tobin's Q and their retained earnings. Since Tobin's Q could gives us an idea how market evaluate a situation in a firm, a negative relationship between Tobin's Q and firms retained earnings implies that the market has anticipated such malpractice of the ultimate owners on firm's resources. Using Gugler, Mueller and Yurtoglu (2003) technique later they discover that the available resources i.e retained earnings was then used in an inefficient investment venture and did not generate the necessary return required by the market. Based on these findings they conclude in the case of the Swedish pyramid affiliated firms, the ultimate owners have indeed exploited their controls over

²⁴ How the pyramidal structure shields the ultimate owners from any negative repercussion has been illustrated in earlier discussion.

these firms and it comes in the forms of using the retained earnings for inefficient investment.

Could incidence of exploitation of firm's resources also occur among Malaysian distress firms? Several findings within Malaysian context may provide us with the clue that such incidence may be possible in Malaysia market. Firstly, Fauzias and Bany (2005) discover that within the financial distress group there exist pyramidal ownership structure and this pyramidal structure provides opportunity for the ultimate owners to use their control rights in an abusive manner. Their findings highlighted that the exploitation of control rights came in the form of excessive leverage usage and it occurred in order to protect the ultimate owner's dominance within these firms. Although it may appear that the used of debt excessively may be detrimental to the well being of the ultimate owners as it raises bankruptcy risk, however because of the pyramidal ownership structure, the ultimate owner's interest is insulated from the negative impact of excessive leverage. Thus the pyramidal structure encourages the ultimate owners of Malaysian distress firms' to use leverage without prior regard to the level of risk that minority shareholder have to bare.

Secondly, Subramaniam (2005) claims that in aggregate for the level of earnings generated by Malaysian firms, the amount of dividend paid is considerably low. Generally unless the earnings are distributed out, they will be retained in the company. Since pyramidal structure provides controls to the ultimate owners over firm's resources, these undistributed earnings are now under their discretion. With the undistributed earnings under the ultimate owners discretion and they are protected from any repercussion in the even they purposely exploit these resources, the pyramidal structure may encourages the ultimate owners to engage in private benefits activity. Putting the findings of Fauzias & Bany (2005) and Subramaniam (2005) together, we hypothesize that the ultimate owners of Malaysian distress firms that are part of a pyramidal group will have the tendency to use firm's resources (ie retained earnings) to generate private benefits. At the same time we believe that the market would anticipate such behavior among the ultimate owners and such behavior are greatly discounted by the market. Thus,

H1: The relationship between market valuation and separation of cash low rights and controls rights (measurements) proxy of the pyramid structure is negative because the structure *provide opportunity* for the ultimate owners to reap private benefits

H2: The relationship between market valuation and the interaction term (ie. separation cash low rights and controls rights ratio times firm's retained earnings) is negative because through the pyramidal structure ultimate owners exploit firm's resources.

If indeed, the ultimate owners have full control over firm's resources (ie retained earnings), in what way would they most likely use them. In the case of Swedish pyramidal firms, the ultimate owners used

their control rights to channel firm retained earnings into investment activity irrespective of the prospect Holmen and Hogfeld (2005).

We suspect similar occurrences among Malaysian distress firms that are affiliated to pyramidal group. This is because other than being the cheapest source of financing for the investment activity, the ultimate owners also has absolute control over them (ie. retained earnings). Thus,

H3: Firm's investment activity and firm's retained earnings are positively correlated.

Holmen and Hogfeldt (2005) later pointed out using Gugler et al (2003) technique that most of the financing resources of the pyramidal affiliated firm's were channelled to unproductive investment. As a result, the investment activities in which these firms engaged did not provide the return required by the market. Hence, they claim that these firms face serious *over investment* problem. Could similar results be expected from Malaysian distress firm's investment activity?

As stated earlier, many Malaysian firms involved in an unproductive investment activities (Gupta 2002, Saxena and Wong 2002). These unproductive investments did not provide the necessary returns sufficient to cover the initial investment cost. As a result, these firms face great financial difficulty and many of them became distress firms. We suspect the main reason for these unproductive investment activities is due the overwhelming control that the ultimate owners have over firm's resources. As a result of this overwhelming control over firm's resources and the fact that the pyramiding structure could offer insulation from any repercussion if they failed to optimize them, this could result in incidence of utilizing firm's resources to generate private benefits (ie empire building). Thus, perhaps under such circumstances private benefits generating activities and unproductive investment may be an unavoidable among the pyramidal affiliated firms

Since Gupta (2002), Saxena and Wong (2002) have found that many Malaysian firms became distress as a result of unproductive investment activity and the fact that several of the pyramidal affiliated firms are categorized as distressed firms, we conjecture that the among these firms, their resources were used unproductively and this lead to over investment problem among pyramidal affiliated distress firms. Therefore we hypothesize,

H4: the firm's resources among the pyramidal affiliated firms were channelled inappropriately into investment activities that did not produce sufficient returns as required by the market.

Sample Characteristics

The samples of this study are Malaysian distress companies. As end of year 2002 there were 100 listed distress companies all together. The list is obtained from *Securities Commission of Malaysia* (SC). All of the financial and accounting information for each of

the company is collected for three years prior to it being classified as distress companies. These values will then be average out for three years for the purpose of analysis. The ownership structure information collected is also for the year end before it being classified as distress companies. Since the ownership structure is rather stable over time (La Porta et al 1999), we expect no problem in employing single year ownership data to examine the relationship between corporate investment and ownership structure over the three years period.

Following La Porta et. al (1999), we analyze ultimate ownership and control patterns in distress companies. To begin our analysis, we will first identify the largest immediate majority shareholders for each firm located at the bottom of the pyramid structure. In most cases, the immediate majority shareholders of those corporations are individuals, corporate entities or financial institutions. Because it is almost impossible to trace the ownership link (the owners of those owners and so on) in the case that the largest immediate shareholders are individual or nonlisted firms, we only choose corporations in which their largest immediate shareholders are listed firms or listed financial institution. This is because the information on the ownership at these immediate listed entities is publicly available.

Because we have to choose only listed and largest immediate shareholders, in order to establish the ownership link we have to eliminate 75 distress companies from our original sample. Our final sample constitutes 20 companies only. These 20 companies are those that we reasonably believe we are able to trace the ownership link all the way to the ultimate shareholders.

The drawback of this technique in identifying the ultimate shareholders is that we may not be able to generalize the findings as much. This is because as mentioned, many Malaysia corporation including the distress companies are affiliated with business groups and hence with pyramid structure through an unlisted corporation. The unlisted corporation and individual could have direct and indirect ownership links in these corporations. As a result, we are likely to underestimate the ultimate ownership and influence of large shareholders for group- affiliated firms. Consequently we may also underestimate the effect of ownership structures on firm valuation in general.

After we have identify largest immediate shareholders (i.e listed corporation or listed financial institution) for each of these 25 distress companies, we then trace the largest owner of these companies and the owners of those owners and so on until we reach the ultimate shareholders. For our study, in most cases the tracing process takes three to four layers of corporation ownership before we could possibly identify the ultimate shareholders.

Studying the separation of ownership and control requires data on both cash flow rights and control rights, which we calculate using the complete chain of ownership. As illustrated previously, suppose

family owns 10 percent of the stock of a publicly traded firm A, which in turn has 30 percent of the stock of firm B. We then say that the family controls 10 percent of firm B – the weakest link in the chain of control rights. In contrast, we say that the family owns about 3 percent of the cash flow rights of firm B, the product of the two ownership stakes along the chain.

In each pyramid structures, to determine effective control at any immediate levels as well as the ultimate level, we need to use a cutoff point above which we assume that the largest shareholder has effective control over the immediate and final corporations. We use 10 percent as the cutoff point in our empirical analysis because that level is commonly use by other studies (Claessens et. al 2002).

We start by reporting descriptive statistics on the separation of cash flow rights from control rights for distress companies in table 1. On average the ultimate owners of distress companies has 4.318% of cash flow rights in each company. In contrast, the control rights of the ultimate shareholders are 15.165%. The third item in table 1 is the ratio of cash flow rights to control rights. This ratio indicates the amount vested interest of the ultimate shareholders in order to gain some control in the distress companies. On average the ratio is about 0.2571. This implies, the typical large ultimate controlling holder of distress companies has 10 controlling votes for each 2.57 direct shares held. In other words, by owning 2.57 shares, it gives them a controlling power equivalent of 10 shares.

In sum, the sample shows pattern similar to what has already been disclosed in Claessens et.al (2000). Firstly, in the distress companies, control of the ultimate shareholders is enhanced through pyramid structure among firms. Secondly, control rights consequently exceed cash flow rights. That is the ultimate shareholders are often able to control a firm's operations with relatively small direct stake in its cash flow rights. These findings have important implications for the ability and incentives of the ultimate controlling shareholders to expropriate minority shareholders, as shown by Claessens, et al (2002). With regards to this study, the expropriation of the minority shareholders may take form of using firm's resources and channelling them to unproductive investments.

Regression analysis

In this section we first analyze how the separation of cash flow rights and control rights resulting from the pyramiding structure affect firm's market valuation. The basic regression specification employed to determine the market valuation effect is as follows.

Model 1

Firm's Q ratio = f (pyramidal ownership proxy + retained earnings + leverage + firm size) + error

We employed firm's tobin's Q (Morck, Stangland and Yeung 2001) as measurement of firm's market valuation (dependence variable). The measurement of tobin's Q are: sum of market value of equity and book value of total debt divided by book value of total assets. For the explanatory variables, we include variable recommend by Holfman and Hogfeldt (2005) and they are the retained earnings, total leverage and firm size. Measurement of firm size in particular is book value of total assets. All three explanatory variables are also for controlled size effect.

Theoretically, we should see positive relationship between market valuation variables and all three explanatory variables. For instance, the larger the size of the firm, the more stable the cash flow becomes and this may lead to positive valuation for the firm. With regard to leverage used, it would enable firms to capitalize on the tax deduction scheme that comes with consumption of debt. Therefore the higher the leverage, the more tax cut the firm gets and this also may eventually lead to positive valuation. Retained earnings are generated from firm's profit. Higher retained earnings generally imply strong profitability. Since market is always appreciative of high profit level, therefore high level of retained earnings deriving from high profitability should also be positively evaluated by the market.

In model 1, we also include the pyramidal ownership variable, which is proxy by cash flow rights and control rights ratio. This variable should indicate the degree of separation of cash flow rights and control rights in firms located at the bottom of the pyramid. Other than giving us a picture about the separation cash flow rights and control rights, its inclusions would also enable us to test the hypothesis that market perceives such separation as detrimental to the well being of the minority shareholders in a firm. Because of its detrimental effect of the pyramiding structure, we expect the relationship between the pyramidal ownership variable and firm's valuation variable to be negative.

Model 2

Firm's Q ratio = f (pyramidal ownership variable * retained earnings + leverage + firm size) + error

In model 2, we interact the pyramidal ownership variable with firm's retained earnings. Similar technique was employed by Holfman and Hogfeldt (2005). This is done to test the hypothesis two, that the ultimate owners of the pyramid among the distress firms have exploited their control in the firms and the exploitation is on firm's retained earnings. It can be expected that the interaction variable and firm's valuation variable to be negatively related.

To test hypothesis 3 we make the assumption that the pyramidal control firms are particularly dependent on retained earnings as a source of financing. As a result these firms should have significantly higher investment to retained earnings sensitivities. Higher investment-retained earnings sensitivity occurs because costs of external and

internal capital for these firms differ (Erickson and Whited 2000, Holfman and Hogfeldt 2005). In particular, the cost of internal capital for the controlling owners of the pyramidal affiliated firm decreases as separation between CFR and CR of the ultimate owners grows. This because as the separation of CFR and CR grows²⁵, so does the ultimate owner's grip over firm's resources thus making the resources easily assessable to them. Also as the CFR and CR grows the amount of vested interest for the ultimate owners in these firms becomes smaller even more, making them to less vulnerable to any mishap consequence initiated by them.

For the participant of the capital market on the other hand, as they observe the separation of CFR and CR of the ultimate owners grows, their anticipation of such ill practices conducted by the ultimate owner increases. Therefore they will demand extra return when they provide new external equity to pyramidal affiliated firms for financing reason i.e making cost of equity issuance more costly as compared to cost of internal financing. In general we can say that the pyramiding may endogenously creates a wedge between costs of internal and external capital because of the strong separation of control and ownership. (Holmen and Hogfeldt 2005)

The following model is used to test the hypothesis (ie. hypothesis 3) that the investment level of the pyramid affiliated firms is sensitive to firm's retained earnings due to over dependence on internal financing. The measurement for firm's investment is total yearly capital expenditure. Again just like in previous two models, all of the variables are control for size, for the purpose of regression.

Model 3

Firm's Investment = f (retained earnings + output + leverage) + error

Besides firm's retained earnings, we also include output and leverage as explanatory variables. Output is proxy by the firm's total sales. Theoretically, as output expanded, investments by firms have to increase as well in order to accommodate expansion. Thus, we can expect a positive relationship between the two variables (Holmen and Hogfeldt 2005)

As a measurement to firm's leverage, we will use the total long term debt. Firm's leverage is expected to be negatively related with investment. This is due to extensive monitoring and scrutiny of the debt holders. Because of the monitoring and scrutiny, firms with debt will have limited freedom in choosing their investment outlet. With limited freedom, chances of engaging in an inefficient investment become less.

²⁵ Generally as CFR and CR becomes more separated, this implies that the amount of real ownership gets smaller while the amount of controlling vote increases. Hence with more controlling votes the more control they have on firm's resources.

However, we also suspect that the relationship between leverage and investment can also be positive in the case of Malaysian distress firms. This presumption arises because of the findings made by Fauzias and Bany (2005). Fauzias and Bany (2005) discover that leverage is positively correlated with the separation of CFR and CR in the case of Malaysian distress firms. Gupta (2002) at the same time observe that among Malaysian distress firms, there is an obvious over investment problem. Could there be some forms of relationship between these two? We hypothesize that there is another forms of relationship between these two and it is a positive relationship. If it is a positive relationship, that means for these distress firms other than relying on firm's retained earnings to finance their investment activities, they may had also used the proceeds obtained from their debt issuance as well to finance their unproductive investment activities. In addition, if the relationship was found to be positive, this mean *not only* we have discovered another source of financing for the ultimate owners ill business practices but also this may provide an empirical prove that *tunneling* (Bertrand et al 2002) also appear to occur among Malaysian distress firms.

Our next task is to actually test if there is in fact over investment problem among Malaysian distress firms. In order to do so we employ Gugler et al (2003) technique depicted by model 4:

Model 4

Firm Market value = f (Retained Earnings + Leverage) + error

The dependent variable of this model is firm market value and it is proxy by end of the year firm's market capitalization. The independent variables represent sources of firm's financing. We choose retained earnings as one of the variable as this is consistent with the overall objective of our study to establish a link among the three variables; the pyramidal ownership structure, retained earnings and the over investment problem. While, debt is chosen over external equity because Malaysian firms predominantly used debt rather than equity financing (i.e season issuance) as continued sources of funds (Nurhuda 2002).

The null hypothesis of this model is that the coefficient of the independent variable equals to one. If it equals to one, this implies that for every ringgit of financing spent, the market value of the firm should increase by at least one ringgit or more. If the market value of the firm does not increase by one ringgit (ie. the coefficient of the independent variable is less than one), this means that the management of the firm has failed to utilize the funds obtained from the sources of financing wisely and efficiently.

Pertaining to the general issue of this study, we expect the coefficient of the retained earnings particularly to be smaller than one. Thus this implies an inefficient used of funds from the retained earnings, perhaps in the form of inferior investments.

Regression Results

Table 2 presents regression results that link Malaysian distress firm's market valuation to the separation of cash flow rights and control rights resulting from the pyramid structure. The regression result in model 1 shows that the difference between control rights and cash flow rights has a negative effect on firm's market valuation but it is not significant. Firm's retained earnings however is negatively correlated with firm value. To ascertain whether or not the ultimate owner did in fact exploited the retained earnings through the pyramidal structure, we observe the relationship of the interaction²⁶ variable with market valuation variable in model 2. From the result there is some indication that exploitation of retained earnings has taken place as the relationship between the interaction variable and firm valuation variable is significant. In addition since the relationship is negatively significant, the market may expect that the ultimate owners may have indeed used firm's resources to create private benefits. Table 3 and 4 reports regression results of two models (i.e model 3 and model 4). Results from both models would enable us to answer whether or not overinvestment did occur among the Malaysian financial distress firms and how it is financed. Results of model 3 provide us with the first clue. As shown, the levels of investments of these firms are significantly and positively correlated with the firm's retained earnings variable. This perhaps may provide us with the direct evidence that the ultimate owner of these pyramidal affiliated firms had used the retained earnings as one of the sources of financing. Therefore similar to the results of model 2, result of model 3 does provide us with another evidence ultimate owner exploitation of firm's resources. Also shown in the result is that firm's leverages are positively correlated with investment. This only prove that other than the used of retained earnings to finance firm's investment activities, another source of financing is leverage. Hence this may indicate incidence of *tunneling* may also had occur among Malaysian distress firms that are affiliated to a pyramidal group. Results of Model 4 indicate that the coefficient of the independent variables, in particular the coefficient of retained earnings is less than one. In the context of firm investment analysis (Gugler et al 2003), if the coefficient of the independent variable is less than one, this implies that the variable has failed to enhance the value of the dependent variable. Putting it in another perspective because the coefficient of the retained earnings after it was

²⁶ To our knowledge Lins (2003) was the first to employ such interaction variables in ownership pyramidal structure study. In this study however, for the interaction variable, we employed Holmen and Hogfeldt (2005) technique. Our interaction variable is made of two measurements combined. First variable is the measurement for the separation of cash flow rights variable and control rights. Second is the retained earnings measurement.

regressed with firm market value is less than one, this implies that the used of retained earnings to finance firms investment venture has failed to enhance firm's value. Thus indicate an over investment problem (Holmen Hogfeldt 2005)

Conclusion

In this paper, we examine the separation of cash flow rights and control rights among Malaysian distress companies resulting from the pyramiding organized by the ultimate owners. We pay a particular attention on how the divergence of cash flow rights and control rights affects companies' investment decisions and the financing of such activities.

Our findings somewhat lends support to the over investment problem, whereby the separation of cash flow rights and control rights have lead to the increase of unproductive used of firm's resources for inefficient investment among the distress companies. Consequently, these abusive usage of firm's resources by the ultimate owner's within these companies then lead to negative market valuation.

Overall our research points out the existence of a relatively risky investment policy among the distress firms resulting from poor corporate governance in the presence of separation of cash flow rights and control rights. This risky investment policy has lead to the fragility of corporations. Thus our finding may provide one additional explanation for the severity of the drop in corporate value among the Malaysian distress companies.

This study can be extended in several ways. One way is by extending the study done by Claessens et.al (2000). They discover that in Asian countries, in most cases the ultimate owners of the pyramid holding groups are privately owned family business. Other categories of owners are state and corporations. Claessens et.al (2002) then discovers that the degree of minority expropriation resulting from the pyramid structure also varies based types of the ultimate owners. Perhaps as an extension of this study, afford can be made to identify the various ultimate owners for the Malaysian pyramid groups of companies and ascertain if the degree of minority expropriation in the form of excessive investment varies according to types of ultimate owners as well.

References

1. Attig, N., Fischer, K., and Gadhoum, N (2004) On the determinants of pyramidal ownership: evidence on dilution of minority interests, Sobey School of Business, Saint Mary's University, Halifax, Nova Scotia, working paper.
2. Bae, K. H., J. Kang, and J. M. Kim (2002) Tunneling or value added? Evidence from mergers by Korean business groups, *Journal of Finance*, 2695-2740
3. Bertrand, M., P. Mehta and S. Mullanaithan (2002) Ferreting out tunnelling: an application to Indian business group, *Quarterly Journal of Economics*.

4. Boubaker, S. (2003) On the relationship between ownership-control structure and debt financing: new evidence from France, Working paper, Institute de Recherche en gestion
5. Claessens, S., S. Djankov, J. Fan, and L. Lang. (1999) Expropriation of minority shareholders in East Asia, Working paper World Bank
6. Claessens, S., S. Djankov, and L. Lang, (2000) The separation of ownership and control in east Asian corporations, *Journal of Financial Economics* 58.
7. Claessens, S., S. Djankov, J. Fan, and L. Lang, (2002). Disentangling the incentive and entrenchment effects of large shareholding, *Journal of Finance* 57.
8. Du, J., and Dai, Y. (2004) Ultimate corporate ownership structure and capital structure: evidence from East Asia, Chinese University of Hong Kong.
9. Driffield, N., Mahambare, V., and Pal, Sarmistha (2005) Dynamic adjustment of corporate leverage: is there a lesson to learn fro the recent Asian crisis. Brunel University working paper
10. Erickson, T. and Whited (2000) Measurement error and the relationship between investment and Q, *Journal of Political Economy* 108,1027-1057
11. Fauzias, M.N., and Ruzita, A.R. (2004) Corporate restructuring and its wealth effects: The case of Malaysian Resources Corporation, Asian Finance Association working paper
12. Fauzias, M. N., and Bany, A. (2005) Does pyramiding have an impact on Firm's capital structure decision among Malaysian Distress companies, *Journal of Corporate Ownership and Control*. Summer, 2.
13. Friedman, E., S. Johnson, and T. Mitton (2003) Propping and Tunneling, *Journal of Comparative Economics*, 2, 33-45
14. Holmen, M. and Hogfeldt, P. (2005) Pyramidal discounts: Tunneling or Agency cost, Working Paper, European Corporate Governance Institute
15. Gupta, R. (2002) Lessons from the Asian crisis. *National Accountant*, October, 24-25
16. Gujarati, D. (2002) *basic Econometric*, Macgraw Hill, New York
17. Gugler, Klaus, Dennis, C.; and Burcin, Y. (2003) The impact of corporate governance on investment returns in developed and developing countries, *The Economic Journal* 113, 511-539
18. Johnson, S.,R. La Porat, F. Lopez-de-Silanes, and A. Shleifer (2000) Tunneling, *American Economic Review* 90, 22-27
19. Keown, A. J. , Scott DF, Martin, J. D and Peter, J. W. (1996) *Basic Financial Management*. Prentice Hall (International Addition)
20. Khanna, T., and K. Palepu (2000) Is group affiliation profitable in emerging markets? An analysis of diversified Indian business groups, *Journal of Finance* 55, 867-891
21. Khanna, T., and Rivkin, J. (2001) Estimating the performance effect of business groups in Emerging market, *Strategic Management Journal* 22, 45-74
22. La Porta, R., F. Lopez-de-Silanes and A. Shleifer (1999) Corporate ownership around the world, *Journal of Finance* 54, 471-517.
23. Lemmon, M., and Lins, L. (2003) Ownership structure and corporate governance and firm value: Evidence from the East Asian financial crisis, *Journal of Finance* 58, 1445-1468
24. Morck, R., and Yeung, B. (2004) Special issues relatın to corporate governance and family control, Working paper in Global Corporate Governance Forum

25. Morck, R., Stangeland. A. D., and Yeung B. (2001) Inherited wealth, corporate control and economic growth: the Canadian disease, NBER working paper.
26. Norhuda Abdul Rahim (2002) Komposisi ahli lembaga pengarah dan masalah kewangan yang tenat, MBA thesis UKM
27. Saxena, SC., and Wong, K. (2002) Economic growth, over-investment and financial crisis. Working paper University of Pittsburgh
28. Subramaniam R. K. (2005) Distributability of profits: An empirical investigation of current practices in Malaysia. Working paper, The Malaysian Finance Association 2005
29. Wolfenzon, D. (2004) A theory of family business groups and pyramidal ownership, Working paper.

Appendices

Control Rights	Cash Flow Rights	Ratio of Cash flow rights ratio to Control Rights ratio
15.68%	4.318%	0.2571

<i>Dependent variable: Tobin's Q</i>			
Independent Variables:	Model 1	Model 2	
Retained Earnings	-0.722624 (-2.73)**	0.059632 (0.19716)	
Ratio of C. Flow Rights from C. Rights	-0.08725 (-0.386)	-0.360 (0.994)	
Total assets	0.00488 (0.0052)	0.0229 (0.265)	
L-T liability	-0.35823 (-1.0646)	-0.43819 (-0.1592)	
Interaction variable		-6.11761 (-2.966)**	
* significant at 10% level			
** significant at 5% level			
*** significant at 1% level			
	R ² = 0.630	R ² = 0.690	

<i>Dependent Variable: Firm investment</i>	
Retained earnings	1.130 (5.4759)**
Profitability	-0.473563 (-1.315)
L-T debt	1.0414 (4.3900)**
R ² = 0.562	

<i>Dependent Variable: Firm's market value</i>	
Retained earnings	-1.1508 (-0.3095)
Long Term liability	-0.0934 (-0.665)
R ² = 0.6282	
* significant at 10% level	
** significant at 5% level	
*** significant at 1% level	

Variables	Definition
Leverage	Long term debt / Book value of total assets
Investment	Total capital expenditure/ book value of total assets
Retained earnings	(N.Income – Dividend + Depreciation)/ book value total assets
Firm size	Log of total sales
Output	Total sales/ book value of total assets
Q ratio	(End of year firm's Mkt Capitalization + Book value total debt)/ Book value total assets
Firm market value	End of year firm's Mkt Capitalization

THE DETERMINANTS OF THE INVESTOR RELATIONS INFORMATION IN THE MALAYSIAN COMPANIES' WEBSITE

Fathilatul Zakimi Abdul Hamid, MD Suhaimi MD Salleh

Abstract

The main objective of this study is to extend the prior research in Investor relations information and communication through World Wide Web, by looking into the variation of investor information located at the Malaysian corporate website to the factors thought to influence the disclosure level. This study revealed that company size and industry classification was found significantly has positive association with the existence of investor information in the corporate website. On the other hand, for profitability and foreign ownership variables, result show insignificant relationship. The descriptive result may indicate that Malaysian companies may not take the opportunity to communicate with investors and stakeholders via internet, and choose the present traditional communication as what required by law. Another explanation is that, Malaysian companies may be complacent with the current traditional IR communications with institutional investors and funds managers in which this group are indeed familiar with how these Malaysian firms are operating.

Keywords: investor relations, internet reporting, disclosure, corporate governance.

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Introduction

The introduction and growth of the internet since 1994 have provided an interesting alternative for the dissemination and communication of accounting information by companies around the world. Investors, regulators and accounting profession all over the world have been observing and debating on the issue of corporate governance and transparency in companies' financial management. The 1997 Asian financial crisis has resulted loss in investor confidence but more importantly were lacking on effective corporate governance and transparency in the firm. The 2001 and 2002, accounting scandals have shaken some of the world's biggest corporations; as a result it has made the situation become more crucial.

Thus the events have created additional demands of information by investor. The information should be timely and relevant, with the aim to protect their investment. Today's investors and other stakeholders are more demanding and requesting better information on corporate performance. In order to rebuilt investor and public confidence, companies must strive to improve their corporate transparency. The most important thing is that the information can provide clear picture of corporate health. Moreover, to accommodate those demands, the companies need to revise their corporate disclosure policies and their relationship with investor. The relationship is known as investor relations (herein after known as IR) where

the companies will know what information that current and prospective investor wants rather than assuming that they are know. (Hamid, 2005).

Marston (1996) defined IR as the relationship between a company and the financial community, where the company will provide information to help the financial community and public investor in evaluating company. Ryder and Register (1989) proposed that IR has strategic importance in creating a linkage between companies and investors. They have suggested that IR activities must focus on three basic principles. Firstly, to achieve and maintain the highest-possible share price. Secondly, to create investor and creditor confidence, where in return future cost of financing might be decreased. Lastly, to protect the needs of major shareholders and also to attract institutional and foreign shareholding investment in the companies.

Lev (1992) recommended that ongoing information to shareholders on the companys' activities can minimize uncertainty among investors, thus minimizing negative impacts on the share prices. Therefore, IR can be seen as a key influence in restoring investors' confidence (Gruner, 2002), especially during the uncertainty of the economic environment. Such uncertainty can be understood in terms of internal and external factors (Hamid, 2005). Internal factors refer to perceptions on company's performance that below public expectations (negative news or rumor). External factors refer to unpredictable economic conditions that beyond

firm's control. Those internal and external factors require companies to inform investors and the general public on companies' strategies to overcome such adverse situations. As such, IR can be understood as the dissemination of accurate information with a view to stabilizing share prices and enhancing investors' confidence. Thompson (2002) noted that IR has an important role in minimizing investors' risk by providing clear and understandable information with the aim of full and fair disclosure. Consequently, IR is important in increasing shareholder's value.

IR communication can be formal or informal. Formal communication includes annual reports, interim reports, and shareholder meetings (annual and extraordinary) (Brennan and Kelly, 2000). Marston (1996) and Brennan and Kelly (2000) has classified informal IR activities into private and public disclosure activities. Private activities include among others are mailing information to analysts and fund managers, answering queries, providing feedback on analysts' reports, and private company meetings. Public disclosure activity mainly relates to printing and issuing information by way of press release.

The emergence of Internet technology has forced companies to provide new methods for IR communication. The internet allows companies to provide global IR communication without time limit and it has become increasingly important as a means for communication. An IR website can also reduce costs of printing and staffing. Shareholders can choose to receive financial data online, rather than through postal mail. IR managers can respond to request from analysts and fund managers with up-to-date information. Taken together, these factors IR communication via internet provides benefits in cost-cutting, distribution, frequency, and speed. Finally, with this information technology the company can extend the reach of its critical corporate communication. As such it will help company to do a better job in explaining its financial results and news and also will strengthen its position as a technology innovator in the eyes of investors.

To give a snapshot of the IR reporting in Malaysia, Hamid (2005) surveyed on the 100 index linked companies in the Malaysian stock exchange, found that only 70 firms provided investor-related materials on their websites. Furthermore the study stated that 23 companies had a specific section on IR information. He remarked that a gap exists between developed countries and developing countries with respect to utilization of the internet for investor-relations purposes.

We extend the work by Hamid (2005) in three ways. First we used explanatory variables drawn from Marston (2003) plus an additional variable for foreign ownership and more detail classifications in industries grouping variable. Second, we used a different disclosure list that has been identified during the interview with investor relation

managers, rather than direct replication from prior study. And, third we attempted to explain related theoretical postulate that may motivate company to have the IR website. As cited by Marston and Starker (2001) there was little academic research in IR and this study also has tried to fill the gap in literature relating IR practices across countries.

The reminder of this paper is structured as follows. The next sections, provides an overview of corporate governance practice in Malaysia that discuss on the importance of IR. The third section discusses relevant prior literature on investor relations and internet reporting. In section four, we specify hypothesis about motivation factors for investor relation at the website, followed by research methodology in section five. The sections six will discuss on the result of hypothesis testing and finally, section seven provides the conclusion and limitation of the study.

The corporate governance practice in Malaysia

The IR communication and information were related to the concept of Corporate Governance. This section will discuss on the Corporate Governance code and its principle on IR in Malaysia. As pointed out in the introduction sections, one of the charges by critics against business corporations in Malaysia and Asian during the 1997 financial crisis was lacking and inadequate of corporate governance standards. In response to these charges, the Malaysian government has established the Finance Committee for developing the Corporate Governance code. This finance committee was headed by industry leaders and accountants among others. The committee has spent a year on studying and establishing the corporate governance codes similar to the Cadbury, King, and Hempel reports. Then in 1999, the group has published the first corporate governance code in Malaysia (Malaysia Code).

The Malaysia Code (1999, p.10) describes 'corporate governance' as the process and structure used to direct and manage the business and affairs of the company with a view to enhance business prosperity and corporate accountability. The ultimate objectives of the code are realizing the long-term shareholder value and protect the interest of other stakeholders. The Code suggest on the credibility, transparency and accountability in running the corporations. Furthermore its principle and practice must continue to evolve to adapt the Malaysian way and culture. The numerous recommendations of the Malaysian Code were implemented to enhance transparency and disclosure of relevant information among Malaysian listed companies.

However, the code is neither a law nor a legal basis. However started from June 2001, the Malaysian Stock Exchange has required all listed companies to adopt the recommendations proposed

by the Code to put it into practice. For example, all listed corporations' annual reports must include the Statement of Corporate Governance as the statement of the state of the firm internal control, plus the disclosures of directors remuneration and also to include details of directors whose seeking re-election at the companies annual general meetings.

In anticipation of the implementation of the Code, the Malaysian Institute of Corporate Governance (MICG) was formed by the government in March 1998. The objective for setting up this body was to represent, express and give effect to opinions of its members on issues relating to corporate governance in Malaysia, promote awareness of corporate governance principles among corporate participants, the investing public and corporations on the importance of good governance to enhance shareholders value and bring about corporate prosperity. The Malaysian Government effort on promoting Corporate Governance can be seen in the setting up another body in year 2001 via the Employees Provident Fund (the largest pension fund in Malaysia was owned by the government) namely, the Minority Shareholders Watchdog Group (MSWG). The prime objective of MSWG was as a voice for minority shareholders and to provide an avenue for minority shareholders to institute proceedings against listed issuers who flout the principles and practices of good corporate governance.

IR is one of important part in the corporate governance. The Code (pp. 96-7) states the principal responsibility of company directors is to develop and implement an IR-programmed or shareholder communication policy. Starting from Jun 2001, this principle has been adopted for companies listed on the Malaysian stock Exchange. However, no detail authorised statement of IR information requirements has been issued. Despite the lack of detail requirements in code, the increase in awareness on the need for good governance has stimulated interest in IR. For example, and some of the firms have set up their specific IR departments and have their specific IR website or webpage to hear the voice of shareholders. At present in Malaysia, the requirement to have or establish an IR website is voluntary and unregulated. Therefore there is no mandatory guideline prescribing the content and presentation of information at the corporate Website. As such, the companies are under no obligation to have or maintaining the websites.

Literature review

The earliest research concerning internet reporting has been started in 1996, a year after the global interest in the internet as an advertising media has commenced. Most of the earlier study was focused on the existence of Websites for top stock exchange listed companies, on whether these companies has posted some type of financial information. As what

pointed by Xiao et al. (2002), a large number of prior studies on internet reporting were descriptive in nature and were focusing on the financial result. Among of these studies are (Petraevick and Gillett, 1996 and 1998); Gray and Debreceny (1997); and Laymer and Tallberg (1997). Following this came a number of secondary studies developing the early exploratory either by examination of other geographic domains or extend range of attributes or factors thought to influence the disclosure in website, with the aim to develop benchmark that has been established by earlier studies. These include (Deller et al. 1999; Carvan and Marston; 1999; Hedlin; 1999, Asbaugh et al., 1999; Ettredge et al., 2002, Hamid, 2005).

Descriptive Research

The financial reporting via internet is considered part of the IR subject and its specifically looks on the use internet for the financial reporting purposes. Petraevick and Gilliet (1996) surveyed of the Fortune 150 companies and established that 69% had corporate website and 81% of these companies have financial information in the website. In a later study, Petraevick and Gilliet (1998) investigated on the timeliness of 125 Fortune 500 companies for posted their earning release in the website. Their result shows internet is considered one as of the important communication medium for dissemination of the financial information. Other US studies was conducted by Gray and Debreceny (1998) on the use of internet for financial reporting by the US Fortune Industrial 50 companies. They found that 68% (34) of fortune industrial firms had annual reports on the web. Ettredge et al. (2002) used a sample of 220 AIMR ratings companies for the best practice on corporate disclosure and analysed following firms. They found that 193 companies have a website and the most common item disclosed in the firm website is a financial news release (81%). They noted that wide variety of investor relation information presented in the websites since the site content was under companies discretionary.

Lymer (1997) surveyed top 50 UK listed companies from various industries. The result showed that 92 percent of the companies had website, however, only 24 percent of the Websites had published full financial reports. Furthermore a company in financial sector provides less investor information compare with companies in Chemical and Pharmaceutical sector. Other European studies include Laymer and Tallberg (1997) for Finnish companies, Gowthroupe and Amat (1999) Spanish companies, Hedlin (1999) German companies, Bernnam and Kelly (2000) Irish companies.

There has also been research on Asian companies. Marston (2003) surveyed the top 99 Japanese companies. She reported that majority of the company had a website in English and 68 of these companies had reported some sort of financial

information with 57 providing detailed accounting information. With reference to the Malaysian study, Noor and Mahammad (2000) investigated internet financial reporting by Malaysian companies. The sample consists of company that creates the link to the Malaysian Stock Exchange website. The result showed that out of 218 companies that established the link and only 11.5 per cent disclosed their full financial report.

Other professional bodies includes the International Accounting Standard Committee (Lymer et al.,1999) and Financial Accounting Standard Board (FASB,2000), has continued this trend by covering other aspect of research in internet financial reporting that look into the format used for posting annual report over the internet (Pdf or HTML), the availability of real time stock quotes and the press release. On commenting the research conducted by those two professional accounting bodies, Bagshaw (2000) suggested that the global accessibility of corporate financial reports and the absence of a regulator required the national and international accounting professional bodies; to provides guidelines or best practice for corporate financial information via internet that was prepared in the highest quality.

In mid-1999, Laymer et al. (1999) has conducted beyond single country studies where they surveyed the 30 largest companies in 22 countries. They finds that the percentage of companies with a financial information located in the website is above 90% for the USA, Canada, Germany and Sweden companies, and to below 50% in Chile, Hong Kong and Malaysian companies.

Consistent with the topic of the study and the increasing use of the Internet for worldwide communication, the utilization of this communication medium has extended beyond financial reporting where it becomes as an instrument for investor-related communication (Gruner, 2002). According to Deller et al. (1999), the Internet will reduce the information advantage previously enjoyed by institutional investors and information intermediaries.

Deller et al. (1999) conducted a comparative study on the communication of IR information via internet by the 100 index-linked companies in US, UK, and Germany. The results showed that 91% of US firms had utilized the Internet as a communication medium for IR, as compared to 72% by UK companies, and 71% by German companies. The researchers also noted that the websites of US firms were offered more features than the websites of the other two countries. These features included email addresses for IR, mailing lists, and frequently asked questions (FAQs) related to IR.

Single country study has been conducted by Hedlin (1999), Brennam and Kelly (2000), Ettredge et al. (2002) and Hamid (2005). Hedlin (1999) conducted a study of Swedish firms. These sample were divided into three categories: (i) the most active stock; (ii) small and medium companies; and (iii)

new high-technology companies. However, he did not quantify the amount of IR information disclosed and he found that the IR information was variously reported—for example, 83% of the firms had a financial report on the Web and 12% had a hyperlink for the interpretation of financial reports. Brennan and Kelly (2000) conducted a similar study to 99 Irish listed companies. This study revealed that only 67% of the sample had a website and from this only 84% the websites presented at least one IR information.

Explanatory Research

Then again, a few studies have attempted to link the relationship between web reporting with company specific variables (e.g. Ashbaugh et al. 1999 and Marston, 2003). Ashbaugh et al. (1999) carried out a study on internet financial reporting by 290 US non financial companies using logistic regression found. They found that only firm size was a significant variable. While other variables i.e. profitability, individual ownership and AIMR rating practice was insignificant. Recent study by Marston (2003) was to analyse the internet disclosure by the top Japanese firms. Univariate result showed that firm the size was major explanatory variable for existence of website but not for the financial information. Other company variables include profitability, listing status and industry grouping show insignificant relationship.

Only one prior publish study in Malaysia by Salleh et al (1999), where they investigated the extend of web reporting to company specific variables. They employed four firm specific variables (size, profit, industry group and auditor) and test using univariate analysis. Univariate result showed firm size and profitability were major explanatory variables for decision to disclose financial information in website and others two variables showed insignificant relationship.

Other published empirical work on association between IR disclosure in the websites and firm characteristics was done by Ettredge et al. (2002). They (2002) extended earlier work by Ashbaugh et al. (1999) on the dissemination of corporate information for investors on American corporate websites to the factors thought to influence the disclosure practice. The hypothesis was drawn from Lang and Lundbloom's (1993) theory of voluntary financial disclosure, plus additional variables for disclosure quality. They analyzed 193 firms' websites—which provided two types of information: (i) mandatory information required by US securities authorities; and (ii) voluntary information for investors. They found that: (i) disclosure of mandatory information in the firm website was significantly associated only with size and a proxy variable for information asymmetry; and (ii) voluntary information was associated with variables proxy for size, information asymmetry, demand for

external capital and firms' traditional disclosure reputation.

The overall conclusion that can be inferred from the prior studies in internet financial reporting was that majority of the studies investigated the frequency and type of financial information located in the companies Websites. With reference to the nature of information, the data posted in the Websites, it must not be limited to the financial information only. As suggested by Thompson (2002) and Harper (2002) the current information disclosure demanded by user must include the non financial information like information on intangible assets.

Hypothesis development

IR disclosure may relate to Agency Theory. Agency Theory introduced by Coase (1937) and later expanded by Jensen and Meckling (1976) postulated that the role of accounting information was to supervise manager's behavior with the aim to minimize the agency cost. Agency theory predicts that a greater extend of disclosure is expected by the adoption of more governance mechanisms will reduce information asymmetry (Watts and Zimmerman, 1978) between principals and agents. Further, according to this postulate, the level of information asymmetry is an important driver for investor uncertainty. This is because inadequate disclosure may affect users' economic decision and efficiency of capital market. Watts and Zimmerman (1978) argued that companies would increase its voluntary disclosure in order to avoid pressure from the government and stakeholders that would lead to increase in future agency cost arising from the regulations. Lev (1992) pointed out that without an active corporate disclosure the truth never prevails and he noted that Economic Theory has recognized that without an active disclosure the truth never come out where a permanent information gap will generally exists between insiders and outsiders.

Prior studies found that the quality in corporate disclosure is associated with the certain firm characteristics. To our best knowledge and discussion in literature review section, there is limited literature on the empirical research in IR, therefore we have to refer to prior literature related to internet financial reporting (Asbaugh et al. 1999, Salleh et al., 1999, Ettredge et al, 2002, Marston, 2003) and voluntary disclosure (Singhi and Desai, 1971 Firth, 1979; Ball and Foster, 1982). As discuss above, the decision to disclose voluntary corporate information was relates to Agency Theory postulates. The existence of IR information in the companie's website also is on voluntary basis and the site content was under companie's discretionary. Accordingly, the hypothesis below is about the effect of four firm specific characteristics towards the decision to disclose IR information draw from agency theory postulate.

Firm Size

Larger firms will disclose more information than smaller firms due to the need to raise capital at a lower cost. Additionally, larger companies also have higher information asymmetry between agent and principle and, therefore, higher agency cost may arise from the information asymmetry. To reduce these agency cost, larger firm disclose more information than the smaller companies (Firth, 1979). Ball and Foster (1982) and Firth (1979) proposed that larger firm have adequate resources in adopting certain accounting policy. As such, larger firm having greater incentive for the Web based information dissemination by the reason small cost involved compare with the benefits they that will get. The cost here may include set-up and maintenance cost for the website.

Prior empirical evidence in Salleh et al. (1999) showed that there is positive relationship between firm size and internet financial disclosure, where larger Malaysian firm are likely to have financial information in the website compare with small firm by the reason for the cost involve in setting and maintaining the website. Others study by Ashbaugh et al. (1999), for US companies; found that firm size is the sole significant variables in web based accounting voluntary disclosure. Furthermore, firm responding to their survey indicated that communicating with potential and existing shareholders was an important reason for establishing the website. Other international evidence includes Ettredge et al (2002) and Marston (2003) also found similar findings. We expect the incentive to be the same for IR website case where benefits of IR website are likely to be increased with the firm size. Our first hypothesis is,

H1: There is positive relationship between the firm size and the amount of IR information at the firm website.

Profitability

Singhi and Desai (1971) suggest that if the firm profit margin is higher than industry average, management is likely to disclose more information in order to assure the stockholder on their strong financial position. Carven and Marston, (1999) noted that poorer performing firms may avoid using internet as a alternative communication medium for the dissemination of firm accounting information where they will choose to disclose those information to more determined users. Previous study in financial reporting has examined association between profitability and internet reporting.

Salleh et al. (1999) in their study tested the hypothesis that high level of profitability firms with website are more likely to disclose financial information on such sites than lower level of profitability firm with websites. They found a significant (at 5% level) positive relationship

between financial performance by Malaysian companies, as measured by profit after tax and extraordinary item. Another study by Ettredge et al (2002), found that no relationship between dissemination of information for investors at US corporation websites. Recent study by Marston (2003) also found no significant relationship measured by the pre-tax profit and pre-tax profit divided by capital employed, for top Japanese Corporation. Ng and Koh (1994) argued that more profitability firms will be subjected to greater public scrutiny, and will therefore make voluntary disclosure. Further, profitable companies would have more financial resources to comply with additional disclosure (Ashbaugh et al., 1999) and Marston, (2003). Accordingly, these companies might have incentive to show the investor that they are more profitable than their counterparts in the same industry. Based on the above discussion, it would appear that the relationship between disclosure and profitability may be different between developing and developed countries. As such our second hypothesis is;

H2: There is positive relationship between the firm profitability and the extend of IR information on the firm website.

This study uses market disclosure variables i.e. earnings per share (EPS) to test the significant of the relationship between profitability and the extent of investor relation information on the internet. Even though the difference exists for the profitability variables used, yet there is no theoretical reason for particular measurement of profitability.

Foreign ownership

Foreign investors may influence the level of voluntary disclosure by the firm (Chow and Boren, 1987). Haniffa and Cooke (2002) suggested that high disclosure may be expected for the firm that have high portion of shares by foreign investors because of substantial funding in Malaysian capital markets come from foreign investor. As discussed above internet communication is more economics and dissemination of information to investors and potential investor to any place around the world are much faster. Therefore, IR website will help foreign investor to monitor their economic interest in the firm. This is very much important because as the firm grows they may require foreign investors to invest in the company or for future demand of external capital (Ettredge et al. 2002). Moreover it can increase firm reputation from the eye of investors. Hence, a widened dissemination of investor related information via internet can create an impression of greater transparency that may be particularly important for foreign investors. The authors use agency theory to argue that foreign ownership is a mechanism which may help to reduce the interest conflict between principles and agents where foreign

investors are very cautious in protecting their economic interest in the foreign firm. Therefore;

H3: There is positive relationship between a high portion of shares held by foreign investors and the extend of IR information on the firm website.

Industry type

The implications of theory and prior empirical result from the relation between industry and internet disclosure are mixed. This may due to the fact that different industries have different propriety cost of disclosure and some may be more technological advanced than others. Salleh et al. (1999) found in his study on Malaysian companies are not significant influence between industry membership and decision to disclose financial information on the website. In related study, Carvan and Marston (1999) found no association between industry type and internet disclosure by UK companies. Marston (2003) extends her earlier studies where used more detailed industry variable in his study of Japanese firm were used. These firms were segregated as being financial services, general services, utilities and manufacturing. The result found there was significant relationship (at 1% level) for industry types in Japan. Yet, the evidence to date is inconclusive. It therefore seems appropriate to test whether IR disclosure varies between industries, so we expect,

H4: There is significant relationship between industry type and the extend of IR information on the firm website.

Methodology The Sample

The sample for this study consisted of 100 Malaysian index-linked counters (CIs) listed on the Malaysia Stock Exchange (MSE). The CIs are 100 stocks listed on the main board of the exchange. To be considered as CIs, a company must be evaluated by the index subcommittee of the stock exchange. Among other factors, selection criteria include market capitalization and trading volume. These companies were chosen for the present study because it was expected that they would actively conduct IR activities and be closely scrutinized by investors. Such a selection was also consistent with Deller et al. (1999), where their sample consisted of 100 stock market index-linked companies in the USA, UK, and Germany.

The first step in conducting this study was to identify the companies' websites. The MSE website (www.klse.com.my) was used to locate the homepage of the respective firms. If there was no such link available, other popular search tools were used (including Yahoo, Alta Vista, Dogpile, Google, and Cari).

This study employed content analysis to measure the incidence of IR disclosure in the website. Several authors (Krippendorff, 1980; Weber, 1988; Neuendorf, 2002) have proposed a formal definition of content analysis. Krippendorff (1980) defined it as “a research technique for making valid inference from data according to their content” whereas Waber’s (1988) definition stated that “content analysis is a method of codifying text (or content) of piece writing into various groups (or categories) depending on selection criteria”.

Krippendorff (1980) and Neuendorf (2002) have provided a staged process for any content analysis. The first stage is deciding the document to analyze. The present research monitored websites for three months. Deller et al. (1999) used a one-month study period (because their research was a comparison of IR information in three countries) and Brennan and Kelly (2000) took a year, as discussed in literature review above. However, there is no theoretical basis for deciding the period to monitor the IR website.

The second stage in content analysis is to determine the means of measuring IR. A review of the literature suggests that the earlier measurement of IR information was based on the incidence of IR information (Deller et al. 1999; Hedlin, 1999; Bernnam and Kelly 2000). To measure the disclosure level quantitatively in the present study, a disclosure index was developed. A dichotomous procedure developed by Cerf (1961) was used to measure the disclosure score. A score of ‘one’ was given if a given item was disclosed and a score of ‘zero’ if it was not disclosed. In this study, all IR items noted on the websites were considered equally important.

The third stage in content analysis is to develop a checklist instrument. This process involves the selection of categories or dimension in disclosure theme to be used to capture the level of information disclosed for investors at the firm’s website. The characteristics, together with their scoring rules, are defined in table 1 identified from the extensive review on prior literature (Deller et al. 1999; Hedlin, 1999; Bernnam and Kelly 2000, Hamid, 2005) and interviewed with company investor relation manager which included major characteristics as discussed in literature review section.

<p>Table I Definitions of the Variable</p>
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The inter-coder reliability is the main concern in content analysis study. To minimize inter-coder reliability some precautionary measures are taken to ensure the reliability of the measurement. First both authors cum coder have discussed the existing literature relating to IR with the aim to enhance their understanding. Secondly both authors have reviewed a small sample of IR printed Web document independently and proceeded with coding process using checklist instrument. The coded data are then being compared and if discrepancies exist the document will be reanalyzed and differences will be

resolved. Accordingly both authors analyzed the remaining IR Web document.

The model

We employ ordinary least squares (OLS) regression to examine the relationship between investor relation disclosure and the four exploratory variables. The following model is estimated;

$$ISCORE = \alpha + \beta_1 \text{Size} + \beta_2 \text{Profit} + \beta_3 \text{foreign} + \beta_4 \text{Profile} + \epsilon$$

Where;

ISCORE = The sum of the score of the 14 IR items

Size = natural log market capitalization;

Profit = Earnings per share

Foreign = Percentage of foreign ownership held in the company

Profile = Profile was indicating using dummy variables to classified companies into one of the followings industries: consumer products, industrial products, construction, trading, infrastructure project companies, finance, hotel, properties, plantations, mining and technology.

ϵ = disturbance term

α, β_i = Constant or parameters to be estimated, $i = 1, \dots, 4$.

Analysis and discussion of result Descriptive statistics and correlations analysis

Table 2 panel A presents the distribution of the dependent variable (i.e. extend of IR information in the websites measured by ISCORE). The result shows that there is a wide range in the level of IR disclosure in the sample. The highest disclosure score obtained is 13 and the lowest is 0. The average relative IR disclosure index of the sample companies was 4.47. This result is also consistent with the literature in Malaysia (Hamid, 2005) that the Malaysian companies have a greater flexibility in their disclosure choice. In addition, the relative low IR disclosure in the websites implies that the companies in Malaysia may use traditional IR communication medium to communicate with investors. Table 2, panel A also shows that the distribution of profitability (EPS) is skewed; the average profit is 24.23 but the min is -109.00. Furthermore, foreign owned companies (FOREIGN) comprise 23 % of the sample.

Table 2 panels B, represents the descriptive statistics for nominal independent variables consists of index-linked companies from various industries. The proportions of companies in the sample are not equally distributed. Table 2 panels B shows the large number of the companies in the sample comes from trading industry (31%) and the lowest is from hotel industry (1%). As discussed before the selection of the companies in the index was based on the MSE index committee.

Table II
Descriptive statistics for study variables (n = 100)
Panel A (Continuous Variables)
Panel B (Nominal Independent Variables)

Table III show the frequency of IR items in the companies Website. The data was gathered in a year 2003. To ensure the reliability of the result, the sample firm websites were visited by different researcher. In doing so the two data forms from each firm were compared and differences were reconciled. Not reported in the result, out of 100 companies (i.e. index link counter) only 72 companies having the website and also reported minimum IR information. Additionally not reported also in the table were 30 companies that have specific IR sections located in the websites. These companies may concern on the importance of IR communication via websites for their investors and also to help investors to find information in an efficient way.

The top five item posted in firm the Website is company background (71%), financial reports (51%), News (47%), Financial Highlight (42%), Ratio (40%) and the least item was frequently asked questions (7%). As such, the highest-ranking item is company background featuring profile of company that included date incorporated, location of business, company activities, mission and vision of the companies. The result may suggests that by making background disclosure it will indicate the strength of company, its values and beliefs reputation and the strategic direction in which it intends to move. As proposed by Gray and Balmer (1998), the corporate image and reputation can be developing through corporate communications and this qualitative information is important to build investors' confidence. With reference to the availability of financial data time series, 40 % of the companies offered financial data for more than two years.

In conclusion for the descriptive analysis, although internet offers a variety of possibilities to communicate with investor for example via e-mail and mailing list, there were only partially used by the Malaysian companies.

Table III
Frequency of IR item at Websites

The correlations analysis in Table IV shows correlations among the variables and provides a basis for interpreting result in the multivariate analysis which relates to the factors thought to influence the disclosure and availability IR information in the firm website. The correlation analysis between dependent variables IR scores (ISCORE) and independent variables show that the firm size is highly correlated at 1% level and the profitability variable (EPS) is positive significant at 5% level. For the industry variables, only construction industry was

significantly correlated with extend of IR information at 5% level.

The correlations analysis supports the H1 and H2 where size and profitability variables are positively correlated to disclosure level. The correlation between foreign ownership (FOREIGN) and ISCORE was positive but not significant, hence it was not support the H3. For the H4 the result were divided into three categories: (i) the correlations with ISCORE is positive for finance, technology and Plantation but not significant; (ii) the industrial, properties, trading and consumer industry the correlation is negative with the ISCORE; and (iii) four industry variables comprise of technology, infrastructure, plantations and hotel are not correlated at all ($p > 0.05$) with others variables.

Table IV
Correlation Analysis

Multiple regression models

Table V reports the multiple regression result. The IR score (ISCORE) is regressed on with the twelve firm-specific attributes as independent variables. However, a multicollinearity problem existed, i.e. a linear function of one independent variables in the models with others independent variables. In our model, the TRADING variables shows sign of multicollinearity problems where the variance inflation factors (VIF) value is more than 5 (Judge et al. 1988). To overcome this problem one of the suggestion made by Beck (1993, p.198) is to exclude the variables in the model and we choose to exclude these TRADING variables from our model. As a result of these the VIF measurement scores shows below than two.

Table V
Regression results

Table V presents the adjusted R (coefficient of determination), F-value, beta coefficient and t-statistics for the model. The R^2 of 0.221 ($F = 1.569$, $p = 0.028$), which shows low percentage (22.1%) of the variation in Y can be explained by variations in the whole set of independent variables (adjusted $R = 0.114$). The explanatory power of the model is comparable with prior research that used data for single period (Etteredge et al. (2002) adjusted R^2 0.175). This result may suggest that the IR study was in infancy stage and there are other intervening factors that have not been capture in this study.

Only two variables entered the equation with the regression coefficient that is significant at the 0.05 level in the regression model. These variables include firm size and one industry dummy variable. Furthermore, albeit week is the significant level for the profitability, finance and industrial product variables at 0.10 level. On the other hand, the foreign

ownership and other six industry variables are insignificant.

The most significant industry variable is from constructions firm with a p-value of 0.004. These findings partly provide support for H3, that IR disclosure is varies between industries. The next most significant variables are size of the firm ($p < 0.05$). These results support numerous previous empirical studies which show that large firm discloses more information.

Discussion of findings

Hypothesis 1 states that big firm would more likely have a greater amount of IR information at the website. This finding is consistent with the prior study by Salleh et al. (1999), Ashbaugh et al. (1999) and Ettredge et al. (2002). As discussed before numerous previous empirical studies show those large firms tend to disclosed more information. Ball and Foster (1982) questioned use of size in empirical study as it can be used as a proxy for many influences. Their argument was based on the size of company that can be a proxy for a number of firm attributes likes political cost and agency costs. Further, Watts and Zimmerman (1978) call it crude variable where theory is insufficiently developed. Thus, a possible explanation of this result is that the empirical research in IR is still in infancy stage and the highly correlated proxy variables may help to provide information in future research and theoretical development in this area. Another possible explanation is IR study may relate to research in voluntary disclosure where most of the study found significant relationship between companies size and amount of disclosure.

Hypothesis 2 states on the influence of the profit to amount of IR disclosure. The result found a positive relationship but insignificant and not support at 5% significant level. Evidence from previous study is varied and has focused on different countries; however these may not explain the differences. Recent study by Marston (2003) and Ettredge (2002) also found insignificant relationship for internet reporting by the top Japanese and US firm respectively. However study by Salleh et al. (1999) found significant relationship between the profitability towards the decision to disclosed financial information via internet by Malaysian firm. The possible argument may exist on the proxy variables used to explain the relationship with financial performance. As such this study also tests others proxy variables for financial performance as what employed by Marston (2003), Ettredge et al. (2002) and Salleh et al.(1999) and the result also were not significant. An important assumption of this finding is not as per agency theory postulate on the management compensation plans. The result from this study may indicate that the companies' management may employ or comfort with the current traditional IR communication.

Draw from Agency postulate on the demand from external capital, hypothesis 3 predicts that firm with the foreign shareholding is likely to influence the extend of IR information in firm website and this notion was not supported. A possible reason was the foreign shareholders may depend on fund managers for their investment decision. Therefore, the companies possibly belief that foreign shareholding has no influence or push companies to establish the website. As we know, these fund managers have different interest and different investing style. One fund manager may focus on the growth industries the others may looked on the company fundamentals. Therefore, the company may predict the traditional IR communication is importance in communicating company news to the fund managers. Another possible reason is the website cost. The company believes that the cost for developing and maintain the website is high where required to be updated parallel with the company news or announcement. Based on those two arguments; (i) on the utilization of website by investor and; (ii) the website cost, the company may unable to see the benefits over the cost in developing and maintains the IR information in website. Further, their assumption is that compliance with the regulation is sufficient for communicating and providing information to the investors. However, we suggest that the firm manager should know that poor reporting and communicating on the firm information will result investors to look elsewhere for more useful information and as a result of this action, the investors will discounting the firm share price (Miller and Bahnsen, 2002).

Hypothesis 4 which states that extend of IR were varies between industries. The result found that industry product variable was significant when univariate and multivariate analysis was used. Evidence from previous study is varied, but this has focused on different industries list, which may explain the differences. Agency theory postulate might explain differences in IR disclosure between industries. It might be that the managers will feel insecurity when operates in uncertain economic environment therefore they disclosed detail and newest information in order to support the continuance of their position. For example manager in construction industry want to inform the investors on the latest company's information that relates to company's performance. The may due to the managers perception that current unpredictable economic environment may effect construction industry. The consequence was companies may be undervalued by stock market and their firm possibly will not in the fund managers' favorite list on companies to invest. Hence the utilization of internet technology allows company's to provide an up-to-date information and communication to investing community that will minimize uncertainty about company's performance. Another reason may be on the dominant firm in the particular industry that have

high level of disclosure will influence others companies in the same industry to follow due to need for external capital, investors perceptions and future regulations from the regulator.

CONCLUSION

On this paper, we examine the dissemination of IR information at corporate Websites. We find a great deal of variations in both the frequency with which different items are presented at sites and the number of items that are presented at any one site. The result showed that IR communication through internet was new among index link Malaysian companies at the time of survey. The top five item disclose by companies indicate the important information disclose related to corporate reputation and financial result. We used univariate and multivariate analysis to test the link the variation IR information disseminated through corporate website to factors that also influence the initial disclosure of investor information. The result showed that company size and industry type, but not profitability and foreign ownership are associated with IR information item discloses. Our result confirmed that companies in Malaysia may rely on traditional IR communication channel for communication. Perhaps the current practice in Malaysia on Internet communication represents only at the first dimension of internet reporting as outlined by Lymer et al. (1999).

Lymer et al. (1999) has divided internet reporting into three stages. At the first stage, firm used internet solely as another distribution channel for their existing printed financial reports. At second stage, firm moved to disclose information in a form which web browser and search engine can readily interact. Finally, the third stage was related to XBRL, which is an XML-based specification for efficient automated retrieval of financial information (see www.xbrl.org) that provides interactive tools with which to analyze the information. Skinner (2003) suggested the combining of advanced communication technology, regulatory and market pressure will force the companies to disclose more information to the capital market participants, this because corporate disclosure practiced in this millennium had become more urgent, complex and open.

Like all studies, this study has its limitation. Firstly, the main focus of this study is on the nature and type of IR information in the firm website. However, as what has been addressed by Bernman and Kelly (2000), due to the dynamic nature of internet the result of the study only represents snapshot of Malaysian companies using the internet for IR activities at a specific period, whereby the Websites are constantly being created and their information being updated regularly by the organizations. Second the study found the expected relationship between IR disclosures and four firm characteristics variables, more evidence are needed on the existence of IR Web reporting by others listed

companies. As such further study can be done by increasing the sample and test others proxy variables before any generalization can be made. Finally, IR communication using internet is considered a new and complex activity that cannot be fully explained by a single theoretical perspective or from a single level of resolutions, when no dominant theory has yet been established. These can be looking on the lower level of coefficient of determinations in the multivariate analysis.

References

1. Ashbaugh, H., Johnstone, & Karla, M. (1999). Corporate Reporting on the Internet. *Accounting Horizons*, 13(3), 241-257.
2. Bagshaw, K. (2000). Financial reporting on the internet. *Accountants Digest*, 429.
3. Ball R., & Foster G. (1982). Corporate financial reporting: a methodological review of empirical research. *Journal of Accounting Research*, Supplement, 161-234.
4. Beck, M.S.L. (1993) *Regression analysis*. Sage Publications: Singapore,
5. Brennam N. & Kelly, S. (2000) Use of the internet by Irish companies for investor relations purposes. *Accountancy Ireland*, August, 23-25.
6. Cerf A. R. (1961). *Corporate Reporting and Investment Decision*. Berkely: University of California.
7. Chow, C.W. & Wong-Boren, A. (1987). Voluntary financial disclosure by Mexican corporations. *The Accounting Review*, 62 (3), 533-541.
8. Coase, R.H. (1937). *Econometrica*. 386-399.
9. Craven B.M. & Marston, C.L. (1999). Financial reporting on the internet by leading UK companies. *The European Accounting Review*, 8(2), 321-333.
10. Deller D., Stubenrath, & Weber, C.A. (1999). Survey on the use of the internet for the investor relations in the USA, UK and Germany. *European Accounting Review*, 8(2), 351--364.
11. Ettredge M., Richardson V.J., & Scholz S. (2002). Dissemination of information for investors at corporate Web site. *Journal of Accounting and Public Policy*, 21, 357-369.
12. FASB, S. (2000). Business reporting research project-electronic distribution of business reporting information. Norwalk (USA) 7, FASB Press.
13. Firth, M. (1979). The impact of size, stock market listing and auditors on voluntary disclosure in corporate annual reports. *Accounting and Business Research*, 273-280.
14. Gray E., & Balmer J.M.T. (1998). Managing corporate image and reputation. *Long Range Planning*, 31(5),695-702.
15. Gray, G. & Debreceny, R. (1997). Corporate reporting on the internet: opportunities and challenges. Paper presented at the Seventh Asian-Pacific Conference on International Accounting Issues, Bangkok, November.
16. Gowthorpe, C. & Amat, O. (1999). External reporting of accounting and financial information via the Internet in Spain. *European Account Review*, 8, 365-71.
17. Gruner, R.H. (2002). Corporate disclosure: the key to restoring investor confidence. *Strategic Investor Relations*, 2(2),12-15.

18. Haniffa, R.M. & Cooke, T.E. (2002). Culture, corporate governance and disclosure in Malaysia corporation. *Abacus*, 38 (3), 317-349.
19. Hamid, F.Z.A. (2005). Malaysian companies' use of the internet for investor relations. *Corporate Governance: The International Journal of Business in Society*, 5 (1), 5-14.
20. Harper, H. (2002). Credibility gap. *Strategic Investor Relations*, 2 (3), 19-23.
21. Hedlin, P. (1999). The internet as a vehicle for investor relations: the Swedish case. *European Accounting Review*, 8(2), 373-381.
22. Krippendorff, K. (1980), "Content analysis: an introduction to its methodology", Saga, London.
23. Lymer A, Tallberg, A. (1997). Corporate Reporting and the Internet—a survey and commentary on the use of the WWW in corporate reporting in the UK and Finland. Paper presented at the 20th Annual Congress of the European Accounting Association, Graz (Austria),
24. Lymer A., Debreceeny R., Gray G.L., Rahman. (1999). A. Business reporting on the internet, Discussion papers. London: International Accounting Standard Committee;
25. Jensen M.C., Meckling W.H.(1976). Theory of the firm: management behavior, agency Cost and ownership structure. *Journal of Financial Economics*, 3(3):305--360.
26. Judge, G.G., R.C. Hill, W.E., Griffer, H. Lutleppohl and T.C. Lee. (1988), "Introduction to the theory and practice of econometrics", 2 Edition, New York.
27. Krippendorff, K. (1980). *Content analysis: an introduction to its methodology*. London: Sage.
28. Lang M., Lundholm R. (1993). Cross-sectional determinants of analyst ratings of corporate disclosures. *Journal of Accounting Research*, 13(2):246--271.
29. Lee, K.P. (2003). More Foreign Investor in KLSE *The Star*, July 25: 25.
30. Lev B. Information Disclosure Strategy. (1992). *California Management Review*, Summer; 9--32.
31. Malaysian Reports on Corporate Governance. (1999). Securities Commission. Kuala Lumpur.
32. Marston, C. (1996). The Organization of Investor Relations Function by Large UK Quoted Companies. *Omega International Journal of Management Science*, 24(2):477--488.
33. Marston C., Straker M. (2001). Investor Relations: A European Survey. *Corporate Communications: An International Journal*, 6(2):82--93.
34. Marston C. (2003). Financial reporting on the internet by leading Japanese companies. *Corporate Communication: An International Journal*, 8(1):23--34.
35. Miller P.B.W., Bahnson P.R.(2002). *Quality financial reporting*. New York: McGraw Hill.
36. Neuendorf K. (2002). A. *The content analysis guidebook*. California: Sage Publications,
37. Noor A. I., Mahamad T. (2000). Financial reporting disclosure on the internet by Malaysian listed companies. *Akauantan Nasional*, November/December: 28--33.
38. Ng E.J., Koh H.C. (1994) An agency theory and probit analytical approach to corporate non-mandatory disclosure. *Asia Pacific Journal of Accounting*, December: 29--44.
39. Petravick S, Gillet J. (1996). Financial reporting on the Word Wide Web. *Management Accountant*, 78:26– 9 [July].
40. Petravick S, Gillet J. (1998). Distributing earnings reports on the Internet. *Manage Account (USA)*, 80:54– 6 [April].
41. Ryder N., Regester M. (1989). *Investor relations*. London: Hutchinson Business Books,
42. Salleh H., Nahariah J., Shireenjit K.J., Mazlina,N.M.Z. (1999). Financial reporting on the internet by Malaysian companies: perception and practices. *Asia Pacific Journal of Accounting*. December: 299--319.
43. Singhvi S.S., Desai H.B.(1971). An empirical analysis of quality corporate financial disclosure. *The Accounting Review*, 129--138.
44. Skinner D.J. (2003). Should firms disclosed everything to everybody? A discussion of "Open VS Closed" conference calls: the determinants and effects of bordering access disclosure. *Journal of Accounting and Economic*, 34:181--187.
45. Thompson L.M. (2002). NIRI ten point program to help restore investor confidence. *NIRI's Executive Alert*, 9 April.
46. Watts R.L., J.L. Zimmerman. (1978). Towards positive theory of the determination of accounting standards. *The Accounting Review*, 53:112--134.
47. Waber, R.P. (1988). *Basic Content Analysis*, Sage University Paper Series on Quantitative Application in the Social Science, Series No. 07 - 049, Sage, Beverly Hills C.A. and London.
48. Xiao Z., Jones M.J., Lymer (2002). A. Immediate trends in internet reporting. *The European Accounting Review*, 11(2):245--272.

List of tables

Table I. Definitions of the Variable

IR Sections	One if the site have IR specific sections and zero otherwise.
Annual reports	One if the site provide a complete annual report, and equals zero if no annual reports information is available.
Quarterly report	One if the site provides quarterly reports including financial statement, and zero otherwise.
Financial highlight	One if the site provides an overview of the firm performance, and zero otherwise.
Firm background	One if the site provide a complete firm background (defined as history of the firm, directors' biography, firm mission and vision) or excerpts there of. Equals zero if no firm background information available.
Current share price	One if site provides same-day stock price, and zero otherwise.
Historical share price	One if the site provides historical share price, and zero otherwise.
Shareholder data	One if the site provides detail of major shareholding and zero otherwise.
Ratio analysis	One if the sites provides key financial ratios (defines as P/E ratio, EPS, ROE, ROA, DPS) or excerpts there of and zero otherwise.
News	One if the site provides latest company announcement of interest to inventors (such as) and zero otherwise.
Frequently ask questions	One if the featured a page of frequently ask questions related to investors and zero otherwise.
Link	One if the site provides a link to third party sites that provides IR information, and zero otherwise.
Contact	One if the site provides contact details for IR department and zero otherwise.
Others	One if the site provides other IR information other than above for the interest of investor (defined as IR road show calendar, circular to share holder, meeting with shareholder and analyst, IR policy and e-mail alerts on IR information) or excerpts thereof or zero otherwise.
ISCORE	The sum of the scores of the above 14 characteristics

Table II. Descriptive statistics for study variables (n = 100) Panel A (Continuous Variables)

		Mean	Min	Max	Std. Dev.
Dependent Variables					
ISCORE	Extent of IR disclosure	4.47	0	13	3.84
Independent Variables					
MKT	Firm size (total market capitalization in MR' million)	3438.48	109.8	34217.17	5925.43
EPS	Profitability (earnings per share)	24.23	-109	232	39.92
FOREIGN	Foreign ownership (as a percentage)	23.02	0.16	79.85	21.7

Panel B (Nominal Independent Variables)

Industry	%	Industry	%
Finance	13	Technology	5
Industrial	14	Infrastructure	3
Properties	11	Constructions	3
Trading	31	Plantations	5
Consumer	14	Hotel	1

Table III. Frequency of IR item at Websites

Item	% of firms disclosing
Firm background	71
Annual report	51
News	47
Financial highlight	42
Financial ratio	40
Quarterly report	35
Others IR information	32
Largest shareholder data	23
Contact	19
Current and historical share price	18
Link to third party website	14
Frequently ask question	7

Table IV. Correlation Analysis

	ISCORE	SIZE	PROFIT	FOREIGN	FINANCE	INDUST	PROP	TRADING	CONSU	TECH	INFRA	CONST	PLANT	HOTEL
ISCORE	1.000													
SIZE	.306**	1.000												
PROFIT	0.225*	0.372**	1.000											
FOREIGN	0.081	0.003	0.207*	1.000										
FINANCE	0.124	0.181*	-0.053	-0.153	1.000									
INDUST	-0.102	-0.217*	-0.075	0.127	-0.156	1.000								
PROP	-0.01	-0.248*	-0.149	-0.040	-0.136	-0.142	1.000							
TRADING	-0.122	0.218*	-0.030	-0.143	-0.2599**	-0.270**	-0.236**	1.000						
CONSU	-0.12	0.017	0.375*	-0.199*	-0.156	-0.163	-0.142	-0.270	1.000					
TECH	0.032	-0.115	-0.074	-0.017	-0.089	-0.093	-0.081	-0.154	-0.093	1.000				
INFRA	0.086	0.026	0.001	0.021	-0.068	-0.071	-0.062	-0.118	-0.071	-0.040	1.000			
CONST	0.255*	0.073	0.009	0.101	-0.068	-0.071	-0.062	-0.118	-0.071	-0.040	-0.031	1.000		
PLANT	0.02	0.012	-0.024	-0.072	-0.089	-0.093	-0.081	-0.154	-0.093	-0.053	-0.040	-0.040	1.000	
HOTEL	-0.118	-0.093	-0.058	0.152	-0.039	-0.041	-0.035	-0.067	-0.041	-0.023	-0.018	-0.018	-0.023	1.000

**significant at 1% level
 *significant at 5% level

Table V. Regression result

$R^2 = 0.221$
 Adjusted $R^2 = 0.114$
 F value = 2.057 (significant 0.028)

Independent Variables	Expected Sign	Coefficient	Std Error	Beta t-value	Sig.
Intercept		2.662	0.692	-0.989	0.1625
SIZE	+	1.764	0.804	2.195	0.0155**
PROFIT	+	0.015	0.011	1.370	0.087***
FOREIGN	+	0.011	0.018	0.593	0.278
FINANCE	+	1.880	1.199	1.568	0.0605***
INDUST	+	0.507	1.237	0.410	0.342
PROP	+	1.771	1.336	1.326	0.094***
CONSU	+	0.114	1.276	0.090	0.465
TECH	+	2.147	1.775	1.209	0.115
INFRA	+	2.620	2.191	1.196	0.118
CONST	+	5.902	2.206	2.675	0.0045*
PLANT	+	1.345	1.746	0.771	0.222
HOTEL	+	-2.673	3.775	-0.708	0.241

*significant at 1% level
 **significant at 5% level
 ***significant at 10% level

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