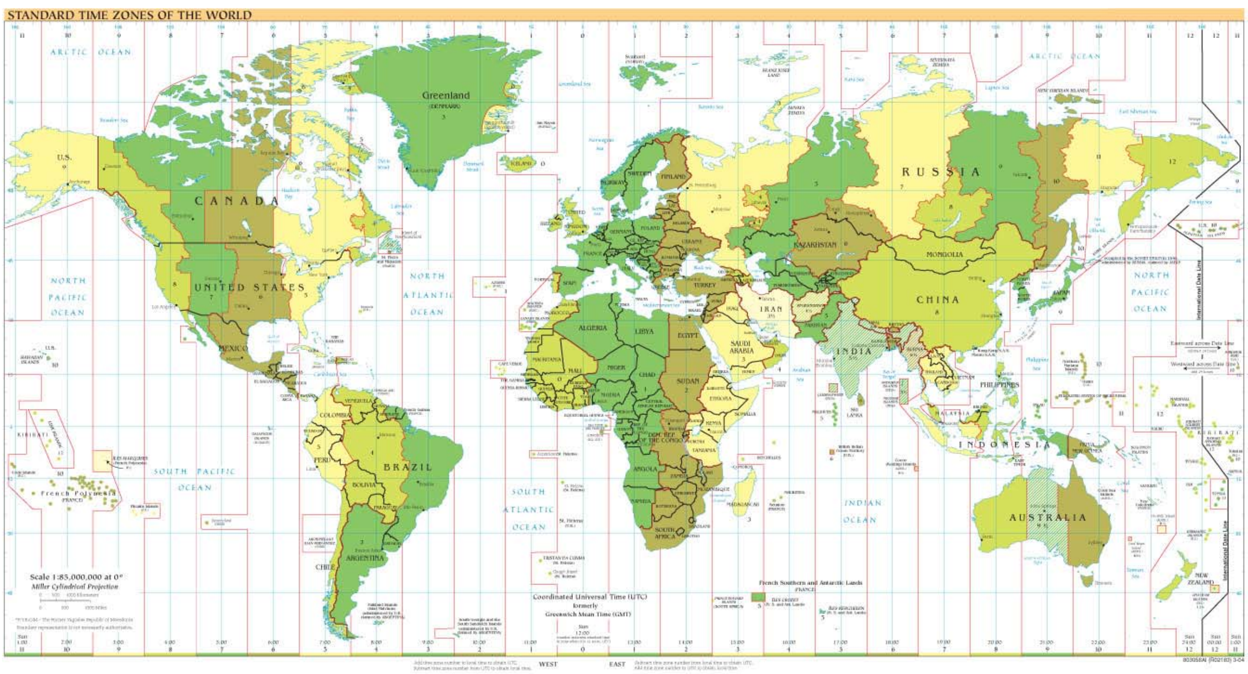
IABE-2010 Bangkok- Proceedings, Volume 7, Number 1, 2010 ISSN: 1932-7498

PROCEEDINGS

of the

IABE-2010 Bangkok- Summer Conference

Bangkok, Thailand
June 4-6, 2010



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Warmest regards,

Dr. Gamon Savatsomboon
Dr. Marius D Gavriletea

Managing Editors

June 4, 2010
Bangkok, Thailand

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CORPORATE PERFORMANCE CRITERIA IN THAILAND: INDIVIDUAL PERCEPTIONS OF COMPANY DIRECTORS' TASKS AND ROLES

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ABSTRACT

In more than 10 years since the financial crisis in Thailand in 1997, weaknesses in corporate governance have been identified as a major cause of the crisis. Thus, increased attention in the country has been paid to corporate governance reform and the roles of corporate boards of directors in relation to corporate performance. This paper is used to report on a study which examined the emphases that Thai directors place on corporate performance criteria, their individual tasks as board members and the extent to which they consider themselves to have a defined functional role. The study employed a quantitative approach based on questionnaires surveying 195 Thai directors of companies listed on the Stock Exchange of Thailand (SET) across various industries in the year 2009. It was found that the emphasis placed by directors on most corporate performance criteria, especially the financial aspect, was related to the degree to which they saw themselves in a monitoring role. Moreover, rather than general perceived roles, specific task involvement was more closely related to the performance criteria emphasised by directors. For practitioners, academics and policy makers, results raise awareness of directors' practices in the area of corporate governance and suggest a set of director tasks that are required for companies to achieve growth.

Keywords: *Corporate Governance, Board of Directors, Company Performance, Thailand*

1 INTRODUCTION

The focus on the corporate governance or CG has increased since the surge of financial crises around the globe during 1990s and the failure of major corporations in many countries since 2000 (Phan et al., 2003; Johnson et al., 2000; Giroux, 2008; Teall, 2006; Al-Abbas, 2009; Chang, 2009; Milhaupt and Pistor, 2008). The Asian financial crisis in 1997 (Nam et al., 2001) and the downfall of major corporations in the USA and in Australia (Robins, 2006) are two phenomena that triggered the importance of the reform of the corporate governance system to establish appropriate mechanisms for protecting against the return of similar crises.

1.1 BOARD OF DIRECTORS

Increasingly, corporate governance mechanisms, public attention and academic studies have focussed on the board of directors. Regardless of the type of ownership structure, the collapse of major corporations ranging from Enron in the USA, Parmalat in Italy to HIH in Australia, have resulted in criticisms about the causes of the collapse being centred around the boardroom (Salter, 2008; Melis, 2005; Mallahi, 2005; Deakin and Konzelmann, 2004; Kiel and Nicholson, 2007). Thailand is no exception as the weakness in corporate governance was identified as one of the primary reasons resulting in the financial crisis (Nikomborirak and Jitmanchaitham, 2001). Since then, the so-called 'Anglo-American' system of corporate governance has been applied to all public-listed firms on the Stock Exchange of Thailand or SET by the Thai government (Suehiro and Wailerdsak, 2004) and the major interest is on the roles of directors sitting on the Thai corporation boards (Persons, 2006). Thus, it can be implied that boards of directors are obligated to oversee the success of their major public corporation; as argued by Lorsch and Clarke (2008), organisations are regarded as national assets and significant engines in the nation's economic prosperity.

1.2 CORPORATE PERFORMANCE

Demb and Neubauer (1992) commented that corporate performance standards are in the eye of the beholder. In this regard, the comment implies that corporate performance is not a simple concept and is likely to be influenced by and vary from board to board. The view is supported by Ong and Lee (2000) whose studies related to the corporate board of directors and determined that the number of variables measuring company performance is few and, as such, measures should be extended to include aspects such as customer satisfaction, employee turnover, research development and market growth. In general, the performance companies has been measured by means of financial aspects such as return on investment, return on sales and return on equity (Wang and Yen, 2009).

1.3 RESEARCH PROBLEM AND QUESTIONS

Understanding how corporate boards and their members impact on corporate performance is a central question for the corporate governance agenda regardless of which types of director are on the board (Nicholson et al., 2004; Peng et al., 2001). The board of directors is viewed as the best constituent when establishing goals and evaluating the performance of the company (Monks and Minow, 2008). Although there appears to be some existing research on the roles of the board of directors in explaining corporate behaviours, the topic on how the board and its members perceive their roles and how their roles affect corporate performance are still limited, especially in contexts other than in the USA or in Europe.

Therefore, the central research question for the current study was: **'how are director personal attributes, the type of directors and director's task profile on the board related to the emphasis that a board member places on any corporate performance criterion and the extent to which directors see themselves in a defined functional role?'** It is expected that each of these elements is interrelated and the relationships can be explored within the context of the Thai experience.

The minor research questions in guiding the discovery of the answers to the central research question concern the classification of the position of board members, demographics characteristics, the importance board members place on tasks, board members' involvement in particular roles and the importance board members place on corporate performance criteria.

1.4 PURPOSE OF THE STUDY

The current study served four purposes. The first objective was to identify board member characteristics, the position of the directors, the importance that directors placed on their individual tasks, the degree to which board members were involved in the various roles on the board and their emphasis on various corporate performance criteria in Thailand. The second objective was to explore relationships between the tasks, roles and emphases placed on corporate performance measures.

The third objective was to answer a call by Peng et al. (2001) for an extension of corporate board governance research by further extending the theory of corporate governance in Thailand; i.e., on emerging multinationals from the third world country and the Asian crisis. The initial focus of the corporate governance study by Peng et al. (2001) was extended to explore all types of directors and all types of Thailand-based companies primarily listed on the Stock Exchange of Thailand and to include the study of corporate performance.

The fourth objective was to fill the research gap noted in the previous literature concerning the contingency studies of corporate board of directors which may influence the performance of the company as a result of the differences underpinning the corporate governance systems across countries (Daily et al., 2003; Gabrielsson and Huse, 2004).

1.5 SIGNIFICANCE OF THE STUDY

For academics, there was an opportunity to extend current models of board membership behaviours together with helping raise the level of public awareness of corporate board practices of a different country, namely Thailand. Policy makers and regulators would be able to use generated data and models to form appropriate rules and policies on corporations and their directors, thereby preventing conflicts of interests arising from other concerned constituents, including society-at-large and at the same time guiding the long-term development and prospects of companies. Executives, shareholders and other companies' stakeholders may well benefit from data that highlights the advantages and disadvantages of board practices as part of their corporate strategies and involvement.

2 LITERATURE REVIEW

2.1 CORPORATE GOVERNANCE: DEFINITION, MODELS AND THEORIES

The definition of corporate governance can be focussed mainly on two aspects; one emphasis is on the shareholders of the corporation; another is on the stakeholders.

The definition from the shareholders' perspective by Shleifer and Vishny (1997, 737) identifies that "corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment". Denis and McConnell (2003, 2) define corporate governance as "a set of mechanisms—both institutional and market-based—that induce the self-interested controllers of a company (those that make decisions regarding how the company will be operated) to make decisions that maximize the value of the company to its owners (the suppliers of the capital)". However, the definition from the shareholders' perspective is argued to be narrow and only focussed on management and shareholders' legal relations (Mason and O'Mahony, 2008). Thus, a wider scope for the definition of corporate governance, one that captures not only the shareholders' return on investment as a concern towards the stakeholders, is that of the OECD (2004, 11) which explicitly refers to corporate governance as "involving a set of relationships between a company's management, its board, its shareholders and other stakeholders".

Concerning models of corporate governance, currently there are two major models for governing companies across different countries around the globe; one is the market model and the other is the control model. Lane et al. (2006) contrasted the characteristics of the two models, as shown in Table 1.

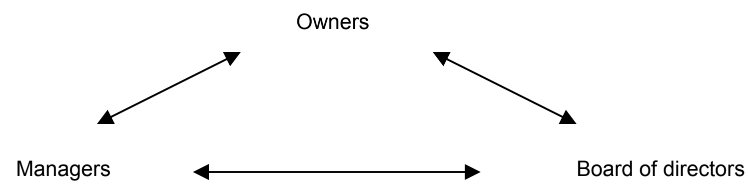
TABLE 1: CHARACTERISTICS OF THE MARKET AND CONTROL MODELS

Market Model	Control Model
Setting	Setting
• Prevalent in UK, USA	• Prevalent in continental Europe, Asia and Latin America
• More reliance on public markets	• More reliance on private capital
• High ownership liquidity	• Illiquid ownership
• Shareholders are anonymous investors, not managers	• Concentrated shareholders base often overshadows minority shareholders
• Widely dispersed shareholders	• Shareholders view company as more than an asset and as interested in financial and non-financial returns
• Shareholders only have financial connections to the company	
Elements of governance	Element of governance
• High level of disclosure	• Secretive
• Focus on short-term strategy	• Focus on long-term strategy
• Independent board members	• Shareholders with control rights in excess of cash flow rights
• Shareholders view company as one of many assets held	• Shareholders have connections to the company other than financial (i.e. managers, board members, family)
• Ownership and management are separate and at arm's length	• Insider board members
	• Ownership and management overlap significantly

Source: Lane et al. (2006, 149)

Regardless of the distinct models mentioned, Lorsch and MacIver (2004) and Clarke (1998) argued that the basic relationship among three groups needs to be realised (see Figure 1) and there are agency, managerial hegemony, resource dependence, institutional, network governance, stewardship and stakeholder theories explaining the development of corporate governance (Eisenhardt, 1989; Mace, 1971; Pfeffer and Salancik, 2003; Fiss, 2008; Jones et al., 2004; Davis et al., 1997; Freeman and Evan, 1990).

FIGURE 1: A MODEL OF CORPORATE GOVERNANCE



Source: Clarke (1998, 60)

Hilb (2006) proposed theories encompassing perspectives from the corporate governance systems across different countries are ranged not only from agency or shareholder and stakeholder theories, but also include shareholder/stakeholder and firm-interest theories. Another emergent view promoting the theory that guides boardroom practices that can be applicable to the corporate governance systems around the world is the global corporate governance theory introduced by Carver (2010).

2.2 ROLES OF BOARD OF DIRECTORS

In corresponding to the main theories on corporate governance, the roles of boards of directors can be explained in the following aspects.

The role of boards of directors, according to the agency theory, is to ensure that top management teams are working to their best interests in line with the shareholders' interests or the interests of the suppliers of capital. Jensen and Meckling (1976) proposed that the boards have responsibilities in controlling and monitoring existing company policies, proposing as well as adopting new policies and playing a crucial role in hiring, firing and compensating top managers. Davis (1991) suggested that the boards of directors, according to the agency theory, are also to monitor the decision-making performance of top management teams.

As for the managerial hegemony, Mace (1971) explained the role of the boards of directors as being passive and acting as 'an ornament on the Christmas tree'. There is no connection between the nominated and actual roles of the boards of directors. Management rules the company and the role of the board is to simply act as a rubber stamp or a watchdog for management actions and initiatives (Hilmer and Donaldson, 1996). An example of the managerial hegemony theory is the CEO's influence on his/her compensation on the board (Kalyta, 2008).

Referring to the boards of directors from the resource dependence theory, normally interlocking directorates' roles are mentioned (Kosnik, 1987). Interlocking directors are known to provide cooptation and control roles such as those that are found in Japanese corporations (Pfeffer and Salancik, 2003; Gerlach et al., 1992); they offer the coordination role (Maman, 1999), provide the control role such as that among family-owned companies (Mok et al., 1992), provide the legitimacy role (Mizruchi, 1996) and are a source of inter-organisational information concerning business practices that can influence other boards' and companies' behaviours (Davis, 1991; Haunschild and Beckman, 1998). Another example of the role of board members under the resource dependence theory is that of resource dependence (Johnson et al., 1996) such as appointing ex-politicians on boards of directors linking corporations with governments in order to provide necessary information and access to the corporations' focus (Hillman, 2005).

The 'institutional' perspective places a great 'emphasis on environmental norms and the weight of a company's history in explaining organisational norms and actions' (Judge and Zeithaml 1992, 769). The three pillars under the institutional theory are regulative, normative and cultural-cognitive (Scott, 2008). Therefore, the role of boards of directors is to comply with those constraints such as laws, regulations and accepted norms in the society. An example of the roles of boards of directors under this institutional aspect includes appointing board members who have political backgrounds providing a window-dressing role as regulations are changed (Helland and Sykuta, 2004).

Jones et al. (2004, 160) proposed that the network governance is defined as ‘a select, persistent and structured set of autonomous companies (as well as non-profit agencies) engaged in creating products or services based on implicit and open-ended contracts to adapt to environmental contingencies and to coordinate and safeguard exchanges’. Provan and Kenis (2007) commented that autonomous companies or organisations are working towards the common, collective goal. The roles of boards of directors under the network governance theory include the team member role whereby the defined roles of each board member are clearly defined and match board members’ abilities; they are accepted on the board in order to help accomplish specific company projects that are interconnected with other companies (Albert and Fetzer, 2005). Another role is the strategic role of board members for the different types of networking among corporations; e.g., Japanese Keiretsu, Korean Chaebol and Chinese business networks (Heracleous and Murray, 2001).

It is expected that under stewardship theory, the interests of top management teams and those of shareholders are aligned (Davis et al., 1997). Therefore, the role of boards of directors is to oversee the company’s policies and strategies developed by the company’s management team (Hilmer and Donaldson, 1996). In addition, the boards of directors have service and advisory roles (Sundaramurthy and Lewis, 2003).

In contrast to agency theory, the role of boards of directors according to the stakeholder theory is to ensure that the interests of the top management team are in line with those of the company’s stakeholders (Clarke, 2007). In other words, boards are accountable not only to shareholders, but also to all stakeholders related to the company. The suggested roles accordingly to the stakeholder perspective are the control, service and strategic roles (Huse and Rindova, 2001; Christensen and Westenholz, 2000).

Nonetheless, to date, the general standard accepted roles or functions of the board of directors in the literature are monitoring, resource dependence and service as well as advisory roles (Langevoot, 2001).

2.3 BOARD OF DIRECTORS AND CORPORATE PERFORMANCE

It is noted that a common goal of corporate governance theories is to find a link between the board’s characteristics and corporate performance (Kiel and Nicholson, 2003). The majority of previous studies on boards of directors and their impact on corporate performance have been based largely on the so-called ‘four usual suspects’ (Finkelstein and Mooney, 2003). The four usual suspects are the number of independent directors on the board, the ratio of inside and outside directors on the board, the CEO/Chairman duality and the director ownership in the companies. However, so far, there is no conclusive evidence on the association between the four usual suspects and firm performance (Abdullah, 2004; Bhagat and Black, 2002: Dalton et al., 1998; Dalton et al., 2003: Elsayed, 2007; Lam and Lee, 2008; Rhodes et al., 2000). Moreover, Finegold et al. (2007) reviewed the studies from 1989 to 2005 and reported that, in relation to corporate performance, studies based on corporate board structure and composition have produced mixed results.

2.4 INTRODUCTION OF THE BOARD TASKS

Outputs from the corporate board of directors are cognitive in nature and directly influenced by task performance (Forbes and Milliken, 1999). The control and service tasks include decisions concerning hiring or replacing senior managers, approval of initiatives from the management, providing expert opinions, and analysing strategic options (Forbes and Milliken, 1999). Other functions include making sure that the activities of companies and financial conditions are reported to shareholders accurately (Kim and Nofsinger, 2007).

2.5 CONTEXT OF THE STUDY: THAILAND

After the financial crisis in 1997, Thailand adopted corporate governance reforms following the same logic as *agency theory*. Corporate governance in Thailand, according to the Stock Exchange of Thailand, for a publicly-listed company is defined as “a set of structural and process relationships between the company’s management, its board and its shareholders to enhance its competitiveness towards business prosperity and *long-term shareholder value* by taking into consideration the interests of other stakeholders" (SET 2001, 4, italics added). In terms of the composition of the board, the Thai board of directors is comprised of executive directors involved in the company's management and non-executive directors such as independent and external directors (SET, 2009) who have no management function in the company and may or may not sit independently on the board (SEC, 2007a). The role of each director is jointly to think and be responsible for the operation of the company in order to ensure that the interests of the shareholders are best served (SEC, 2007b).

As for the corporate ownership structure in Thailand, Claessens et al. (2000) found that there is no separation between the ownership and the management of the companies. Thai corporations remain family-owned or highly concentrated prior- and post-crisis whereby many of the family-run corporations survived the crisis in 1997 (La Porta et al., 1998; Wiwattanakantang, 2001; Yabushita, 2006). As part of the Thai way of governing corporations, Peng et al. (2001) noted that board ties or interlocking directorships existed among the Thai multinationals even before the crisis. Also, it was confirmed that board ties still continued to exist after the financial crisis, especially among the Thai family businesses (Suehiro and Wailerdsak, 2004).

3 RESEARCH METHOD

3.1 QUANTITATIVE APPROACH

Up to the present, when conducting business research there are three approaches for resolving research issues; they are quantitative, qualitative and mixed methods approaches (Bryman and Bell, 2007). Regardless of the research problems, the focus of choosing an appropriate approach depends on the research questions (Creswell, 2003). Therefore, the current study employed the quantitative approach based on the fact that the research question sought to identify the functional roles of Thai directors that are related to directors' emphases on corporate performance criteria. Moreover, the current study was guided by theories developed in previous literature; therefore, the quantitative approach was considered most appropriate.

3.2 QUANTITATIVE RESEARCH DESIGN

The current study employed the survey method for two reasons. One reason was in order to measure the degree of directors' role involvement in corporate performance criteria as perceived by respondents in response to the research objectives (de Leeux et al., 2008). The second reason was that the survey method was used to identify trends in attitudes, opinions and behaviours of a large group of people (Creswell, 2008). The sample of population comprised directors in all types of corporations listed on the Stock Exchange of Thailand (SET). The random sampling scheme was used to ensure the representativeness of the population (Onwuegbuzie and Leech, 2007); therefore, a simple sampling technique was selected whereby all directors had an equal opportunity and independent chance of being chosen (Onwuegbuzie and Collins, 2007).

3.3 QUESTIONNAIRE CONSTRUCTION AND VALIDITY ISSUE

The two basic forms of data collection under the survey method are interviews and self-administrative questionnaires (de Leeux, 2008). The current study employed a questionnaire instrument with closed-ended questions.

Two common steps in questionnaire construction are first to identify the concepts involved in the research questions, followed by the formulation of specific questions for analysis (Bradburn et al., 2004). The key concepts in the current study were the tasks and roles of Thai directors as well as corporate performance criteria. The operational concepts and indicators related to the key ideas mentioned were found in the previous literature and some instrument items were borrowed from studies conducted by Wan and Ong (2005) on the board process, structure and performance among Singapore-listed firms and by McNulty and Pettigrew (1999) concerning the strategic involvement of being directors for the companies.

The Likert-type scale has been described as useful to measure attitudes (Cooksey, 2007), which in the current study were the attitudes of board members towards their company's performance criteria; a uni-polar dimension was used in the Likert-type scale design for measuring the different degree of the same attributes of concepts (Schwarz, 1999) put forward in the current study. The five-point Likert-type scale was used for measuring the attitudes of board members towards their company's performance criteria (ranging from 0 = Not relevant to 4 = Critical) and the six-point Likert type scale was used for measuring the attitudes of board members towards their involvement in defined roles and the importance directors placed on each task (ranging from 0 = Not important to 5 = Extremely important).

In terms of the demographic variables, participants reported on their gender (male or female), age (ranging from below 30 to above 60), their educational background, their highest level of education, the location of the highest degree obtained, the company's industrial background, the best described current position of the board member, completed years of employment and experiences as a director. The participants also reported on corporate performance criteria used by their companies. Ong and Lee (2000) commented that the corporate performance criteria should not be limited to the financial or accounting-based aspect only; therefore the current study loosely included the accounting-based (i.e., return on assets and return on investment), market-based (i.e. market-to-book ratio) and other non-financial corporate performance criteria (i.e. growth rate in domestic or international market or research and development) in the questionnaire. Apart from identifying the roles of board members (i.e. strategic, monitoring and service as well as advisory roles) that are related to corporate performance criteria, the current study also measured board members' attitudes towards their importance placed on various tasks such as working with the CEO in developing the strategic plan (as part of the strategic role), evaluating performance of the top executives (as part of the monitoring role) and providing advice as well as counsel to top managers (as part of the service and advisory roles). Other variables such as the chairmanship and the percentage of the director ownership in the company from an input-output model were also added.

Before the questionnaires were distributed, a number of discipline area experts with both academic and practitioner backgrounds were recruited in order to provide feedback to or validate the developed instrument (Campanelli, 2008). Apart from completing the questionnaires, experts were required to provide suggestions on the content and the format of the instrument. Amendments regarding the choice of words and the labelling of the scales were made accordingly before the distribution to the research participants. Since the current study focussed on individual directors of companies listed on the Stock Exchange of Thailand, the questionnaires were mailed to the Chairmen of the 400 publicly-listed companies on the Stock Exchange of Thailand, as the Chairmen were considered to be the senior officers of the board (Garratt, 1999), in order for the Chairmen to complete one questionnaire and to further distribute to the respective companies' directors accordingly.

4 RESULTS AND ANALYSIS

4.1 SURVEY DATA AND ANALYSIS

In Thailand, 195 directors completed the questionnaires. Out of the 195 directors, 160 or 82.1% were males. In this regard, it can be inferred that female directors are still considered to be a minority at the top-tier level of corporations (Wailerdsak, 2009). When considering the ages of board members, they were mainly in their 50s or above (77.5%). There were only 44 or 20.5% directors whose age was below 50. Only 4 or 1.2% directors were 30 years old or below. In terms of directors' educational background, the data showed that the number of directors holding masters' and doctoral degrees in Thailand is 130 (approximately 67%) out of 194 directors. The result suggests that Thai boards place their importance on directors who have high degrees.

Directors' interests in academic subjects are found to be those traditional business-related topics such as management, economics, finance and accounting. Also, the data demonstrated interest in areas related specifically to the business of the companies such as medical science for health care or communication arts for media and publishing companies. Other non-business related disciplines found among directors in Thailand included military education, public policy and social science. However, the study of law can be considered as useful formally such as in law firms or informally such as a support service in companies. A law background was identified as common for members of Thai boards. Furthermore, it was found that 27.7% of Thai directors obtained their highest degree from abroad. Therefore, it can be inferred that graduating from abroad is recognised as important for Thai corporate boards.

When looking at the number of members on the boards in Thailand, the size is quite even. The most frequent upper limit is 15 directors and the most dominant board numbers lie between 9 and 15. The highest number of Thai board members from data collected is 17. The number of research participants who are Chairmen was 40. In this regard, Chairmen who responded to the questionnaires can be the Chair of the corporate board, the executive committee or the audit committee. When considering the structure and composition of Thai boards, the current study found that they are comprised of executive, non-executive and other types of directors. The executive directors can be Chief Executive Officers (CEOs), Presidents, Managing Directors, Chief Finance Officers (CFOs) or other types of executive directors such as department managers or editor-in-chief for the media and the publishing companies. The other types of director or so-called a non-executive director are those independent directors who are from audit committees or are consultants for the companies. In this regard, it should be noted that the position called 'Director' in the data collected can be a non-executive or executive director. Concerning the director ownership in the companies, the most dominant situation is that, largely, board members in Thailand have no shares in their companies. The results derive from the compliance of the rule for the publicly listed companies put forth by the Stock Exchange of Thailand indicating that independent directors cannot hold shares of more than 1% of total voting rights of the company and the company's related entities such as a parent or subsidiary company (SET, 2009).

4.2 REPORT ON FINDINGS

Having reported on the demographic data and other directors' attributes in the pervious section, the following section is used to report findings from data analysis.

The first finding results from the mean scores ($\bar{X}$) of the five-point and six-point Likert rating scale types for measuring the perceptions of board members towards three aspects. The first aspect is the directors' perception towards the importance placed on corporate performance criteria for their companies. The second aspect is directors' perception of their tasks and the third aspect is directors' perception of their involvement in defined functional roles: strategic, monitoring, service as well as advisory roles. The results of the mean scores with the maximum score being four, the order of the priorities of corporate performance criteria as perceived by directors are as shown in Table 2.

TABLE 2: THE PRIORITIES OF THAI CORPORATE PERFORMANCE CRITERIA

Corporate Performance Criteria	Mean[a] ($\bar{X}$)
Net Profit	3.72
Operating Performance	3.71
Net Income	3.66
ROE	3.59
ROI	3.55
Sales	3.52
Earnings Per Share	3.51
ROA	3.41
ROS	3.37
Growth Rate in Domestic Market	3.36

TABLE 2: THE PRIORITIES OF CORPORATE THAI PERFORMANCE CRITERIA

Corporate Performance Criteria	Mean[a] ($\bar{X}$)
Market Share	3.21
Progress in Research and Development	3.19
Market to Book Value Ratio	3.09
Position in relation to Industry Avg Performance	3.04
Increase in Financial Capital	3.01
Employee Turnover	2.98
Long-term Debt	2.87
Lending Growth	2.81
Growth Rate in International Market	2.65

The net profit and the operating performance are ranked highest and second to highest ($\bar{X}$ = 3.72 and $\bar{X}$ = 3.71), respectively from the directors' viewpoints in Thailand. The lowest criterion is the growth rate in the international market ($\bar{X}$ = 2.65).

Turning to the viewpoints of directors towards the importance they place on their tasks, directors on Thai company boards showed their highest interest in 'debate the strategic plan' task for the companies ($\bar{X}$ = 4.55) as shown in Table 3 and the lowest interest is in the 'evaluation of other board members task ($\bar{X}$ = 3.71) as shown in Table 4.

TABLE 3: THE TOP-FIVE PRIORITIES OF THAI DIRECTORS' TASKS

Board Member Tasks	Mean[a] ($\bar{X}$)
Debate strategic plan	**4.55**
Evaluate annually the company's strategic direction	**4.54**
Conform to the regulations	**4.54**
Assist in formulating the company vision and mission	**4.52**
Assist in formulating the company policy	**4.49**

[a]Maximum score is five.

Apart from the 'debating the strategic plan' task, Table 3 showed the remaining four tasks listed on the top-five priorities list on which directors on the company boards in Thailand focussed. The tasks included 'evaluate annually the company's strategic direction', 'conform to the regulations', 'assist in formulating the company vision and mission' and 'assist in formulating the company policy' tasks.

Table 4 showed the five tasks that were listed as least important among the other tasks; they are 'engage in planning for top manager (besides CEO) succession', 'provide relevant contacts to the company', 'help the management team prepare the capital investment proposals', 'serve as a link to government agencies' and 'evaluate other board members' tasks.

TABLE 4: THE BOTTOM-FIVE PRIORITIES OF DIRECTORS' TASKS IN THAILAND

Board Member Tasks	Mean[a] ($\bar{X}$)
Engage in planning for top manager (besides CEO) succession	**3.52**
Provide relevant contacts to the company	**3.34**
Help the management team prepare the capital investment proposals	**3.31**
Serve as a link to government agencies	**3.21**
Evaluate other board members	**3.19**

[a]Maximum score is five.

As for directors' involvement in defined functional roles, the strategic role is ranked highest ($\bar{X}$ = 4.65) followed by the monitoring role ($\bar{X}$ = 4.45) and the service, including advisory roles ($\bar{X}$ = 2.46).

Having explored the perceived order of priorities of importance on tasks and corporate performance criteria and also directors' involvement in specific roles for companies, correlation and multiple regression analyses were conducted in order to help understand better the relationships between the pairs of different concepts. The relationships included those between the type and the tasks of directors, directors' tasks and attributes, directors' attributes and corporate performance criteria, directors' tasks and roles, and directors' roles and company performance criteria. The results showed that the type of directors is significantly related to 'age', business-related educational background', the level of education' and 'ownership of director in the company'. The Pearson Chi-square Sig. equal to 0.000 illustrated that, out of 181 Thai directors, the most dominant group of outside directors is at the age of 60 or above (22.1%) followed by the 50-59 age group (14.4%). However, the least age group of directors is of 40 or below (7.7%). Furthermore, the age distribution of inside directors differs substantially from that of the outside directors where the lowest proportion of the dominant age group of inside directors is between 50 and 59 years old (19.9%) and the least dominant age group is over 60 year old of age (7.7%). As for the interlocking directors' age group, the pattern resembled the results of the outside directors. However, the number of respondents was less; therefore, the percentage was less (1.1% for least dominant group that is around 40 years old or lower and 6.6% for the most dominant age group at the age of 60 or above).

When looking at directors' educational background, the Thai pattern is similar between that of the outside and inside directors. The majority of outside directors (74.7%) and inside directors (89.5%) out of 180 directors have a business-related or functional background in the industry where the companies operate. Although the number of interlocking directors responding to the questionnaire was less, the result of the data analysis also showed that interlocking directors did possess the business-related or functional education background to the companies they sit on and with which they are interlocked. However, among the three types of directors, inside directors possessed non-business related educational background (10.5%) less than the outside directors (25.3%). Also, the proportion of interlocking directors who possessed the non-business related educational background was 4.3% or approximately 8 directors.

In terms of the level of education, 34 outside directors (18.9%) of the 180 Thai directors obtained their master's degrees other than in Business Administration followed by the degree at the bachelor level (21 or 11.7%) and then at the doctor of philosophy level (16 or 8.9%). As for the inside directors, the largest group (28 or 15.6%) obtained their bachelor level and 27 directors (or 15%) obtained their master's degree in Business Administration. The master's degree in fields other than in Business Administration (15 or 8.2%) and the doctor of philosophy degree (6 or 3.3%) were obtained less by inside directors. The pattern of educational level distribution of interlocking directors is slightly similar to that of the outside directors whereby 6 interlocking directors (3.3%) obtained their master's degree in fields other than in Business Administration and 6 (or 3.3%) more interlocking directors obtained their doctoral degree. The master's degree in Business Administration was obtained less by the interlocking directors (4 or 2.2%).

Concerning the director's ownership in the company, the majority of outside directors in Thailand (51 or 30.9%) out of 165 directors have no ownership in their companies whereas inside directors in Thailand (44 or 31.9%) have ownership in their companies. The pattern of ownership in the company by interlocking directors is similar to that of outside directors whereby 13 or 7.9% interlocking directors have no ownership in their companies. However, because the sample size is rather small, the number shown may be biased.

A one-way analysis of variance or one-way ANOVA was used to find which directors' tasks are associated with particular type of director. The results of the Levene's test and the Kruskal-Wallis test were also reported. Out of the thirty-five tasks in total, seven tasks were statistically significant related to the type of director regardless of outside, inside or interlocking directors (as shown in Table 5).

TABLE 5: RELATIONSHIP BETWEEN TYPE OF DIRECTOR AND PERCEIVED IMPORTANCE OF DIRECTOR TASKS

Tasks	Levene's test Sig.	ANOVA Test F Sig.	Kruskal-Wallis Test Sig.	Conclusion
Work well with the CEO in developing the strategic plan	0.002	0.004	0.003	Significant
Design company strategies	0.490	0.044	-	Significant
Help the management team prepare the capital investment proposals	0.003	0.001	0.003	Significant
Engage in planning for CEO succession	0.000	0.003	0.014	Significant
Provide opinion independently from other board members	0.692	0.026	-	Significant
Be influential/Enhance the status of the company in the community/society	0.880	0.041	-	Significant
Conform to the regulations	0.000	0.002	0.009	Significant

Tasks that are associated significantly with the type of directors are 'work well with the CEO in developing the strategic plan', 'design company strategies', 'help the management team prepare the capital investment proposals', 'engage in planning for CEO succession', 'provide opinion independently from other board members', 'be influential/enhance the status of the company in the community/society' and 'conform to the regulations'.

Whether the director is an outside, inside or interlocking director, in analysing the association between directors' attributes and directors' tasks, two statistical methods were employed. Those methods are the one-way ANOVA and Spearman's rho correlation. The one-way ANOVA was used with variables such as gender, the business-related educational background, the location of the highest education obtained and the chairmanship attributes. Spearman's rho was employed with variables such as age, the level of education, the number of the board members, the directors' ownership in the company, the years being a director as well as working in the industry. The results showed that out of all directors attributes mentioned, the number of board members and the level of education are the dominant attributes in Thailand. It is hard to find any task not associated with the two attributes.

The lists of the top-five tasks that are associated with the level of education and the number of board members are showed in Table 6 and Table 7.

TABLE 6: A RESULT OF CORRELATION ANALYSIS OF THE LEVEL OF EDUCATION AND DIRECTOR TASKS

Analysis	Tasks		Level of Education
Spearman's rho	Evaluate corporate performance in relation to industry benchmarks	Correl. Coeffi. Sig. (2-tailed)	.223** .002
	Evaluate the board performance as a whole unit	Correl. Coeffi. Sig. (2-tailed)	.220** .002
	Serve as a link to government agencies	Correl. Coeffi. Sig. (2-tailed)	.245** .001
	Balance interests of stakeholders	Correl. Coeffi. Sig. (2-tailed)	.241** .001
	Be influential/Enhance the status of the company in the community or society	Correl. Coeffi. Sig. (2-tailed)	.239** .001

*Correlation is significant at the 0.05 level (2-tailed)
**Correlation is significant at the 0.01 level (2-tailed)

TABLE 7: A RESULT OF CORRELATION ANALYSIS OF THE NUMBER OF BOARD MEMBERS AND DIRECTOR TASKS

Analysis	Tasks		No. of Board Members
Spearman's rho	Provide relevant contacts to the company	Correl. Coeffi. Sig. (2-tailed)	.412** .000
	Promote goodwill by supporting stakeholders	Correl. Coeffi. Sig. (2-tailed)	.360** .000
	Ensure communications with stakeholders/public are effective	Correl. Coeffi. Sig. (2-tailed)	.279** .000
	Balance interests of stakeholders	Correl. Coeffi. Sig. (2-tailed)	.258** .000
	Be influential/Enhance the status of the company in the community or society	Correl. Coeffi. Sig. (2-tailed)	.255** .000
	Conform to the regulations	Correl. Coeffi. Sig. (2-tailed)	-

*Correlation is significant at the 0.05 level (2-tailed)
**Correlation is significant at the 0.01 level (2-tailed)

In this regard, the results on the relationship between the number of board members and directors' tasks in Thailand indicated that the more people on the board, the more likely it is that almost every task is seen as important. The strongest task is 'provide relevant contacts to the company' (Correlation Coefficient = 0.412 at the 0.01 Sig. level two). The interpretation regarding the result on the associated relationship between the level of education and directors task is similar to that between the number of board members and directors' tasks.

The methods used to explore the relationship between directors' attributes and corporate performance criteria are similar to those used to find the relationship between directors' attributes and directors' tasks. The results showed that the gender variable has no significant relationship with any particular corporate performance criteria and the reason may be due to the fact that the number of female board members is low; therefore, the concept may require further study. Concerning the age of the director, the results illustrated that the older the board member, the more importance is placed on certain company performance criteria such as 'lending growth' (Correlation Coefficient = 0.146 at the 0.05 Sig. level two-tailed) and the 'return on assets' (Correlation Coefficient = 0167 at the 0.05 Sig. level two-tailed). The educational background that is traditionally or functionally related specifically to the company business has a positive influence on criteria such as the 'market-to-book value' (ANOVA Sig. = 0.007) and the 'position of the companies in relation to the industry average benchmark' (ANOVA Sig. = 0.027). The number of board members, however, has a negative relationship with 'sales' (Correlation Coefficient = -0.160 at the 0.05 Sig. level two-tailed) and has a positive relationship with 'employee turnover' (Correlation Coefficient = 0.155 at the 0.05 Sig. level two tailed). The chairmanship of the company board tends not to be related to any corporate performance criteria in particular. Nevertheless, the result may be due to incidental characteristics of the sample. In terms of the level of education, the result yielded quite a number relationship ideas to the corporate performance criteria such as the 'return on assets' (Correlation Coefficient = 0.170 at the 0.05 Sig. level two-tailed), the 'long-term debt' (Correlation Coefficient = 0.266 at the 0.01 Sig. level two-tailed), and the 'progress in research and development or R&D' (Correlation Coefficient = 0.243 at the 0.01 Sig. level two-tailed). The positive relationship between the level of education and the corporate performance criteria meant that when the level of education increases and the qualification becomes higher, directors may have a stronger interest in a particular criterion such as those mentioned earlier.

When considering finding the relationship between directors' tasks and their defined functional roles, multiple regression analysis was performed; the results showed the strategic role comprised of the 'debate on the company's strategic plan', the 'evaluation annually of the company's strategic direction', the 'assistance of the board members in formulating the company vision and mission', the 'evaluation of the top executives' performance' and the 'respond to the top management team's request for board assistance' tasks. The model has an R square of 0.381 and adjusted R Square of 0.361, which means that the model accounted for 36% of the strategic role in Thailand as predicted by the five aforementioned tasks. In this regard, the standardised regression coefficients showed that the ‘evaluation annually of the company’s strategic direction is the most powerful predictor in helping predict the strategic role of directors in Thailand (Beta = 0.240 and Coefficient Sig. = 0.001). Pertaining to the monitoring role, the model that has an R square equal to 0.453 and the adjusted R square of 0.432 produced six tasks of directors; viz., ‘providing advice and counsel to top managers’, the ‘debate on the strategic plan’, ‘ensuring of communications with stakeholders/public being effective’, the ‘evaluation of performance of top executives’, ‘monitoring the environment trends that are all relevant to the company’s success and survival’ and ‘critique the capital investment proposal of the top management team’. Most tasks are roughly equal in their importance for the monitoring role as shown by the Beta values. The results of the service and advisory roles showed five tasks; they are ‘providing advice and counsel to top managers’, ‘influence the CEO selection’, ‘debate on the company’s strategic plan’, ‘helping the management team prepare the capital investment proposals’ and ‘promoting goodwill by supporting stakeholders’. In this regard, the model accounted for 39% of variation and the most powerful task in helping predict the service and advisory roles is ‘providing advice and counsel to top managers’ (Beta = 0.428 and Coefficient Sig. = 0.000).

The multiple regression analysis was also performed to find the relationship between directors’ defined roles and corporate performance criteria. The result showed that the majority of the corporate performance criteria are sensitive to the monitoring role of Thai directors; criteria are such as ‘return on assets’, ‘return on equity’, ‘return on sales’, ‘return on investment’, ‘net profit’, ‘long-term debt’ and ‘increase in financial capital’. The conclusion from the analysis suggests that directors in Thailand specialise in the monitoring aspect. When the result on the relationship between directors’ roles and corporate performance indicated that the majority of company performance criteria are only sensitive to the monitoring role of directors, correlation analysis was conducted on the relationship between directors’ tasks and corporate performance criteria in order to test whether the result on the relationship between two concepts would be different. Spearman’s rho correlation analysis revealed that nearly all tasks of directors are associated with corporate performance criteria. The implication can be that directors in Thailand possess a balanced view of the importance placed on company performance criteria. Therefore, exploratory factor analyses, by means of principal component analyses, on directors’ tasks and company performance criteria were performed separately and then the Pearson correlation analysis was tested upon the results of the exploratory factor analyses in order to examine their relationship.

Directors’ tasks could be further subdivided into six groups of related tasks. The result of the factor loadings of director tasks for Thailand is as shown in Tables 8A and 8B.

TABLE 8A: FACTOR LOADINGS FOR TASKS OF THAI DIRECTORS

Rotated Component Matrix[a,b]						
Corporate Performance Criteria	Component					
	1	2	3	4	5	6
Review corporate performance against strategic plan	.786	.008	.120	.095	.137	.084
Critique the capital investment proposals of the top management team	**.754**	**.031**	**.129**	**.127**	**.020**	**.097**
Compare budget allocation with corporate performance	.707	-.113	.142	.037	.064	.199
Evaluate performance of top executives	**.706**	**.252**	**.088**	**.073**	**.015**	**-.275**
Use an internal mechanism to evaluate top management performance	.689	.183	-.002	.162	.144	-.212
Review financial information to identify important trends and issues	**.679**	**.071**	**-.073**	**.082**	**.265**	**.078**
Monitor top management in decision-making	.666	.064	.030	.225	.118	.153
Oversee the plans for acquiring more resources and capital for the company	**.652**	**.028**	**.193**	**.142**	**.191**	**.323**

[a]Extraction Method: Principal Component Analysis.
[b]Rotation Method: Varimax with Kaiser Normalization.

The first group of related tasks or the 'company evaluation and monitoring' component, comprises tasks that are related to the control, evaluation and the compliance functions to the institution such as 'review corporate performance against strategic plan', 'evaluate performance of top executives', and 'conform to the regulations' (Table 8A). The second component or the 'internal evaluation' factor is composed of items such as 'engage in planning for CEO succession', 'evaluate other board members' and 'evaluate the board performance as a whole unit' (Table 8B).

Table 8B: Factor Loadings for Tasks of Directors in Thailand (Continued)

Rotated Component Matrix[a,b]						
Corporate Performance Criteria	**Component**					
	1	**2**	**3**	**4**	**5**	**6**
Monitor environment trends that are all relevant to the company's success and survival	.620	.009	.282	.171	.152	.013
Evaluate annually the company's strategic direction	**.617**	**.109**	**.237**	**.050**	**.014**	**.163**
Evaluate corporate performance in relation to industry benchmarks	.615	.179	.012	.215	.243	.076
Conform to the regulations	**.581**	**.122**	**-.013**	**.087**	**.296**	**-.170**
Debate strategic plan	.528	.051	.514	.045	.149	-.253
Monitor implemented company strategies	**.486**	**.159**	**.367**	**-.028**	**.278**	**-.304**
Influence the selection of the CEO	.008	.848	.143	.047	.057	.072
Engage in planning for CEO succession	**.128**	**.846**	**.118**	**.006**	**.145**	**-.096**
Engage in planning for top managers (besides CEO) succession	.122	.819	.123	.089	.037	.173
Evaluate the board performance as a whole unit	**.097**	**.806**	**.272**	**.086**	**.069**	**.025**
Evaluate other board members	.047	.749	.191	.271	-.111	.210
Respond to the top management team's request for board assistance	**.224**	**.513**	**.089**	**.481**	**.086**	**.089**
Assist in formulating the company policy	.134	.163	.827	.022	.163	.039
Assist in formulating the company vision and mission	**.300**	**.238**	**.700**	**.119**	**.051**	**-.242**
Design company strategies	.114	.351	.696	.058	.074	.286
Work with the CEO in developing the strategic plan	**.053**	**.301**	**.633**	**.071**	**-.131**	**.297**
Provide relevant contacts to the company	.081	.156	.102	.746	.203	.212
Serve as a link to government agencies	**-.005**	**.353**	**.088**	**.724**	**-.035**	**.197**
Provide alternative viewpoints	.367	-.051	.064	.706	.124	-.128
Provide opinions independently from other board members	**.341**	**.008**	**-.133**	**.590**	**.309**	**.040**
Provide advice and counsel to top managers	.503	.134	.123	.588	.028	-.206
Balance interests of stakeholders	**.387**	**.022**	**.097**	**.168**	**.794**	**-.044**
Ensure communications with stakeholders/public are effective	.402	-.011	.049	.131	.784	.026
Promote Goodwill by supporting stakeholders	**.007**	**.434**	**.082**	**.069**	**.684**	**.226**
Be influential/Enhance the status of the company in the community or society	.437	-.052	.156	.293	.580	.022
Help the management team prepare the capital investment proposals	**.096**	**.349**	**.316**	**.145**	**.023**	**.715**
Acquire information showing the progress of corporate performance	.332	.266	-.100	.116	.198	.589

[a] Extraction Method: Principal Component Analysis.
[b] Rotation Method: Varimax with Kaiser Normalization.

Pertaining to the third component or a so-called 'involvement in strategic development' factor, it includes items such as 'assist in formulating the company policy', 'design company strategies', and 'work with the CEO in developing the strategic plan' (Table 8B). The fourth, the fifth, and the sixth components are named respectively 'independent input', 'stakeholders' interests', and 'board management interaction' factors. The 'independent input' component includes items such as 'provide relevant contacts to the company' and 'provide alternative viewpoints' (Table 8B). The fifth and the sixth components include items such as 'balance interests of stakeholders' (Table 8B) and 'help the management team prepare the capital investment proposals' (Table 8B).

In the case of corporate performance criteria, all criteria could be further grouped into four separate components. The first factor or 'the long-term capital performance' comprises items such as 'long-term debt', 'lending growth', and 'growth rate in international market'. 'ROE', 'ROA' and 'ROI' are items that are part of the second component or 'accounting-based measures'. The third or 'short-term and competitiveness' factor and the fourth or 'sales-oriented' factor are composed of items such as 'net profit' and 'sales', respectively.

When Pearson correlation was conducted on the task and the corporate performance criteria factors, the result is as shown in Table 9. The results showed that the importance placed on 'long-term capital performance (Pearson correlation = 0.464 at the Sig. level of 0.01), 'short-term and competitiveness' (Pearson correlation = 0.409 at the Sig. level of 0.01), and to a lesser extent on 'accounting-based measures' (Pearson correlation = 0.298 at the Sig. level of 0.01) were significantly and moderately related to the importance placed on 'company evaluation and monitoring' task factor.

TABLE 9: PEARSON CORRELATION OF THAI DIRECTOR TASK FACTORS AND CORPORATE PERFORMANCE CRITERIA FACTORS

Associated Corporate Performance Factors -- Associated Task Factors		Long-term capital performance	Accounting-based	Short-term and competitiveness	Sales-oriented
Company evaluation and monitoring factor	Pearson correlation Sig. (2-tailed)	**0.464**** **0.000**	**0.298**** **0.000**	**0.409**** **0.000**	0.054 0.493
Internal evaluation factor	Pearson correlation Sig. (2-tailed)	0.042 0.594	-0.036 0.646	0.017 0.826	-0.130 0.100
Involvement in strategic development factor	Pearson correlation Sig. (2-tailed)	-0.097 0.220	0.030 0.706	0.146 0.064	0.035 0.661
Independent input factor	Pearson correlation Sig. (2-tailed)	**0.212**** **0.007**	0.079 0.315	-0.092 0.245	0.077 0.333
Stakeholders' interests	Pearson correlation Sig. (2-tailed)	**0.266**** **0.001**	0.032 0.687	**0.221**** **0.005**	**-0.160*** **0.043**
Board management interaction	Pearson correlation Sig. (2-tailed)	0.079 0.315	**-0.206**** **0.009**	-0.052 0.509	**0.157*** **0.046**

****** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

The 'internal evaluation' and 'involvement in strategic development' task factors were not related to any corporate performance task component. However, there is a significant, but relatively weak relationship between the importance placed on the 'long-term capital performance' component and the 'independent input' task factor (Pearson correlation = 0.212 at the Sig. level of 0.01). Moreover, there is a small, but significant and inverse relationship between the importance placed on the 'sale-oriented' company performance factor and the 'stakeholders' interests' (Pearson correlation = -0.160 at the Sig. level of 0.01). The 'board management interaction' task factor also has an inverse relationship that appears to be significant with the 'accounting-based measures' company performance factor (Pearson correlation = -0.206 at the Sig. level of 0.01), but has a significantly positive relationship with the 'sales-oriented' task factor (Pearson correlation = 0.157 at the Sig. level of 0.05).

When considering responses that were initiated by research participants regarding the corporate performance criteria and tasks of directors in Thailand, 'customer satisfaction', 'corporate social responsibility', criteria specifically to the company or to the industry such as the 'aging of the debtors' or the 'quality of the television programme' were suggested as being part of the criteria measuring the performance of the company in Thailand. As for the additional tasks of directors, items such as 'true independence of board members' and 'performing duty as directors with loyalty' were recommended.

5 CONCLUSIONS

5.1 SUMMARY OF THE CURRENT RESEARCH INVESTIGATION

The research question for the current study concerns the discovery of two aspects: the identification of the importance placed corporate performance criteria, including tasks and the degree of involvement of roles by directors in Thailand; and the relationship between each element. Results indicated that Thai corporate directors focussed on the long-term performance of companies and employed a monitoring role towards their company performance. Pertaining to the tasks of directors, sets of tasks contributed to sets of corporate performance criteria such as the ‘company evaluation and monitoring’ task factor related to ‘the long-term capital performance’, ‘accounting-based measures’ and ‘short-term and competitiveness’ performance factors.

5.2 IMPLICATIONS FOR ACADEMICS AND PRACTICTIONERS

Instead of using the defined functional roles for studying the performance of the company, the current study suggests that director tasks need to be studied alongside corporate performance measures as their uncovered relationships provide a better understanding and results. By using both sets of concepts in determining the relationship linking directors’ roles and company performance, performance criteria as perceived by directors can be tied with other criteria to help predict the companies’ positions. In this regard, shareholders can use the available data and analysis to assess and strengthen the performance of the board and, by considering a scope of directors’ tasks and responsibilities, a board can improve its performance in relation to a set of criteria that is focussed timely and helps advance the companies. Concerning the implication for the policy makers, it is necessary to understand and update the current practices of directors of companies so that policy-makers can impose regulations in time to support or to change corporate directions in corresponding to local and global challenges.

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THE EFFECT OF ENTRENCHMENT AND ALIGNMENT TO EARNINGS MANAGEMENT

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ABSTRACT

The objective of this research was to investigate whether controlling shareholder doing earnings management. This issue was most important to be revealed because phenomena of ownership of public companies in Indonesia were being concentrated and there were low minority shareholders protections. Earnings management was also less detected by public. Therefore, controlling shareholder was being motivates to do earnings management.

This research also investigated whether increasing control rights would increase earnings management. The issue related to the entrenchment effect. This research was also to investigate whether increasing of cash flow rights would reduce earnings management. The issue related to alignment effect.

This research used the data of ultimate ownership and financial statement of manufacturing companies listed on Indonesia Stock Exchange during the period of 2001 to 2007. There were 786 year companies during 7 years.

This study documented that the increasing of control rights motivated the controlling shareholder to do earnings management. Controlling shareholders also conducted earnings management opportunistically. The conclusion stated that the increasing of control rights would cause the entrenchment effect. The increasing of cash flow rights motivated controlling shareholder to reduce earnings management. To give signal of good company's financial condition, controlling shareholder do earnings management efficiently. The increasing of cash flow right leverage motivated the controlling shareholder to do earnings management. This research also documented that controlling shareholder conducted earnings management opportunistically.

Keywords: control rights, cash flow rights, cash flow right leverage, and earnings management

1. INTRODUCTION

The objective of this research was to investigate whether controlling shareholder doing earnings management. This issue was most important to be revealed because phenomena of ownership of public companies in Indonesia were being concentrated (Claessens *et al*., 2000; Febrianto, 2005; and Siregar, 2006) and there were low minority shareholders protections (Johnson *et al*., 2000; and Leuz *et al*., 2003). Earnings management was also less detected by public (Sloan, 1996). Therefore, controlling shareholder was being motivates to do earnings management.

According to Claessens *et al*. (2000), most public company in Indonesia were owned by single controlling stockholder. Controlling shareholder was also as the biggest ultimate ownership. Febrianto (2005) found that 92% public companies were owned ultimately. This finding was consistence with the result of Siregar's (2006) research. He documented 99, 09% public companies in Indonesia owned ultimately at 10% cut of point of control rights. This concentration would generate the separation between cash flow rights and control rights the controlling shareholder.

The increasing control rights would lead to entrenchment effect whereas increasing cash flow rights would generate alignment effect. According to Morck *et al*. (1988), entrenchment was managerial behaviour of controlling companies who was opposed to shareholders. According to Ding *et al*. (2007), entrenchment of controlling shareholder was as the same as entrenchment of manager.

The increasing control, which was compared to the ownership of share entrenched the controlling shareholder to do expropriation to get private benefit. Private benefit was benefit being obtained by controlling shareholder in the form of finance and non finance through domination of control being owned. This benefit was referred as private benefit because the other shareholders do not get the same benefit (Gilson and Gordon, 2003). In the case of Robert Tantular as controlling shareholder of PT. Bank of Century Tbk is the fact of expropriation in Indonesia.

Entrenchment effect that would suffer minority shareholders emerging from increasing control rights lead to reduction value of the firm and dividend (Claessens *et al*., 1999; La Porta *et al*., 2002; Claessens *et al*., 2002; Lins, 2003; Faccio *et al*., 2001; and Siregar, 2006). Expropriation was happened because controlling shareholder get lower finance incentive compared with his/her control to the company. This situation indicated to the agent problem between minority shareholders and controlling shareholder. Controlling shareholder made decisions only for her/his benefit and not for the minority shareholders or the company benefits.

Furthermore, alignment effect represented the reverse of entrenchment effect. Alignment effect emerged because the percentage of share ownership by controlling shareholder was increase. This was reflected on cash flow rights. Alignment was the interests the controlling shareholder effort of lining up behaviours and minority shareholders. Increasing of cash flow rights leads to the controlling shareholder to align his interests to the minority shareholder or company interests. Controlling shareholder will bear the biggest expense when he/she transfer the company cash (assets) into his/her own pocket because he/she owned the biggest share percentage. This situation reduced agency problem, when on the other side cash flow rights is increase.

Based on entrenchment and alignment effects, this research investigated whether increasing control rights would increase earnings management. The issue related to the entrenchment effect. This research was also to investigate whether increasing of cash flow rights would reduce earnings management. The issue related to alignment effect.

The research also analyzed whether controlling shareholder doing earnings management opportunistically when his/her control rights was increase. The analysis was important to be done to support the argument that increasing of control rights could generate the entrenchment effect that would lead to controlling shareholder behave opportunistically. This research also analyzed whether controlling shareholder doing earnings management efficiently when the cash flow right was increase. Increasing of cash flow rights generates the alignment effect.

2. THEORY AND HYPOTHESIS DEVELOPMENT

2. 1. Agency Theory

According to Scott (2006), agency theory was the branch of the game theory. Agency theory explained about the design contract that affected the agent to act the best for the principal interests. The contract was hoped to reduce the difference between agent and principal interests. The difference of interests was happened because of the difference of goal and attitude to risk preferences between principals and agent (Eisenhardt, 1989). According to Eisenhardt (1989), agency theory developed into two research belief which was positive belief stream and principal-agent belief.

Positive belief focussed on principal-agent which was the principal and agent would have conflicted goal. Jensen and Meckling study’s (1976) were on the positive belief. Jensen and Meckling (1976) defined agent relation as a contract between someone or more (principals) and others (agent) to conduct some work for of principle interests including authority delegation to agent to make decisions. If both parties in this relation maximize the utilities, so there was a strong reason that agent do not always act for the best principal interests. This situation generates the agency conflict between principals and agent. In this case, principals tried to limit the difference interests through the best incentive for agent and monitoring activities to limit the activities diverging from agent.

Principals also gave the fee to agent to expend the firm’s resources (bonding costs) so that agent did not conduct the activities suffering principals. Costs of monitoring and bonding caused agency cost. Agency cost also arose when there was a difference of decision between agent and principals in the effort to maximize the principal wealth. This cost also called as residual loss. Jensen and Meckling (1976) define agency cost as expenditures of monitoring, bonding, and residual loss.

Jensen's study (1986) is one of empirical research in positive stream. Jensen (1986) showed conflict between principals and agent when there was cash payment to all shareholders. Cash payment would reduce the resources which are under controlled of manager.

Second belief in agency theory is principal-agent belief. The belief focused at common theory about relation between agent and principals. The theory can explain the relation between employers and workers, lawyers and clients, and also suppliers and customer. The belief of principal-agent has broader range than positive belief. Positive belief only focused on relation between principal and agent. Shleifer and Vishny's study (1997) is one of the beliefs of principal-agent. According to Shleifer and Vishny (1997), the essence of agency problem is the separation between ownership and control. On dispersed ownership, the company control is on manager.

Shleifer and Vishny's study (1997) became basis theory to explain and predict the agency problem on the phenomenon of concentrated ownership. On concentrated ownership, conflict is occurred between controlling shareholder and minority shareholders. This conflict is caused by wide deviation between control rights and cash flow rights (Claessens and Fan, 2002).

2. 2. Explanation of Agency Theory to Earnings Management

Agency theory is often used on earnings management researches (Chen and Cheng, 2002). In the context of concentrated ownership, manager managed earnings to fulfil willingness and the goal of controlling shareholder. Manager is a professional individu or family member of controlling shareholders. Shleifer and Vishny (1997) commented that manager is tightly controlled by controlling shareholder so that manager makes decision just for controlling shareholder interests.

Earnings management is a direct management on the process of external financial reporting to obtain certain advantages. For the context of concentrated ownership, conflict of interests between minority shareholders and controlling shareholder become the root of problem on earnings management (Ding *et al*., 2007). According to Leuz *et al*. (2003), the opportunity to misrepresented company's performance through earnings management would appear on the conflict of interest between minority shareholders and controlling shareholder. Controlling shareholder can use his/her control for his advantages by generating cost for other shareholders.

Increasing control of controlling shareholder would generate entrenchment effect. This would potentially influence the financial reporting because controlling shareholder arranges the policies during the process of financial reporting. This situation showed that controlling shareholder has the strong opportunity to conduct action opportunistically to hamper the minority shareholders (Fan and Wong, 2002). From time to time, company was operated by manager but manager is tightly controlled and observed by controlling shareholder. In fact, controlling shareholder also became manager on the company, such on PT. Andhi Candra Automotive Products Tbk.

3. 2. Ownership Structure of Company

According to Jensen and Meckling (1976), there are three company's ownership structure variables. Those are:

1. Inside equity, this is owned by manager.
2. Outside equity, this is owned by someone from the outside company.
3. Debt, which is owned by someone from outside company.

Inside equity added by outside equity is equal to total market value of company's equity. Total market value of the company is total market value of equity plus debt. When outside equity offered to public is getting bigger, the agency cost is bigger too. When outside equity increase, claim of management ownership decrease. In that case, manager motivates to take additional non financial benefit.

The more offer of outside equity, the more investors have claim to company. So, ownership structure of the company becomes dispersed and company's control is on management. These phenomena are generally happen in US and UK. Whereas, companies' ownership in East Asia and East Europe are concentrated on certain owners because companies' ownership can be conducted on pyramid form and cross ownership form (La Porta *et al*., 1999; Claessens *et al*., 2000; and Faccio and Lang, 2002).

2. 2. 1. Company's Ownership in the Form of Pyramid

Ownership structure in the form of pyramid is happen if the structure has an ultimate ownership and minimal there is one company listed in stock exchange on the chain of control rights of ultimate ownership (Claessens *et al*., 2000). The situation indicates that the company's ownership can be done directly and indirectly through the other companies.

2. 2. 2. Company's Ownership in the Form of Cross Ownership

Cross ownership is the ownership of controlling shareholder of two or more companies which own each other. The main requirement of ownership is if two or more the companies are owned each other (Siregar, 2006)

2. 2. 3. Company's Ownership in the Form of Concentrated Ownership

La Porta *et al*. (1999) is the first researcher who conducted research about ultimate ownership. Based on 20% cut off vote rights, La Porta *et al*. (1999) found 36% world companies in world owned widely. There are 30% companies controlled by family and 18% companies controlled by state and also 15% controlled by the other. There were 26% companies owned by ultimate shareholder through pyramid form. Mostly on all countries, ultimate shareholder is family. There were 69% companies controlled by family which also became the manager on the company.

The study of La Porta *et al*. (1999) is developed by Claessens *et al*. (2000). Claessens *et al*. (2000) investigates separation of ownership and controller of the company in nine countries of East Asia. Claessens *et al*. (2000) found that in Indonesia, control rights of controlling shareholder were bigger than his/her cash flow rights. More than 2/3 companies was controlled by single controlling shareholder. There were 60% of all companies, which were concentrate owned and top management had blood relation with the controlling shareholder.

The research of La Porta *et al*. (1999) and Claessens *et al*. (2000) are developed again by Faccio and Lang (2002). Faccio and Lang (2002) found that 36, 93% of all companies were dispersedly owned and 44, 29% of all companies were controlled by family. Demirag and Serter (2003) developed research about ultimate ownership on Istanbul Stock Exchange. Demirag and Serter (2003) found that most companies in Turkey are owned by ultimately and controlled by family who formed the company through pyramid form of ownership.

Siregar (2006) investigated about ultimate ownership in Indonesia. Siregar (2006) indicated that most of all public companies in Indonesia were controlled by controlling shareholder. Based on 10% cut off, there were 99, 09% of public companies in Indonesia had a concentrated structure of ownership. Based on 10% cut off, Siregar (2006) found that 66, 44% of all controlling shareholder used the pyramid structure to increase control exceeding cash flow rights. The control of public companies with the pyramid form of company's ownership conducted by a controlling shareholder was done by owning other public companies and non public companies. Owning non public companies was 79, 25% of pyramid form of company's ownership at 10% cut off point.

2. 2. 4. Consequences of Concentrated Ownership

Concentrated ownership structure with control rights exceeding the cash flow rights will generate entrenchment effect. This effect will reduce the value of the company and the dividend. If cash flow rights increases and so with the control rights, it will generate the alignment effect. This effect will improve the value of the company and the dividend. If these two effects are attributed with agency problem, the agency problem becomes bigger just when the control rights are bigger than the cash flow rights. If control rights are the same with cash flow rights, the agency problem will be smaller.

Claessens *et al*. (1999) documented that the increasing of cash flow rights will improve the value of the firm. This is the alignment effect. The increasing of control rights will decrease the market value of the firm. The increasing of the wedge will decrease the value of the firm. This is the entrenchment effect. Faccio *et al*. (2001) found that the increasing of O/C ratio will increase the dividend. La Porta *et al*. (2002) documented that the increasing of cash flow rights will increase the value of the firm. Claessens *et al*. (2002) documented that the increasing of cash flow rights will increase the value of the firm. However, Claessens *et al*. (2002) also documented that the increasing of control rights will decrease the value of the firm. Lins (2003) also found that the value of the firm is lower when the control of the company is getting bigger. These results supported the hypothesis of managerial entrenchment.

Lemmon and Lins (2003) documented that the value of the firm negatively relates with the separation cash flow rights and control rights. The result of this research also indicated that the value of the firm will be bigger when cash flow rights of controlling shareholder, which were controlled by controlling block holder was getting bigger.

Siregar (2006) found that cash flow right positively affected the value of the firm and cash dividend. Control rights negatively affected cash dividend. Cash Flow right leverage which was interacted with the involvement of controlling shareholder as company's management negativity affected to dividend.

2. 3. Earnings Management

Schipper (1989) defined earnings management as a purposeful intervention in the external financial reporting process with the intent of obtaining some private gain.

Healy and Wahlen (1999) defined earnings management as follows.

Earnings management occurs when managers used judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers.

Scott (2006) defined earnings management as the choice by a manager of accounting policies so as to achieve some specific objective.

Generally, these three definitions show some things as follows.

1. Earnings management is conducted by manager by using his judgment to produce the financial statement
2. Earnings management is conducted by manager to reach some target. One of them is target to personal benefit.
3. Schipper (1989) and Healy and Wahlen (1999) definition's showed earnings management conducted for opportunistic goal. While Scott (2006) definition's showed earnings management conducted is not fully opportunistic goal.

According to Healy and Wahlen (1999) and Scott (2006), there are some motivations to do earnings management. There is bonus motivation (Healy, 1985; Gaver *et al*., 1995; Holthausen *et al*., 1995; and Guidry *et al*., 1999), contractual motivation (Sweeney, 1994; DeFond and Jiambalvo, 1994), political motivation (Jones, 1991; Cahan, 1992; Na'im and Hartono, 1996; Key, 1997; and Navissi, 1999), tax motivation (Dopuch and Pincus, 1988), changing of CEO motivation (Defond and Park, 1997), capital market motivation (Perry and Williams, 1994; Burgstahler and Dichev, 1997; Teoh *et al*., 1998a; Teoh *et al*., 1998b; Rangan; 1998; Erickson and Wang, 1999).

2. 4. Concentrated Ownership and Earnings Management

Accrual Management includes the choices of accounting policies, which is to increase or decrease earnings. Earnings reported, which is increased or decreased, depend on selected accounting policies. Choices of accounting policies may include the changing of accounting method, timing for the new accounting standard implementation, or use of discretionary accruals. Information of the changing of accounting method and the timing of the new accounting standard implementation can be obtained from financial statement. This information is easily obtained by investor to conduct adjustment to earnings reported by company (DeFond and Jiambalvo, 1994). Discretionary accrual is not easily detected by investor (Jaggi and Lee, 2002).

Earnings management is mostly conducted when it is not expensive compared with using real operation and investments decision. This condition showed that discretionary accruals become the attractive tool for controlling shareholder to arrange earnings. Minority shareholders and the other external stakeholders do not have resources, opportunities, or access of relevant information to monitor controlling shareholder. Therefore, they can't cover the earnings management which was done by controlling shareholder.

Practices of earnings management is conducted to conceal the private benefit obtained by controlling shareholder. These practices are such as excessive manager fee and theft. The private benefit is obtained because controlling shareholder fully controlled manager and has the power of control rights exceeding cash flow rights. Empirically, all researchers such as Haw *et al*. (2004), Kim and Yi (2006), and Ding *et al*. (2007) documented that the domination of control rights will increase earnings management.

According to Ding *et al*. (2007), entrenchment effect arose when the control of controlling shareholder pushed controlling shareholder to conduct earnings management. Ding *et al*. (2007) also stated that alignment effect arose from the increasing of share ownership by controlling shareholder would push controlling shareholder to reduce earnings management.

2. 4. 1. Hypothesis of Entrenchment and Earnings Management

According to Shleifer and Vishny (1997; 759), "as ownership gets beyond a certain point, the large owners gain nearly full control and prefer to use firms to generate private benefits of control that are not shared by minority shareholders". This is in line with the argument of negative entrenchment effect that is controlling shareholder entrenched with the use of his control rights to obtain private benefit by expropriation (Yen, 2005).

Expropriation in the form of selling company's asset below the market price to other companies under control of controlling shareholder caused the loss for company. This condition represented the decision of controlling shareholder, which were suffered minority shareholders. To conceal expropriation, controlling shareholder did earnings management.

The increasing of control rights motivated controlling shareholder to influence the manager to do earnings management because manager was under control of shareholder. Although manager was professional person, manager still felt afraid to loss his /her position if he/she did not follow the desire of controlling shareholder.

Hypothesis developed in this research is based on negative entrenchment effect stated that control rights facilitated controlling shareholder to expropriate the wealth of minority shareholders (Yeh, 2005). It means that the increasing of control rights will raise the entrenchment effect that motivated controlling shareholder to do more expropriation. To conceal the expropriation, controlling shareholder who owned control rights will do more earnings management. Earnings management is more selected by controlling shareholder because stakeholder can't detect easily this action (Haw *et al*., 2004).

In the context of concentrated ownership, earnings management is still conducted by manager. However, managers do earnings management to fulfil the willingness and interests of controlling shareholder although manager is a professional person. The increasing of control rights can influence the operation and finance policies. Manager is also tightly controlled by controlling shareholder.

This research estimated that the increasing of control rights would raise the entrenchment effect that motivate controlling shareholder to do earnings management. This is based on the argument that the increasing of control rights caused controlling shareholder entrenched to conduct expropriation. In the effort to conceal expropriation, controlling shareholder did earnings management aggressively. This argument is based on Leuz *et al*. (2003) finding that private control benefits caused the increasing of earnings management. The statement of research hypothesis about entrenchment and earnings management is as follows.

H1: Controlling shareholder who owned control rights positively effects earnings management.

2. 4. 2. Hypotesis of Alignment and Earnings Management

The increasing of cash flow rights motivates controlling shareholder to manage the company well. This will cause the controlling shareholder not interested to extract private benefits because it will reduce his/her wealth. This referred as positive incentive effect (Yeh, 2005). This condition will generate the alignment effect between importance of controlling shareholder and the firm interests.

The increasing of cash flow right will raise the alignment of interests between controlling shareholder and minority shareholder. This condition ought pushed positive relation between the value of the firm and cash flow rights. Researchers documented this positive effect. Those researchers are Claessens *et al*. (1999), La Porta *et al*. (2002), Claessens *et al*. (2002), Lemmon and Lins (2003), and Siregar (2006).

Big ownership becomes credible commitments that controlling shareholder will build the reputation not to expropriate minority shareholders (Gomes, 2000). It means that the increasing of cash flow motivated the controlling shareholder not to conduct the expropriation. This can lead controlling shareholder who owned cash flow rights to reduce earnings management.

This research estimates that the increasing of cash flow rights will motivate controlling shareholder to reduce earnings management. This is based on the argument that controlling shareholder is not interested to expropriate the company and so with earnings management. To support this argument, hypothesis of this research about alignment and earnings management is as follows.

H2: Controlling shareholder who owned cash flow rights negatively effects earnings management.

2. 4. 3. Hypothesis of Cash Flow Right Leverage and Earnings Management

Cash flow right leverage represents the difference between the value of cash flow rights and the value of control rights. The value of cash flow right leverage can be positive or zero because the value of control rights definitely is bigger or equal to cash flow rights. Agency problem will be reflected at the value of cash flow right leverage. The bigger cash flow right leverage, the bigger the agency problem.

The bigger incentive and opportunities to do expropriation, the bigger cash flow right leverage (Gugler and Yurtoglu, 2003). This is based on the argument of negative entrenchment effect (Yeh, 2005). It means that the increasing of cash flow right leverage caused the increasing of expropriation. Expropriation is conducted by controlling shareholder to increase the private benefit. The increasing of private benefit (expropriation) caused the increasing of earnings management.

Two empirical evidences (Kim and Yi, 2006; and Haw *et al*., 2004) showed that the bigger cash flow right leverage, the more earnings management done by controlling shareholder. On the other hand, the lower cash flow right leverage, less earnings management done by controlling shareholder.

Therefore, this research estimates that the increasing of cash flow right leverage caused the increasing of earnings management. This estimation is based on the argument of negative entrenchment effect (NEE). NEE stated that controlling shareholder is interested to use his/her control to obtain the private benefit by doing expropriation (Yen, 2005). In this situation, controlling shareholder who owned cash flow right leverage, do earnings management to avoid the observation conducted by minority shareholders. The following is the hypothesis about cash flow right leverage and earnings management.

H3: Controlling shareholder who owned cash flow right leverage positively effects earnings management.

3. RESEARCH DESIGN

3. 1. Sample

The samples of this research were manufacturing industrial companies listed on Indonesian Stock Exchange (IDX) from 2000 to 2007. This study included big and small companies to avoid bias of selecting sample (Jogiyanto, 2004).

The research also used companies both listed during research period and listed before the period. It was done to avoid the survivorship bias. Collecting sample is conducted by purposive sampling. Sample used on this research was based on the four of the following criteria.

1. Samples were the manufacturing companies listed on IDX since the year of 2000.
2. The company have published the annual report during the year of 2000 to 2007.
3. Samples have end of accounting period on December 31.
4. All variables were available completely on financial statement from the year of 2000 to 2007

3. 2. Collecting Data

Technique of collecting data in this study was archival data collecting. One of the forms of archival data was secondary data. The secondary data in this study was as follows.

1. Audited financial statement was annual report including income statement, balance sheet, and cash flow statement from the year of 2000 to 2007.

2. Data of ultimate ownership structure covered the direct and indirect ownership of controlling shareholder.
The secondary data were collected from some sources as follows
1. Indonesian Stock Exchange for audited financial statement.
2. OSIRIS Database for the data of ultimate ownership.
3. The Data Centre of Indonesia Business for ultimate ownership.

3. 3. Ownership Classification
Ownership of public companies was classified into dispersed ownership and concentrated ownership. This study classified dispersed and concentrated ownership at 10%, 20%, and 30% cut off control rights. Using this cut off can accommodate some possibilities of effectiveness of control rights to influence the company policies.

3. 4. Classification of Controlling Shareholder
Controlling shareholder is shareholder who owned biggest control rights at certain cut off. Someone is called as controlling shareholder only if he/she has the biggest control rights. According to La Porta *et al*. (1999) controlling shareholder is classified into five groups. Those groups are family and individual, government, finance institution with dispersed ownership, companies with dispersed ownership, and the other controlling shareholder.

3. 5. Research Variables
Variables of this research included independent variables, dependent variable, and control variables. Independent variables included control rights, cash flow rights, and cash flow right leverage. Dependent variable was earnings management. Control variables included non discretionary earnings, size, and leverage.

3. 6. Definition and Measurement of Variables
3. 6. 1. Independent Variables
Cash flow right controlling shareholder was the percentage of share owned by controlling shareholder (Kim and Yi, 2006). Ownership referred to cash flow rights (Du and Dai, 2005). Cash flow rights were financial claim of shareholders to the company (La Porta *et al*., 1999). Cash flow right consisted of direct and indirect cash flow rights. Direct cash flow rights were the percentage of public company's share owned by shareholders on his/her name. Indirect cash flow rights were the amount of multiplication of shareholder ownership on every chain of the ownership. Therefore, cash flow rights were the sum of percentage direct and indirect cash flow rights.

Control rights of controlling shareholder was the percentage of share owned by controlling shareholder (Kim and Yi, 2006). Control rights was common stock shareholders to vote the board of directors and other company policies such as issuing securities, stock splits, and substantial changes on company operation (Du and Dai, 2005). According to La Porta *et al*. (1999), control rights are vote rights to determine company policies.

Control rights included the direct and indirect control rights. Direct control rights was the percentage of share owned by controlling shareholder on his/her name. Therefore, direct control rights are the same with direct cash flow rights. Indirect control rights were the sum of minimum control rights on every chain of ownership (La Porta *et al*., 1999). Control rights were the sum of relation between direct and indirect control rights.

Cash Flow right leverage of controlling shareholder was the difference between control rights and cash flow rights. Simply, cash flow right leverage was the value obtained from the control rights of controlling shareholder subtracted by the cash flow rights of controlling shareholder. The bigger differences between cash flow rights and control rights, the bigger control of controlling shareholder excess the cash flow rights. There were some researchers mentioned this leverage as ratio of cash flow right to control rights (Faccio *et al*., 2001; Lemmon and Lins, 2003).

3. 6. 2. Dependent Variable
Earnings management represented the dependent variable measured by using ratio scale. Earnings management was proxy discretionary accruals. Model used to estimate the discretionary accrual is Kang and Sivaramakrishnan Model (1995). This model is better than Jones model's (1991) because this model was being estimated having problems. Those problems were:

1. Problem of Simultaneities.
2. Error-In-Variables.
3. Omitted variables.
Model the Kang and Sivaramakrishnan (1995) is as follows.

$$\mathbf{Ak_{i,t}/A_{i,t-1}= \Phi_0 + \Phi_1(\delta_1 REV_{it}/A_{i,t-1}) +\Phi_2(\delta_2 EXP_{it}/A_{i,t-1})+\Phi_3(\delta_3 GPPE_{it}/A_{i,t-1}) +\upsilon_{it}} \qquad \mathbf{(1)}$$

Where:

$$\mathbf{\delta_1 = AR_{i,\,t-1}/REV_{i,\,t-1};\ \delta_2 = APB_{i,\,t-1}/EXP_{i,t-1};\ \delta_3 = DEP_{i,\,t-1}/GPPE_{i,t-1}}$$

$$\mathbf{TA_{it}= LB_{it} - AKO_{it}}$$

TA_{it}: Total accruals of company i on perio t.
$LB_{it:}$ Net income before extraordinary item, discountinued operation, and changes of accounting policies of company i on perio t.
AKO_{it}: Operating cash flow of company i on perio t.
A_{it-1}: Total asset of company i on perio t-1.
DEP_{it-1}: Depreciation and amortitation of company i on perio t-1.
AR_{it-1}: Account receivable of company i on perio t-1.
REV_{it}: Revenue of company i on perio t.
APB_{it-1}: Current asset – account receivable – cash – current liabilities of company i on perio t-1.
EXP_{it}: Net sales – income from operating – deprecitaiton expense of company i on perio t.
$GPPE_{it}$: Gross plant property and equipment of company i on perio t.

The value of non discretionary accruals of company i at period t ($AND_{i,t}$) was obtained from the following equation.

$$\mathbf{AND_{i,t}= \Phi_0 + \Phi_1(\delta_1 REV_{it}/A_{i,t-1}) + \Phi_2(\delta_2 EXP_{it}/A_{i,t-1}) + \Phi_3(\delta_3 GPPE_{it}/A_{i,t-1})} \qquad \mathbf{(2)}$$

The value of discretionary accrual of company i on period t ($AD_{i,t}$) was obtained from the differences between total accruals minus non discretionary accruals. The value of discretionary accruals was also obtained from residual of equation 1. The equation to get the value of discretionary accrual was as follows.

$$\mathbf{AD_{i,t}=TA_{i,t}/A_{i,t-1}-[\Phi_0+\Phi_1(\delta_1 REV_{it}/A_{i,t-1})+\Phi_2(\delta_2 EXP_{it}/A_{i,t-1})+\Phi_3(\delta_3 GPPE_{it}/A_{i,t-1})](3)}$$

3. 6. 3. Control Variables

Earnings management is conducted because of bonus motivation (Healy, 1985; Gaver *et al*., 1995; Holthausen *et al*., 1995; and Guidry *et al*., 1999). According to Yang and Krishnan (2005), bonus can be proxy non discretionary earnings. These earnings were obtained from accounting earnings which were subtracted by discretionary accruals. Therefore, this study included the non discretionary earnings as the control for the bonus (bonus plan hypothesis).

Leverage was the value obtained from total debt divided by total asset. Leverage included in this study because earnings management may be conducted to avoid violation of debt covenant. According to Sweeney (1994), company with big leverage tented to do earnings management. On the contrary, company with low leverage tended not to earnings management. DeFond and Jiambalvo (1994) also found that company with big leverage tended to do earnings management compared to company with low leverage. Leverage was the control for violation of debt covenant (debt covenant hypothesis).

Company might be sensitive to political problem. The company tended to do earnings management to reduce the political expense (Jones, 1991; Cahan, 1992). Size of the firm was measured by ln assets of the company. According to Johnson and Ramanan (1988), size of the firm negatively influenced earnings management. Size was the control for the political expense (political cost hypothesis).

3. 7. Empirical Model to test H_1, H_2 and H_3

Hypothesis H_1 and H_2 were tested using model 4 as follow.

$$\mathbf{ABSDA_{it}= \alpha + \beta_1 HK_{it} + \beta_2 HAK_{it} + \beta_4 LND_{it} + \beta_5 LEV_{it} + \beta_6 Sz_{it}+\varepsilon_{it}} \qquad \mathbf{(4)}$$

Where:
$ABSDA_{it}$: Absolute discretionary accruals of company i on period t.
HK_{it}: Control rights of controlling shareholder of company i on period t.
HAK_{it}: Cash flow rights of controlling shareholder of company i on period t.
LND_{it}: Non discretionary earnings of company i at period t divided by total asset of company i on period t-1.
LEV_{it}: Company's leverage of company i on period t.

Sz_{it}: Size of the firm of company i at period t.
ε_{it}: Error terms.

Hypothesis H_3 was tested using model 5 as follow.

$$ABSDA_{it} = \alpha + \beta_3 CFRL_{it} + \beta_4 LND_{it} + \beta_5 LEV_{it} + \beta_6 Sz_{it} + \varepsilon_{it} \quad (5)$$

Where:
$ABSDA_{it}$: Absolute discretionary accruals of company i on period t.
$CFRL_{it}$: Cash flow right leverage of controlling shareholder of company i on period t.
LND_{it}: Non discretionary earnings of company i on period t divided total asset of company i on period t-1.
LEV_{it}: Company's leverage of company i on period t.
Sz_{it}: Size of the firm of company i at period t.
ε_{it}: Error terms.

4. RESULT OF DATA ANALYSIS

4. 1. Sample Description

This research used the data of ultimate ownership and financial statement of manufacturing companies listed on Indonesia Stock Exchange during the period of 2001 to 2007. There were 786 year companies during 7 years. Details of data were presented on Table 1. as follow.

Table 1.
Descriptive Sample

	2001	2002	2003	2004	2005	2006	2007	Company year
Sum of companies listed at IDX	149	145	145	139	139	141	143	1001
Incomplete financial statement	(2)	(1)	(1)	-	(2)	(3)	(5)	(14)
There is not ownership data	(1)	-	(2)	(1)	-	-	(1)	(5)
The end of period not December 31	-	(2)	(2)	(1)	(1)	(2)	(1)	(9)
Immediate ownership	(5)	(5)	(6)	(6)	(6)	(5)	(5)	(38)
Cut off<10%	(2)	-	(1)	(1)	(1)	-	-	(5)
								930
Outlier								(144)
Processed Data								**786**

Table 1 show public companies (3, 79%) which were not owned by ultimate shareholder from all manufacturing companies listed on IDX during the period of 2001-2007. Whereas, manufacturing companies listed on IDX were owned ultimately for 96, 21%. The companies owned dispersedly and concentratedly at 10% cut off were 0, 49% and 99, 51%. The findings were consistent with Siregar (2006) who documented that there were 99, 09% of public companies in Indonesia owned concentratedly at 10% cut off. Febrianto (2005) also showed that there was 92% of all companies owned concentratedly at 20% cut off.

The findings did not significantly different with other countries, such as researches done by La Porta *et al*. (1999), Claessens *et al*. (2000), and Faccio and Lang (2002). Claessens *et al*. (2000) documented that public companies (93%) in Asia are owned ultimately. Claessens *et al*. (2000) documented many countries in Asian have concentrated ownership for above 90%, for example Hong Kong (99,4%), Malaysia (99,0%), Singapore (98,6%), Thailand (97,9%), and Taiwan (97,1%).

The result on Table 1 showed the changing of agency conflict. Popular agent conflict was the conflict between principles and managers (Jensen and Meckling, 1976). Based on this result, agency conflict was happened between minority shareholders and controlling shareholder. Controlling shareholder was the insider party who potentially influenced the company policies (La Porta *et al*., 2000).

4. 2. Strategy to Increase Control

Mechanism that mostly used by controlling shareholder to increase his control was pyramid. This research found that there were 63, 39% of controlling shareholder used the ownership structure of pyramid at 10% cut off. The result was consistent with Siregar (2006) that documented 66, 44% of controlling shareholder used the structure ownership of pyramid at 10% cut off point. This research found that 0, 73% of controlling shareholder used cross ownership to control the manufacturing company listed on IDX at 10% cut off. This research also found that 35, 88% of controlling shareholder did not use the company's ownership of pyramid and cross ownership to control the company at 10% cut off point.

4. 3. Controlling Shareholder

Based on collected data, this research found that three groups of controlling shareholder. Those are family, government, and the other controlling shareholder. This result was differed from Siregar study's (2006) who documented five groups of controlling shareholder, such as family, government, finance institution with dispersed ownership, company by dispersed ownership, and other controlling shareholder. The difference of this research with Siregar (2006) because Siregar (2006) used all companies listed IDX. Whereas, this research only used the manufacturing companies listed on IDX.

4. 4. Data Description

At 10% cut off, the average of absolute value of discretionary accruals (ABSDA) which was proxy of earnings management was 0,062751. The value did not change drastically at 20% and 30% cut off. The minimum value of ABSDA was 0,000206. This value indicated all manufacturing companies listed on IDX did not conduct earnings management.

If control rights variable and cash flow rights variable were compared, control rights variable was always bigger than cash flow rights variable at 10%, 20%, and 30% cut off. The average of cash flow rights is 49, 95%, the average of control rights is 53, 72%. This condition indicated that control was bigger than financial claim of controlling shareholder. The increasing level of control rights of cash flow rights was shown on cash flow rights leverage is evident on variable of cash flow right leverage (CFRL) variable. CFRL represented the difference between control rights and cash flow rights. The average of increasing value of CFRL was 3, 76%.

Variable D_1 was dummy variable to control the heterocedasticity problem at empirical model to test the hypothesis of H_1 and H_2. Variable D_2 was dummy variable to control the heterocedasticity problem at empirical model to test the hypothesis of H_3.

4. 5. Testing of Hypothesis

Before hypothesis testing, this research conducted the classical assumption test. The result showed that residual normal distribution. There is not heterocedastity, autocorrelation, multicoliniarity. The value of Variance Inflation Factor (VIF) is lewer than 10. Gujarati and Porter (2009; 340) suggested if value VIF is more than 10, so this variable have a correlation seriously. It is also supported by Rawlings (1988; 277) in Ding *et al*. (2007) suggesting that VIF>10 show the serious problem coliniarity. Minotani (1988) in Matsuura (2008) describes that there is no multicollinearity if the VIF is less than 10.

4. 5. 1. Testing of Hypothesis (H_1)

The hhypothesis of H_1 predicted that controlling shareholder who owned control rights positively affects earnings management. This hypothesis was tested by estimating equation 4 three times for 10%, 20%, and 30% cut off. The result on Table 2. showed that the coefficient of control rights were significantly positive at alpha of 1%. Hypothesis H_1, which stated that controlling shareholder who owned control rights positively affects to earnings management, was supported.

The results showed that the increasing of control rights caused earnings management increase. Vice versa, the decreasing of control rights caused earnings management decrease. The result also showed that every increasing point of 1% of control rights, earnings management increase 5, 1% at 10% cut off point, 5, 5% at 20% cut off point, and 6,0% at 30% cut off point.

Table 2.
Result of Hyphotesis (H_1) Entrenchment and Earnings Management
$$ABSDA_{it}=\alpha+\beta_1 HK_{it}+\beta_2 HAK_{it}+\beta_4 LND_{it}+\beta_5 LEV_{it}+\beta_6 Sz_{it}+\beta_7 D1_{it}+\varepsilon_{it}$$

Cut off	Predection β_1	β_1	B_4	B_5	β_6	β_7	N	Hyphotesis
10%	+	**0,051*****	-0,004	0,001	-0,002***	0,100***	786	supported
20%	+	**0,055*****	-0,005	0,001	-0,002***	0,101***	739	supported
30%	+	**0,060*****	-0,001	0,002	-0,002***	0,101***	640	supported

***alpha 1%
** alpha 5%
* alpha 10%.

Table 2 contains the result of influence of control rights to earnings management. Measurement of various variables is ABSDA (absolute discretionary accrual= total accrual - non discretionary accrual, HK (control rights = direct HK (percentage of direct ownership of controlling shareholder + indirect HK (sum of the minimum ownership at every chain ownership), LND (earnings non discretionary = accounting earnings – discretionary accrual, LEV (leverage) = total debt / total asset, Sz (size of the firm = total logarithm of asset, D1 = 1 for the residual out of the normalities and 0 other.

The increasing of control rights tends to create incentive for controlling shareholder to do expropriation. Expropriation was an action conducted by controlling shareholder to obtain the private benefit by suffering minority shareholders. To hide this private benefit, controlling shareholder conducts the earnings management. The argument is supported by Leuz *et al*. (2003) who documented that private control benefits influenced controlling shareholder to do earnings management.

The results of this research also confirm the findings of Leuz *et al*. (2003) who documented Indonesia was included in third country cluster. The Nations who owned the same characteristics with the Indonesia have the highest of average value of earnings management compared to the other clusters. The results of this research support the view of Morck *et al*. (1988) and Ding *et al*. (2007) who stated that the increasing control of controlling shareholder will produce the entrenchment effect. Entrenchment can be interpreted as the opposing behaviour of managerial (controlling) against the shareholders (Morck *et al*., 1988). According to Ding *et al*. (2007), the entrenchment effect, which was produced by the increasing of control rights, would motivate the controlling shareholder to do earnings management.

The increasing of earnings management was opposed with minority shareholders interests. The increasing of earnings management can reduce the quality of information financial statement. This was documented by Febrianto (2005) that market reacted negatively to earnings announcement by the companies which have concentrated ownership.

Practices of earnings management are conducted easily by controlling shareholder because minority shareholders and other stakeholders do not have the access to the relevant information. Minority shareholders also can not uncover the earnings management conducted by controlling shareholder. This condition becomes the incentive for controlling shareholder to do earnings management. Controlling shareholder will increase earnings to avoid the leakage of information of expropriation which have done before. This choice was done because cost bearded by controlling shareholder was lower than the advantage obtained.

In the context of the concentrated ownership, earnings management is conducted by managers. Managers conduct this action for controlling shareholder's interests although managers are professional individuals. Control concentration of controlling shareholder can influence the company's operation and finance policies. Managers are also tightly under controlled of controlling shareholder. If manager do not fulfil the willingness and importance of controlling shareholder, manager will be replaced by the other managers.

The following is an example how controlling shareholder influences the manager of PT. Bank of Century Tbk. Detik Finance (2008) stated that Robert Tantular as controlling shareholder was estimated forcing Head of Branch the Bank Century to sell the products of mutual fund. Robert threatened to fire or not raises all staff that refused to sell the mutual fund.

Moreover, this research will analyze whether the increasing of control rights caused motivates the controlling shareholder to do earnings management opportunistically. To answer this question, this research analysis the data by considering company's finance condition. This was measured by total account receivable minus total account payable and divided by total assets on the begging year.

The research defined the companies which have financial problem by identifying the company's liquidity (insolvency). The study considered the company's financial condition because it influenced the earnings management (Lo, 2005). Lo (2005) used Preve model (2003) to show that company which has credit from supplier (account payable to supplier), tend to give lower credit to customers (account receivable to customer). The excessive of account payable to account receivable divided by beginning year total assets showed the decrease of company's financial condition. If account receivable is bigger than its account payable, it shows the well condition of company's finance.

The results of analysis on Table 3. showed that the coefficient of γ_5 **(**control rights x company's financial condition) was significantly negative at 1% and 5% alpha. The results stated that controlling shareholder increased earnings management when the company's financial condition was decrease. It indicated that controlling shareholder do earnings management opportunistically.

Table 3.
Result of Opportunistic Earnings Management

$$LogDA_{it}=\delta+\gamma_1 HK_{it}+\gamma_2 HAK_{it}+\gamma_4 KK_{it}+\gamma_5 HK_{it}*KK_{it}+\gamma_6 HAK_{it}*KK_{it}+\gamma_8 LND_{it}+\gamma_9 LEV_{it}+\gamma_{10} Sz_{it}+\varepsilon_{it}$$

Cut off	γ_1	γ_4	γ_5	γ_8	γ_9	γ_{10}	N
10%	1,813	0,175	**-21,496****	-8,007***	-1,117***	0,09**	786
20%	2,326	2,918	**-30,354*****	-8,312***	-1,151***	0,085	739
30%	2,173	2,449	**-26,488****	-8,154***	-1,131***	0,076	640

*** alpha 1%
** alpha 5%
* alpha 10%.

Table 3. contains the result of influence of control rights to earnings management. Measurement of various variables is HK (control rights = direct HK (percentage of direct ownership of controlling shareholder + indirect HK (sum of the minimum ownership at every chain ownership), KK (company's financial condition)= account receivable – account payable / total asset at begging year, LND (earnings non discretionary = accounting earnings – discretionary accrual, LEV (leverage) = total debt / total asset, Sz (size of the firm = total logarithm of asset, D1 = 1 for the residual out of the normalities and 0 other, LogDA = 1 for positive accrual discretionary 0 other.

Controlling shareholder motivated do earnings management opportunistically by increasing earnings when company's financial condition decrease. The opportunistic action was conducted because control of controlling shareholder is bigger than its owning rights. According to Fan and Wong (2002), controlling shareholder was expected to report the accounting information which caused earnings information loss its reliability. As the result of this research, information of earnings was loss its reliability because this information did not reflect the reality. It was happened because controlling shareholder do earnings management opportunistically. Fan and Wong (2002) documented that the increasing control of controlling shareholder reduced the informativeness of earnings.

To support robustness of the result, this research would conduct the examination of finance condition proxied by leverage. Leverage was value obtained from total debt divided total asset. The result of the analysis was as follows.

Table 4.
Result of Sensitivity Test of Opportunistic Earnings Management

$$LogDA_{it}=\delta+\gamma_1 HK_{it}+\gamma_2 HAK_{it}+\gamma_8 LND_{it}+\gamma_9 LEV_{it}+\gamma_{10} Sz_{it}+\gamma_{11} HK_{it}*LEV_{it}+\gamma_{12} HAK_{it}*LEV_{it}+\varepsilon_{it}$$

Cut off	γ_1	γ_8	γ_9	γ_{10}	γ_{11}	N
10%	-4,477*	-7,885***	-1,196	0,075	**7,645****	786
20%	-5,499**	-8,070***	-1,675*	0,059	**9,164****	739
30%	-5,725*	-7,976***	-2,012	0,053	**9,484****	640

*** alpha 1%
** alpha 5%
* alpha 10%.

Table 4. contains the result of influence of control rights to earnings management. Measurement of various variables is HK (control rights = direct HK (percentage of direct ownership of controlling shareholder + indirect HK (sum of the minimum ownership at every chain ownership), LND (earnings non discretionary = accounting

earnings – discretionary accrual, LEV (leverage) = total debt / total asset, Sz (size of the firm = total logarithm of asset, D1 = 1 for the residual out of the normalities and 0 other. LogDA = 1 for positive accrual discretionary 0 other.

The results of analysis on Table 4. show consistent with the result on Table 3. Coefficient γ_{11} indicated the increasing of leverage (total debt exceed total assets) caused controlling shareholder doing earnings management by increasing earnings. It means controlling shareholder to manage earnings opportunistically.

4. 5. 2. Testing of Hypotesis (H_2)

Hypothesis H_2 stated that controlling shareholder who owned cash flow rights negatively affects earnings management.

Table 5.
Result of Hyphotesis (H_2) Alignment and Earnings Management
$$ABSDA_{it}=\alpha+\beta_1 HK_{it}+\beta_2 HAK_{it}+\beta_4 LND_{it}+\beta_5 LEV_{it}+\beta_6 Sz_{it}+\beta_7 D1_{it}+\varepsilon_{it}$$

Cut off	Predection β_2	β_2	β_4	β_5	β_6	β_7	N	Hypotesis
10%	-	**-0,035****	-0,004	0,001	-0,002***	0,100***	786	Supported
20%	-	**-0,036*****	-0,005	0,001	-0,002***	0,101***	739	Supported
30%	-	**-0,039*****	-0,001	0,002	-0,002***	0,101***	640	Supported

*** alpha 1%
**alpha 5%
*alpha 10%.

Table 5. contains the result of influence of control rights to earnings management. Measurement of various variables is ABSDA (absolute discretionary accrual= total accrual - non discretionary accrual, HK (control rights = direct HK (percentage of direct ownership of controlling shareholder + indirect HK (sum of the minimum ownership at every chain ownership), LND (earnings non discretionary = accounting earnings – discretionary accrual, LEV (leverage) = total debt / total asset, Sz (size of the firm = total logarithm of asset, D1 = 1 for the residual out of the normalities and 0 other.

The results of analysis on Table 5. indicated that variable of cash flow rights was significantly negative and at 1% and 5% alpha. It meant that the increasing of cash flow rights reduced earnings management. Vice versa, the decreasing of cash flow rights increased earnings management. The results also showed that every 1% increasing of cash flow rights lead to 3,5% decreasing of earnings management at 10% cut off, 3,6% decreasing of earnings management at 20% cut off, and 3,9% decreasing of earnings management at 30% cut off.

Based on the results of analysis on Table 5. hypothesis H_2 which stated that controlling shareholder who owned cash flow rights negativity affects earnings management was supported. The increasing of cash flow rights of controlling shareholder was the way to reduce the entrenchment effect. Ownership referred to cash flow rights (Du and Dai, 2005). Cash flow rights were claim of financial of shareholders to the company (La Porta *et al*., 1999).

The increasing of cash flow rights could be the commitment of controlling shareholder not to expropriate minority shareholders (Gomes, 2000). This was a signal to controlling shareholder that he/she did not expropriate the company's properties for his/her interest. It would lead controlling shareholder not to conduct earnings management opportunistically. Opportunistic earnings management would affect the quality of financial statement information so that market reacted negatively to earnings information. If this happened, controlling shareholder would bear loss because of the decreasing of company's market price.

The results of analysis on Table 5. conformed to the alignment effect, which was arisen because of the increasing of cash flow right of controlling shareholder. Alignment is an effort to lining up the controlling shareholder and minority shareholders interests. The result was consistent with Ding's *et al*. study (2007) that the increasing of ownership by controlling shareholder would reduce the earnings management. Reduction of earnings management leads to the increasing of financial information quality. It was documented by Fan and Wong (2002) that the increasing of share ownership by controlling shareholder could improve the informativeness of earnings.

This research also analyzed the increasing of cash flow rights to motivated controlling shareholder to give signal about company's financial condition. Controlling shareholder could conduct earnings management by increasing earnings to give signal that the company's financial condition was good.

According to Chen and Cheng (2002), the objective of performance signalling was conducted by recording discretionary accruals to reflect the impact of the important economics events to accounting earnings. Managers recorded discretionary accruals to give the private information about company's profitability in the future. It also made earnings become more reliable to measure the present compared to future company's performance under the performance signalling goals, the objective of discretionary accrual was to make the earnings become more informative as the performance measurement. Signal of financial condition in the future by using discretionary accrual have been documented empirically by Wahlen (1994), Beaver and Engel (1996), Liu *et al*. (1997), and Ahmed *et al*. (1999).

In the context of concentrated ownership, there are concentration of control rights and concentration of cash flow rights. When there is a concentration of cash flow rights of controlling shareholder, managers will be observed and controlled by controlling shareholder as stated by Shleifer and Vishny (1997). If managers make decision just for his/her advantages and make loss for the company, the position of manager is on unbeneficial condition. Suffering the company is also meant as suffering controlling shareholder and minority shareholders. Therefore, managers tend to follow the willingness of controlling shareholder to do earnings management efficiently.

For the context of Indonesia, this research showed case on PT. Kimia Farma Tbk (Bapepam, 2002). Board of directors for the period of 1998-June 2002 was expected to inflate earnings on financial statement at first semester 2002. Board of directors also conducted the mistake in the assessment of finished goods inventory and mistake of sale recording for the year which was ended on December 31, 2001.

Based on the inspection results, Bapepam found mistakes on reporting financial statement of PT. Kimia Farma Tbk. It resulted on the overstated of net profit for Rp32.700.000.000 on the year ended on December 31, 2001. Board of Directors of PT. Kimia Farma Tbk also conducted the double recording for selling raw material unit and selling to big pharmacy whole seler.

The effect of Board of Director's mistakes, shareholders of PT. Kimia Farma Tbk, which was consisted of the Government of Republic Indonesia and public, its employees and its management, conducted general meeting of shareholder on June 2002. On June 6, 2002 all of Board of Directors of PT. Kimia Farma Tbk were changed with the new board of directors.

The result of efficient earnings management were as follow.

Table 6.
Result of Eficient Earnings Management

$$LogDA_{it}=\delta+\gamma_1 HK_{it}+\gamma_2 HAK_{it}+\gamma_4 KK_{it}+\gamma_5 HK_{it}*KK_{it}+\gamma_6 HAK_{it}*KK_{it}+\gamma_8 LND_{it}+\gamma_9 LEV_{it}+\gamma_{10} Sz_{it}+\varepsilon_{it}$$

Cut off	γ_2	γ_4	γ_6	γ_8	γ_9	γ_{10}	N
10%	-,474	0,175	**24,780****	-,007***	-,117***	0,091**	786
20%	-,838	2,918	**29,659*****	-,312***	-,151***	0,085	739
30%	-,800	2,449	**26,269****	-,154***	-,131***	0,076	640

*** alpha 1%
** alpha 5%
* alpha 10%.

Table 6. contains the result of influence of control rights to earnings management. Measurement of various variables is HK (control rights = direct HK (percentage of direct ownership of controlling shareholder + indirect HK (sum of the minimum ownership at every chain ownership), KK (company's financial condition)= account receivable – account payable / total asset at begging year, LND (earnings non discretionary = accounting earnings – discretionary accrual, LEV (leverage) = total debt / total asset, Sz (size of the firm = total logarithm of asset, D1 = 1 for the residual out of the normalities and 0 other, LogDA = 1 for positive accrual discretionary 0 other.

The results on Table 6. showed coefficient γ_6 (cash flow rights x financial condition) was significantly positive at 1% and 5% alpha. The results stated that controlling shareholder did earnings management by increasing earnings when company's financial condition increased. It was conducted to give signal to minority shareholders or public that company's financial condition was on good condition.

Signal gave to minority shareholders so that earnings become more informative as the measure of company's performance. If company's performance and prospect is good, controlling shareholder could give signal by recording positive discretionary accruals to show that current and future earnings were better than what was reflected by current non discretionary accruals.

Signal gave by controlling shareholder to public will reduce the entrenchment effect. It was the same as the Gomes' study (2000) that the increasing of ownership could become the commitments of controlling shareholder not to expropriate minority shareholders. It showed signal of controlling shareholder to minority shareholders that he/she did not expropriate to company's asset for controlling shareholder's personal benefit.

To support the robustness of this result, this research would conduct the examination of financial condition which was proxied by leverage. The result on Table 7. was consistent with the result on Table 6. The result showed that controlling shareholder did earnings management for efficient or informative objectives. It was by the significantly value of coefficient γ_{12} (leverage x cash flow rights). When leverage was low, controlling shareholder did earnings management by increasing earnings as a signal.

Table 7.
Result of Sesitivity Test of Efficient Earnings Management

$$LogDA_{it}=\delta+\gamma_1 HK_{it}+\gamma_2 HAK_{it}+\gamma_8 LND_{it}+\gamma_9 LEV_{it}+\gamma_{10} Sz_{it}+\gamma_{11} HK_{it}*LEV_{it}+\gamma_{12} HAK_{it}*LEV_{it}+\varepsilon_{it}$$

Cut off	γ_2	γ_8	γ_9	γ_{10}	γ_{12}	N
10%	5,412**	-7,885***	-1,196	0,075	**-8,514*** **	786
20%	5,934***	-8,070***	-1,675*	0,059	**-9,363*** **	739
30%	5,675**	-7,976***	-2,012	0,053	**-9,131*** **	640

*** alpha 1%
** alpha 5%
* alpha 10%.

Table 7. contains the result of influence of control rights to earnings management. Measurement of various variables is HK (control rights = direct HK (percentage of direct ownership of controlling shareholder + indirect HK (sum of the minimum ownership at every chain ownership), LND (earnings non discretionary = accounting earnings – discretionary accrual, LEV (leverage) = total debt / total asset, Sz (size of the firm = total logarithm of asset, D1 = 1 for the residual out of the normalities and 0 other, LogDA = 1 for positive accrual discretionary 0 other.

4. 5. 5. Testing of Hypotesis (H_3)

Hypothesis H_3 stated that controlling shareholder who owned cash flow right leverage positively affects earnings management. The results of data analysis were as follows.

Table 8.
Result of Hypotesis (H_3) Cash Flow Right Leverage and Earnings Management

$$ABSDA_{it}=\alpha+\beta_3 CFRL_{it}+\beta_4 LND_{it}+\beta_5 LEV_{it}+\beta_6 Sz_{it}+\beta_8 D2_{it}+\varepsilon_{it}$$

Cut off	Prediksi β_3	β_3	β_4	β_5	β_6	β_8	N	Hypotesis
10%	**+**	**0,028** **	-0,001	0,002	-0,003***	0,098***	786	Supported
20%	**+**	**0,027** **	-0,001	0,002	-0,002***	0,098***	739	Supported
30%	**+**	**0,026** ***	0,003	0,002	-0,003***	0,099***	640	Supported

*** alpha 1%
** alpha 5%
* alpha 10%.

Table 8. contains the result of influence of control rights to earnings management. Measurement of various variables is ABSDA (absolute discretionary accrual= total accrual - non discretionary accrual, HK (control rights = direct HK (percentage of direct ownership of controlling shareholder + indirect HK (sum of the minimum ownership at every chain ownership), LND (earnings non discretionary = accounting earnings – discretionary accrual, LEV (leverage) = total debt / total asset, Sz (size of the firm = total logarithm of asset, D1 = 1 for the residual out of the normalities and 0 other.

The result on Table 8. showed that the coefficient cash flow right leverage was significantly positive at 5% and 10% alpha. This result indicated that the increasing of cash flow right leverage caused earnings management increase. Vice versa, the decreasing of cash flow rights leverage reduced earnings management. The results also indicated that every 1% increasing of cash flow right leverage, earnings management increases 2,8% at 10% cut off point, 2,7% at 20% cut off point, and 2,6% at 30% cut off point.

Based on the results, hypothesis H_3 which stated that controlling shareholder who owned cash flow right leverage positively affects earnings management was supported. The big value of cash flow right leverage indicated big agency problem. According to Kim and Yi (2006), wide wedge (divergences between control rights and cash flow right) created incentive for controlling shareholder to scoop up the company's asset for private benefit which will be suffered minority shareholders.

To hide this private benefit, controlling shareholder choose the method and accounting policies which can hide expropriation or private benefit gotten from the company. According to Gugler and Yurtoglu (2003), incentives and opportunities to do expropriation will be greater when cash flow right leverage increases too. It became incentives for controlling shareholder to do earnings management.

The result of this research is consistent with Haw's *et al*. (2003) and Kim and Yi's study (2006). Haw et al. (2003) documented that earnings management (income management) was influenced by wedge between control rights and cash flow rights on countries with the low protection of minority shareholders such as Indonesia. Kim and Yi (2006) also documented that controlling shareholder tented to do earnings management when control rights was increased and cash flow rights was decreased. Kim and Yi (2006) stated that when wedge was big between control rights and cash flow rights, controlling shareholder tended to do earnings management to hide his/her self-serving behaviour and to avoid the other consequences such as discipliner judgements.

The result of this research also stated that the increasing of cash flow right leverage of controlling shareholder produced the entrenchment effect. The increasing of cash flow right leverage motivated the controlling shareholder to make decisions benefiting his self/her self and suffering the minority shareholders.

The increasing of cash flow rights leverage motivated controlling shareholder to do expropriation for his/her private benefit. With the control domination of cash flow rights, controlling shareholder could exploit the company's asset so that the value of the firm decreased. The decreasing of company's financial condition could motivate controlling shareholder who owned cash flow right leverage to do earnings management opportunistically by increasing earnings.

The effort of earnings management by increasing earnings was conducted by controlling shareholder to hide the decreasing of company's financial condition as the consequences of expropriation. It was happened because of the increasing of cash flow right leverage, which facilitated controlling shareholder to fully manage the company.

More over, the research analyzed whether the increasing of cash flow right leverage motivated controlling shareholder to manage earnings opportunistically. The research considered the company's financial condition, which reflected insolvency. Insolvency is company's negative performance, which showed liquidity problem. The decreasing of company's financial condition was indicated by the value of account payable compared to account receivable. It reflected the company had a problem in liquidity, which was cash problem.

The results of analysis on Table 9. indicated that the coefficient γ_7 (cash flow right leverage x company's financial condition) was significantly negative at 1% and 5% alpha. The results also indicated that controlling shareholder did earnings management by increasing profit when company's financial condition was decrease.

Table 9.
Result of Opportunitic Earnings Management
$LogDA_{it}=\delta+\gamma_3 CFRL_{it}+\gamma_4 KK_{it}+\gamma_7 CFRL_{it}*KK_{it}+\gamma_8 LND_{it}+\gamma_9 LEV_{it}+\gamma_{10} Sz_{it}+\varepsilon_{it}$

Cut off	γ_3	γ_4	γ_7	γ_8	γ_9	γ_{10}	N
10%	1,454	1,827***	**-24,226****	-7,870***	-1,109***	0,092*	786
20%	1,807	2,533***	**-29,700*****	-8,258***	-1,146***	0,083	739
30%	1,733	2,322***	**-26,484****	-8,138***	-1,141***	0,072	640

*** alpha 1%
** alpha 5%
*alpha 10%.

Table 9. contains the result of influence of control rights to earnings management. Measurement of various variables is HK (control rights = direct HK (percentage of direct ownership of controlling shareholder + indirect HK (sum of the minimum ownership at every chain ownership), KK (company's financial condition)= account receivable – account payable / total asset at begging year, LND (earnings non discretionary = accounting earnings – discretionary accrual, LEV (leverage) = total debt / total asset, Sz (size of the firm = total logarithm of asset, D1 = 1 for the residual out of the normalities and 0 other, LogDA = 1 for positive accrual discretionary 0 other.

Opportunistic earnings management would the affect information quality of financial statement because the information was not representational faithfulness. The information tends to mislead all users including minority shareholders. If the information were used to make decision, so the decision taken by users may be wrong because the information were wrong.

It was causing why earnings information became negatively reacted when this earnings information was reported by the company which its share ownership concentrated on one person or group (Febrianto, 2005). The results showed the entrenchment effect. The results of this research confirmed Fan and Wong's study (2002). This research indicated that the controlling shareholder do earnings management opportunistically. This would reduce the information quality of financial statement. Fan and Wong (2002) documented that the informative of earnings became low when control rights was bigger than cash flow rights. It was happened because controlling shareholder conducted earnings management opportunistically.

To support the robustness of the results, this research conducted the examination of financial condition which was proxied by leverage. The result of the analysis was as follow.

Table 10.
Result of Sensitivity Test of Opportunistic Earnings Management
$LogDA_{it}=\delta+\gamma_3 CFRL_{it}+\gamma_8 LND_{it}+\gamma_9 LEV_{it}+\gamma_{10} Sz_{it}+\gamma_{13} CFRL_{it}*LEV_{it}+\varepsilon_{it}$

Cut off	γ_3	γ_8	γ_9	γ_{10}	γ_{13}	**N**
10%	-5,532***	-7,751***	-1,654***	0,071	**8,626*****	786
20%	-6,136***	-8,020***	-1,799***	0,058	**9,622*****	739
30%	-5,717**	-7,980***	-1,809***	0,053	**9,176*****	640

***alpha 1%
**alpha 5%
*alpha 10%.

Table 10. contains the result of influence of control rights to earnings management. Measurement of various variables is HK (control rights = direct HK (percentage of direct ownership of controlling shareholder + indirect HK (sum of the minimum ownership at every chain ownership), LND (earnings non discretionary = accounting earnings – discretionary accrual, LEV (leverage) = total debt / total asset, Sz (size of the firm = total logarithm of asset, D1 = 1 for the residual out of the normalities and 0 other, LogDA = 1 for positive accrual discretionary 0 other.

The result on Table 10. was consistent with the result on Table 11. that controlling shareholder conducted earnings management opportunistically. It was shown by the value of coefficient γ_{13} (leverage x cash flow rights leverage) was significantly positive. When leverage was increase or total debt exceed total assets, controlling shareholder conducted earnings management by increasing profit.

5. CONCLUSION

Based on the analysis results, this study concluded that the increasing of control rights motivated the controlling shareholder to do earnings management. Vice versa, the decreasing of control rights motivated controlling shareholder to reduce earnings management. Controlling shareholders also conducted earnings management opportunistically. The conclusion stated that the increasing of control rights would cause the entrenchment effect. The entrenchment effect is the behavior of controlling shareholder which was opposed to the company's and minority shareholders' interests.

This research also concluded that the increasing of cash flow rights motivated controlling shareholder to reduce earnings management. Vice versa, the decreasing of cash flow right motivated the controlling shareholder to do earnings management. To give signal of good company's financial condition, controlling shareholder do earnings management efficiently. The conclusion stated that the increasing of cash flow rights become the financial incentives for controlling shareholder which will generate the alignment effect. The alignment effect is the effort of lining up of controlling shareholder behaviour and minority shareholders' interests.

The research also concluded that the increasing of cash flow right leverage motivated the controlling shareholder to do earnings management. On the contrary, the deceasing of cash flow right leverage motivated the controlling shareholder to reduce earnings management. This research also concluded that controlling shareholder conducted earnings management opportunistically. Based on the conclusion, the increasing of cash flow right leverage of controlling shareholder would produce the entrenchment effect.

The private benefit is benefit obtained by controlling shareholder through expropriation. The private benefit was not easy to be measured. This research did not measure the private benefit which motivated controlling shareholder to do earnings management. The result of this research would become more robust if private benefit was measured. If activity of expropriation were documented, measurement of private benefit would be easy. This would produce the testing more robust to predict opportunistic earnings management.

The limitation of this research was lower generalization of the research result. Sample in this research was companies in manufacturing industry. This research could not to bundle the manufacturing companies and non manufacturing companies. Because non manufacturing companies didn't have inventories and use plant asset. It was resources of accrual.

The future research could improve limitations of this research. The future research could measure private benefit which was obtained by controlling shareholder. The future research could develop the results of this research by considering of good corporate governance. The good corporate governance was expected to monitor effectively which could prevent expropriation and opportunistic earnings management.

Based on case of PT. Bank of Century Tbk that independent commissary of this company such as Poerwanto Kamsjadi and Rusli Prakarsa was grasped tightly. The future researchers could research the role of independent commissary to prevent the expropriation by controller stockholder. The future researchers could research value relevance of financial statement with attention to concentration of control rights, cash flow rights, and cash flow rights leverage. Last, future researcher could use non manufacturing companies. It was done to show whether the results of this research is consistent.

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ACKNOWLEDGMENT:

I would like to thank for The Indonesian Scholar Dissertation Award, IIEF and Ford Foundation supporting funds to my dissertation. I also thank to LPPM-Gadjah Mada University. I would like to thank for Prof. Jogiyanto Hartono M., M.B.A., Ph. D., Akt., Supriyadi, M.Sc., Ph. D., Akt., Mamduh M. Hanafi, M.B.A., Ph. D. as promoter and co-promoter my dissertation at Economics and Business Faculty, Gadjah Mada University-Indonesia

INCORPORATING INFORMATION SYSTEM CONTENT INTO NON-INFORMATICS CURRICULA: AN EXAMPLE FROM A BUSINESS ADMINISTRATION PROGRAM

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ABSTRACT

This paper explains a possible curriculum concept for teaching information systems to business administration students based on an example from Albstadt-Sigmaringen University's Business Administration programs. The paper points out that the starting point for the development of a curriculum in general are the relevant qualifications and skills the student should have at the time he or she graduates from university. They were classified into four broad core skill areas, namely knowledge, social skills, methodological skills, and decision-making skills. These core skills ideally should be closely integrated with the courses taught and the systems used in those courses. As a major key to success, institutions should design their curricula based on their individual characteristics and local peculiarities.

Keywords: *information systems, business administration program, Albstadt-Sigmaringen, Europe, university curriculum development*

1. INTRODUCTION

While in recent years it has become a matter of discussion as to how far information systems (IS) and information technology (IT) really create value and add to the competitiveness of a business (Carr, 2003), many universities around the world have braced the idea of teaching information systems to their students. Naturally, at most universities, the teaching of information systems to students does not only take place in pure computer science programs but also in many other programs, be it business administration or even industrial engineering programs.

Among the reasons for this trend is that when the graduates have become middle or even upper level managers, they increasingly have to deal with complex information systems, either from a conceptual point of view or they actually do use these systems for their day-to-day activities or both. Therefore, a university should carefully plan for incorporating information systems into their relevant curricula, regardless whether this is being done for an existing program or a new one.

There are certainly different structured (and unstructured) ways program managers could proceed if they want to incorporate IT/IS content into their programs. In this paper I will not elaborate on the possible options but rather demonstrate one potentially feasible way how this could be managed. This will be based on the situation of the business administration programs at Albstadt-Sigmaringen University. Albstadt-Sigmaringen University is a public university in the German federal state of Baden-Württemberg (Southern Germany). The university offers Bachelor and Master level courses in the areas of Engineering, Life Sciences as well as Business and Computer Sciences. Currently (Spring 2010) the university has around 2.600 enrolled students.

One particularity here is that the Bachelor of Science in Business Administration program consists of seven semesters with the fifth semester being a mandatory internship semester. One ramification of this is that students should be familiar with some major business information systems before they start their internship. Another particularity is that the Master of Science in Business Administration and Management program is a so-called consecutive Master program, i.e., is a direct continuation of the previous Bachelor program.

2. CONCEPT

The basic idea of the concept found at this university's business administration programs is the close integration of the skills and qualifications the students should have upon graduation with the courses being taught and the information systems being used in those courses. The gear wheels analogy in figure 1 shows that the three components are greatly interdependent. The students acquire their skills by taking part in courses. Depending on the skills emphasized in a course, information systems may or may not be used for teaching purposes.

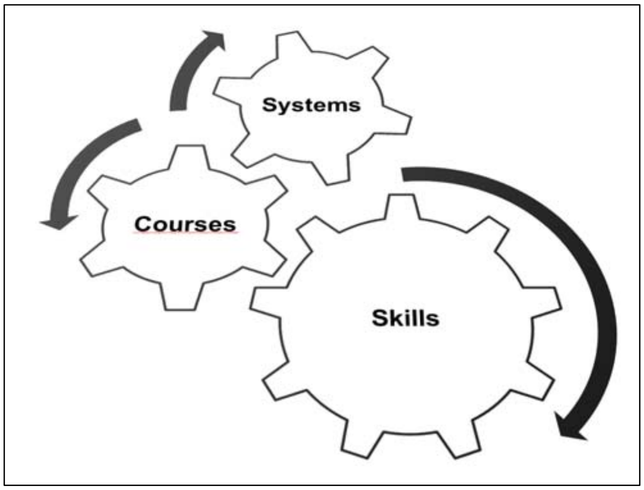

FIGURE 1: INTEGRATION OF SKILLS, COURSES AND SYSTEMS

Other critical factors that need to be considered as well are the qualifications of the teaching staff, available infrastructure, and potential budget constraints.

Starting point for the development of a curriculum in general are the relevant qualifications and skills the Business Administration student should have at the time he or she graduates from university. At Albstadt-Sigmaringen University's Business Administration and Computer Sciences Department they are classified into four core skill areas, especially relevant to the Business Administration programs in question:

- Methodological skills.
- Knowledge (in the sense of in-depth knowledge of relevant subjects).
- Social skills, including e.g., intercultural skills.
- Decision-making skills.

Those four core skill areas in reality often overlap. For example, a manager who wants to effectively make "good" decisions (i.e., has decision making skills) will usually also need strong social skills. In practice, there are often no clear borders between the four core skill areas.

In the next step, these skills and qualifications are being mapped with the courses offered for the business administration program in question. Since there are only two dimensions involved in this step, it is an option to create a simple table highlighting those skills that are particularly important for a specific course.

Table 1 is an example how such a table can look like. It is based on the Master of Science in Business and Management program at Albstadt-Sigmaringen University. The two-dimensional table for the Bachelor of Science in Business program can be similarly arranged but to keep this paper clear and brief it is not included in this document.

Skills / Courses	Methodo-logical skills	Social skills	Knowledge	Decision-making skills
General Management		●		●
E-Business				●
Data Analysis / Data Warehousing	●			●
Project Management / BPM	●			
Financial MGT / International Relations			●	
International Accounting			●	
Personal Skills / Intercultural Communications	●	●	●	
Ethics / Personnel MGT			●	
Thesis				●

TABLE 1: MAPPING SKILLS AND QUALIFICATIONS WITH THE COURSES OF A MASTER OF SCIENCE IN BUSINESS ADMINISTRATION AND MANAGEMENT PROGRAM

In the case of IT systems used for teaching, one identifies especially those courses with a strong focus on methodological skills. In the above example there are three courses that stress methodological skills. Teaching information systems often means giving students exercises and letting them work on actual information systems. Practical experience has shown that it appears to be the most appropriate approach to do these kinds of exercises in courses that particularly stress methodological skills.

In the subsequent stage, one identifies possible types of information systems that can be used in the courses determined in the previous step.

To make a sound assessment of the information systems that should be allocated to the courses in question one must also have a thorough look at the sequence of the relevant courses identified in the previous step.

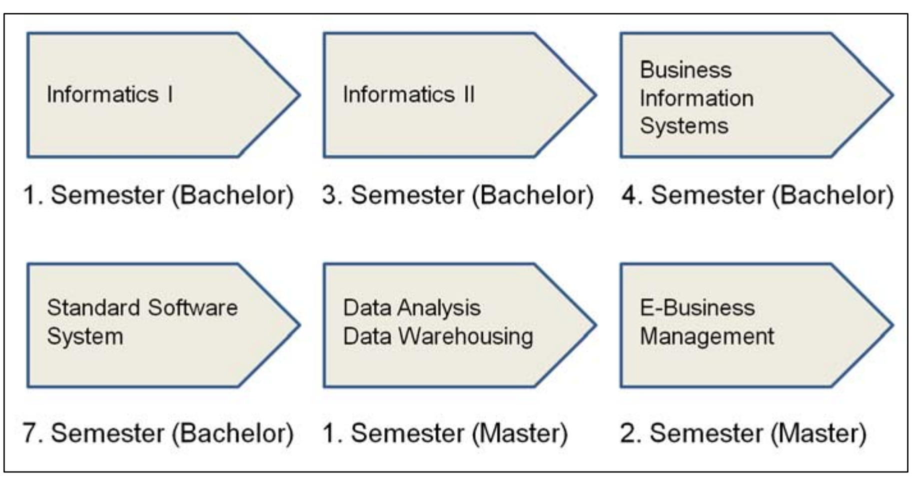

FIGURE 2: SEQUENCE OF COURSES SUITED FOR TEACHING IT CONTENT

Figure 2 shows the sequence of courses that were deemed to be suitable for teaching at Albstadt-Sigmaringen University's Business Administration programs.

Once the types of information systems for the selected courses are identified, one has to contact potential software vendors. Experience has shown that some software companies – though by no means all – are willing to offer their products for research and teaching purposes to universities either free of charge or at heavily discounted prices.

At Albstadt-Sigmaringen University it was decided to use for instance Microsoft SQL Server for the Data Analysis course and SAP Business Intelligence for the Data Warehousing course. During the Project Management course for example, students will work with Microsoft Project. Those systems were selected because of their wide usage amongst decision makers in Germany and hence their value to the students as well as their likely future employers.

An overlook of the sequence of the mandatory courses with at least some IT-related content offered at the Business Administration programs (B.Sc. in Business Administration and M.Sc. in Business Administration and Management) together with the information systems and tools used is given in table 2.

	Semester	IT content	Information systems and tools used
BACHELOR	1st	Introduction to Business Information Systems	MS Excel
	2nd	---	---
	3rd	Intermediate Business Information Systems:	
		Database Management	Microsoft Approach
		Data Modeling	Microsoft Visio
		Data Warehouse	SAP BI
	4th	Advanced Business Information Systems:	SAP ERP
		ERP systems	MS Dynamics (NAV)
		Process modeling	ARIS Toolset
	5th	Internship	
	6th	Project: Standard Business Software	Microsoft Project
	7th	---	---
MASTER	1st	Data Warehouse Systems	SAP BI
		Data Analysis	SPSS
			Microsoft SQL Server
	2nd	E-Business Management	---
		Project Management	MS Project
	3rd	---	---

TABLE 2: IT CONTENT OF ALBSTADT-SIGMARINGEN'S BUSINESS ADMINISTRATION PROGRAMS

3. CONCLUSION

In this paper I have explained a possible curriculum development approach for teaching information system content to business administration students at a university in Europe, based on an example from Albstadt-Sigmaringen University.

Starting point for the development of a curriculum are the relevant qualifications and skills the students should have at the time they graduate from university, such as methodological skills, a working knowledge of relevant systems, social skills and decision-making skills. A practical approach to teaching business information systems is to accompany lectures with realistic exercises on major information systems.

One of the benefits of this procedure is that it is a genuinely systematic approach that makes it unlikely to miss any relevant aspect during the curriculum development process. This approach is also flexible enough and allows taking into consideration particularities of the university and the academic programs concerned. The Business Administration programs at Albstadt-Sigmaringen University for example are targeted at the needs of future mid to upper level managers at mid-sized companies and the IT content too could be geared toward this target group. Also, for accreditation purposes this is a helpful approach because program managers are better able to conclusively explain an important course concept.

On the other hand, there are also some problems this approach could not completely solve. Especially the interface between the bachelor and the master programs is difficult to handle. Though being a consecutive Master program, a considerable number of students have not been enrolled before in the previous B.Sc. in Business Administration program. Therefore, those students may well have a different skill set when they start their master studies at Albstadt-Sigmaringen University than those students who in fact had been enrolled in this university's bachelor program.

Another, however very specific problem, presumably limited to the university in question is that the IT content is only partially reflected in the study regulations of Albstadt-Sigmaringen University. That means that to some degree the amount and the level of the IT content is dependent on the support of the acting dean of studies.

Though this concept theoretically could be adopted by similar universities, one should point out that the curriculum design should certainly take into account the particularities of every individual institution. A mere takeover of concepts, including those presented in this paper, without adapting them to the realities of the relevant institution of higher education will probably not be crowned with success.

As there are very few publically available documents and other resources on this subject, I suggest that further research should be carried out in order to assess the effectiveness of various curriculum concepts at universities. One possible way to do this for example is to ask the alumni of universities interested in such an – ideally international – research project.

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PERSONALITY AND WORK EXPERIENCE AS MODERATORS OF LEARNING OUTCOMES USING THE CASE METHOD

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ABSTRACT

The case method is considered an integral part of the teaching in many business schools. The method provides the opportunity for students to learn by dealing with real business problems. The case method involves inductive learning and requires that students use their creativity and analytical skills. However, there is considerable evidence to indicate that learning effectiveness is affected by various contingencies. This paper proposes that the effectiveness of learning using the case method is moderated by the students' personality and work experience. A number of propositions of these relationships are presented in this paper.

Keywords: *Case method, need for structure, need for cognition, learning outcomes*

1. INTRODUCTION

The case method has now become an integral part of the teaching method used in many business schools (Jain, 2005). Among other things, the participative nature of the case method has the potential to stimulate cognitive and behavioral forms of learning. It is said that this will enable better skill acquisition and generate higher levels of knowledge (Apaydin, 2008). The case method is a tool of experiential learning and is best used to teach problem solving skills. It stimulates critical thinking and requires that students analyze and interpret the situation presented in the case (Tripathy, 2009).

Gragg (1940) defines a case as "a record of business issues which actually has been faced by business executives, together with surrounding facts, opinions, and prejudices upon which the executives had to depend" (cf. Hawes, 2004). The case method is believed to be superior than recipe-driven teaching because it promotes realism, helps students link discipline-based knowledge with real business situations (Wynn-William, Whiting and Adler, 2008). It promotes student curiosity and requires the use of judgement as well as teach students to apply general concepts to specific decision making situations (Adler, Whiting and Wynn-Williams, 2004). The case method de-emphasizes single-solution approach to learning and requires students to take a more thoughtful approach to learning (Greiner, Bhambri and Cummings, 2003). The case method is designed to overcome the limitations of the lecture method where the instructor is seen as the master whose role is to deliver knowledge (Jain, 2005). To be effective, students have to be inquisitive and use their creativity. They also need to search for information in analyzing the case (Shugan, 2006).

2. LITERATURE REVIEW

2.1. Outcomes of the case method

Christensen and Carlile (2009) point out that the case method can be used in a deductive or inductive manner. The deductive approach is suited in subjects where the theory is well developed and approaches case analysis as a process of testing the theory. The inductive approach is more suited in subjects where the theory is underdeveloped and is used to generate theories. They argue that theories in the business disciplines are undergoing constant change and are thus less definite. Therefore, business case analysis usually requires inductive learning.

The inductive nature of the case method in business education requires the activation of multidimensional and complex thought processes (Tripathy, 2009). To be effective in inductive learning, the person has to be self-directed and sees learning as a process of discovery and testing (Adler et al., 2004). The typical case lacks structure and requires that students are able to tolerate a certain level of ambiguity (Shugan, 2006). It is the interpretation and sense making that takes place in the case discussion that will lead to improvements in the students' problem solving skills. Students have to develop their own rules of problem solving as they seek to solve the problem presented in the case. Such an inductive learning is said to enable students to acquire cognitive skills and managerial abilities (Bocker, 1987). The participative nature of the case method is said to also help students develop their soft skills. The process of analyzing and discussing their case requires that students interact with their peers and instructor. It contributes towards developing their interpersonal skills and self-confidence (Gibson, 1998; Shugan, 2006). Ballantine and Larres (2004) identify 35 outcomes of case teaching proposed by Libby (1991) in assessing the outcomes of the case method. These outcomes are categorized into three key areas i.e. cognitive, affective and skills development.

We expect that in addition to the outcomes listed by Libby, the learning outcome should also be assessed in terms of the ability of students to apply the specific knowledge and skills delivered or generated during a lesson. This is an important measure of learning and need to be incorporated in the assessment of learning outcomes. Schendel and Hagman (1986) developed a method of measuring learning outcomes by assessing the amount of additional lessons a learner requires to effectively apply the skills he had learned earlier. Those who have had more learning will require less additional lessons.

2.2 Limitations of the case method

In spite of the appeal and general acceptance of the case method in many business schools, the method is not without critics. Shugan (2006) points out that some students lack confidence, critical thinking skills, the ability to debate ideas as well as the ability to lead group discussions. These limitations impose constrains on the ability of students to benefit from the case method. Liu's (2009) study on the use of case method amongst Chinese post-graduate students in a British university shows that language difficulties constrain the ability of these students to participate in case discussions.

The case method also assumes that students are willing and eager to raise questions and engage in discussions in class. De Jesus, Almeida and, Teixeira-Dias and Watts (2007) point out that students usually prefer to ask questions to other students than to their instructor. Only students who possess high level of self-confidence and self-esteem are more likely to ask questions in class.

Indeed the literature on learning emphasizes the need to ensure that teachers use teaching strategies that are congruent with the learning style of students (Friedman and Alley, 1984). A person's learning style is relatively stable and affects how he perceives, interact and respond to the environment in learning situations (Yamazaki, 2005). Individuals develop a preference for a specific learning style and tend to experience difficulty when there is a mismatch between their learning style and the teaching method they are subjected to (Adler et al. 2004; Graf, Liu, Kinshuk, Chen and Yang, 2009). Past studies on learning styles have found differences in learning styles among students from different disciplines and culture. Liu's (2009) study found that students from China have a preference for a more structured learning approach. Yamazaki's (2005) examination across various cultural entities shows that culture predicts learning style. Joy and Kolb (2009) also found cultural variables and a number of demographic variables to be related to learning styles.

3. CONTINGENCIES OF CASE METHOD EFFECTIVENESS

The preceding discussion suggests that the effectiveness of the case method is possibly affected by a number of contingencies. A mentioned earlier, the case method requires active learning and the use analytical skills. To do well in classes using the case method, students need to be able to think and not just rely on recall (Tripathy, 2009). This study will explore further the role of personality on case teaching by examining the role of 2 personality variables in affecting students' reaction to the use of case method. We argue that students will react differently to the case method experience. We posit here that not everyone can learn effectively in an inductive learning situation. Specifically, we argue that students' reaction to case learning will be affected by their need for structure and need for cognition.

3.1. Need for structure

Moskowitz (1993) explains that individual differences shape the way information is perceived and process. The same stimulus is often perceived differently by different individuals. When presented with complex or a huge amount of information, some individuals seek to reduce the cognitive load in one of two ways. One response is to avoid information in order to limit the amount of information someone has to absorb. Another response is to structure the information into simple categories (Neuberg and Newsom, 1993). Individuals use cognitive structure as a mean for understanding the environment without using a lot of cognitive resources. It enables individuals to simplify a complicated world. Neuberg and Newsom (1993) term this preference for simplifying reality in as need for structure (NfS).

3.2. Need for Cognition

While high NfS is related to desire for simplicity, some individuals have a strong preference for dealing with complexity by engaging in effortful thinking of the situation. These individuals are said to have a high need for cognition. Cacioppo, Petty and Kao (1984) define need for cognition (NfC) as the tendency to engage in and enjoy cognitive effort. Individuals who are high in NfC tend to seek, inquire, reflect and think about information when dealing with stimuli presented to them. They tend to generate more thoughts and elaborate on information given. Those low in NfC tend to shun cognitive effort (Culhane, Morera and Hosch, 2004). High NfC is related to curiousity and the desire to maximize learning from an event (Park, Baker and Lee, 2008).

3.3. Work experience and case learning

Ballantine and Larres (2004) is of the view that the use of the case method is affected by the amount of work experience students can bring to the analysis and discussion of the case. They believe that when students have no work experience, a combination of lecture based teaching that includes the case method is probably more appropriate. This is typically the situation in undergraduate courses. However, Ballantine and Larres' measure of work experience variable as a categorical variable i.e. whether the respondents had or did not have work experience.

4. IMPLICATION FOR CASE METHOD

We expect individuals who are high in NfS and those high in NfC to exhibit differences in their approach to learning. These personality traits should lead to different preferences in terms of learning style. Given their preference for clarity and a simplified way of organizing information, we expect those with high NfS to prefer forms of learning where knowledge is delivered in explicit and clearly structured manner. They would prefer teachers who are seen as experts who can give definite ideas and answers to questions. They will shun teachers and teaching methods that introduce ambiguity into the learning process. These individuals will find the lecture method to be more fulfilling.

Individuals who are high in NfC tend to be more willing to question and find the opportunity to explore, search for information and the use of active thinking and analytical skills to be a satisfying learning experience. Such a learning situation provides them the opportunity to quench their curiosity. They tend to value teachers who encourage debates and exchange of ideas. We therefore expect individuals with high NfC to find the inductive nature of the case method to be a more stimulating learning experience. On the other hand, individuals high on NfS will find the more ambiguous nature of inductive learning in the case method to be irritating.

We also propose that the outcomes from using the case method will be moderated by work experience. However, we believe a more appropriate way to measure work experience is to assess the quantum of work experience. We posit that quantum of work experience as measured by years of work experience and extent of use of analytical skills will moderate the relationship between personality variables and learning outcomes.

5. RESEARCH PROPOSITIONS

This paper proposes that the learning outcomes attained with the case method will be different from learning using the lecture method. We also expect this attainment to be moderated by the learner's personality and work experience. Specifically we posit the following propositions:

> P1:
> *Learners who undergo learning using the case method score higher in learning outcomes than those who undergo learning using the lecture method.*

P2:
Personality traits interact with teaching method to affect attainment of learning outcomes. Among participants undergoing learning using the case method, NfC score will be positively related with learning outcomes. Among participants undergoing learning using the case method, NfS score will be negatively related with learning outcomes.

P3:
Learners who undergo learning using the case method perceive themselves as requiring less additional lessons to apply knowledge in problem situations than those who learned under the lecture method.

P4:
Personality traits interact with teaching method to affect additional lessons needed to apply knowledge in problem situations. For participants undergoing learning using the case method, NfC score will be negatively related with additional lessons needed to apply knowledge in problem situations. For participants undergoing learning using the case method, NfS score will be positively related with additional lessons needed to apply knowledge in problem situations.

P5:
Work experience interacts with learning using the case method in affecting attainment of learning outcome. Among participants undergoing learning using the case method, years of prior work experience and extent of use of analytical skills at work will be positively related with learning outcomes.

7. CLOSING

The effectiveness of a teaching method is dependent of the learning style preference of the student. This paper proposes a number of contingencies affecting the preferred learning style of students. Specifically, it is argued that effectiveness of the case method is moderated by personality and a student's work experience. An empirical examination of these propositions would be next step needed to validate the arguments presented here.

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EVIDENCE ON EKC HYPOTHESIS IN CHINA: 1990 TO 2007

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ABSTRACT

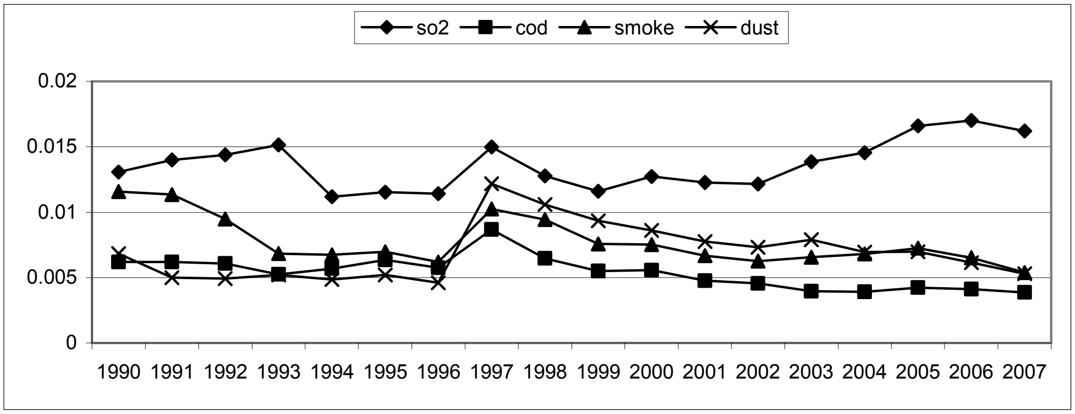
This paper is to examine the availability of the Environmental Kuznets Curve (EKC) in China using reduced model based on provincial level panel data from 1990 to 2007. By analysing the relationship between the per capita GDP and the per capita emissions of four kinds of industrial pollutants (SO_2, smoke, dust, and COD), there exists an inverted-U shaped relationship as hypothesized by the EKC quadratic model in the case of COD and SO_2, with a turning point at per capita GDP of 15,138 yuan for SO_2 and 6,859 yuan for COD. This relationship (or turning point) does not hold in other pollutants such as smoke and dust. In order to make the harmonized development, environmental regulations needs to be strengthened.

1. INTRODUCTION

Literature on the inverted–U hypothesis emphasis (EKC) that income growth has three effects on the existing volume of polluting emissions. China, lower average income economy, initiated reforms in 1978 and intensified trade and investment reforms in the mid-1990s. The 1990s and 2000s have witnessed a rapid growth in the Chinese economy, reflected in reduced trade and investment barriers, increased trade, the rapid transmission of technology, and highly mobile capital and labour. China's transition process can be divided into two main phases. The first phase of gradualist, dual-track[1], decentralising reform (1979-1992) developed directly out of their rural successes where the focus was to protect core interests whilst moving power and resources away from central planners to local actors. By 1993 China had successfully moved from a command economy to a functioning market economy. The second reform phase (1993-present) established a firm macro-economic policy base which focussed on regulatory and administrative restructuring in key market sectors such as banking, taxation, corporate governance, as well as the external sector through membership in the WTO. Special economic zones were established along the coast to attract FDI, boost exports and import high technology products. Furthermore state-owned enterprises were allowed to operate and compete on free market principles and private enterprises were legalised and promoted. The average annual growth in GDP accelerated from 6% in the pre-1978 period to 9.8% in the post-1978 period, from 1979-2007. Population growth decelerated from 1.9% per year before 1978 to only 1.03% after 1978. As a result, per capita GDP doubled from 4.1% to 8.7% annually (Liu, 2009).

Figure 1 shows the industrial per capita emissions during 1990-2007. The per capita reduction in SO_2, COD, and smoke and dust emissions began from around 1997 but per capita emissions of SO_2 began increasing from 2004 to 2006, and reducing from 2006. By 1996 China had effectively introduced a water pollution levy system across countries and cities by imposing levies on about 300,000 firms. In the absence of meeting the legal standard of discharge, firms must pay fees (Dean, 2002). Zhang and Fu (2008) wrote that industrial water emission (COD) has reduced over time. In the 1990s, six environmental laws and regulations were revised under which cleaner production and a discharge permit system was applied. Under this system, pollution sources were required to register with the local Environment Protection Body (EPBs) and apply for a discharge permit. These EPBs then allocated the allowable pollution loads to sources, issued discharge permits, and enforced permit conditions. By 2001, 430 sets of environmental standards were in place at the central government level and 1,020 sets of laws, regulations, ordinations and rules at the local level (Managi and Kaneko, 2006). Zhang and Fu (2008) argued that although the comprehensive regulatory framework is in place, the enforcement is weak.

Figure 1: Per capita emissions in China, 1990-2007



Source: Liu (2009). Data obtained from China Statistical Yearbook (various issues), and China Environment Yearbook (various issues).

The objective of this research is to study the links between trade, growth, and environmental pollution in the light of economic reforms (deregulation), and associated growth and increasing environmental regulations. It was hypothesised that trade liberalisation in China had a short term negative effect on the environment and a long term positive effect based on the assumption that externality can be internalised and that an Environmental Kuznets curve (EKC) exists in China. The 1990 to 2007 period for our analysis reflects the intensive changes in economic reforms and environmental policies in China. The next section links trade, growth and emissions in China by using the available literature survey. The third section outlines the method and economic estimation. The last section summarises the conclusions of this study.

2. LINK BETWEEN TRADE, GROWTH AND EMISSIONS IN CHINA

Table 1 show the EKC turning point income for the corresponding emissions in China. The EKC hypothesis contends that pollution increases initially as a country develops its industry and then declines after reaching a certain level of economic progress. Pollution increases at the early phase of industrialisation due to the setting up of polluting industries. The turning point for pollution is the result of more wealthy and progressive communities putting institutional and non-institutional measures into place because they increasingly value a cleaner environment. When industrialisation is sufficiently advanced, less polluting service industries will gain prominence. During economic growth the inverted U-shaped curve develops, but beyond a certain income level the relationship between environmental pollution and income reverts to being a positive generating N-shape curve.

As inconsistency in time, country, and methodology put a barrier against any meaningful comparison between cross-country studies, we presented evidence for an individual country by focusing China. To show the environmental impact in China, a number of studies estimated EKC (Llorca and Meunie, 2009; Diao et al., 2009; He, 2008; Shen, 2006; Groot et.al., 2004). Shen (2006) found evidence for an inverted-U curve for arsenic, cadmium, and COD. Evidence of an inverted-U curve was also found for SO_2 (He, 2008) and for wastewater, waste gas, soot and dust (Diao et al., 2009) and Llorca and Meunie (2009) obtained evidence of an N-shape curve for SO_2. Diao et.al. (2009) only used one city in their analysis and found a relatively high turning point income.

The majority of the studies seemed to be consistent in their application of methodology, time, and number of provinces. As a methodology, they estimated fixed effects from provincial panel data. Emissions were measured in absolute levels, per capita terms, and per unit of gross regional product terms, covering a range of provinces in China[2]. Most of the studies analysed provincial level panel data for their analysis to examine fixed effects. Time period is, in general, 1982 to 2005 eventhough a slight variation among studies during this period. Majority of the studies used around 28 to 31 provinces except Diao et al. (2009).

One can notice that majority of studies (for example, Llorca and Meunie, 2009; Diao et al., 2009; He, 2008; Groot et al., 2004) used quadratic levels function which has symmetrical nature implying first, that pollution levels will fall at the same rate as they increased and, second, that these pollution levels will become negative, probably in a short space of time. Quadratic logs function seems to provide more realistic income-environment association in which log function falls away gradually once it passes the turning point as the curve asymptotically approaches zero. A quadratic logs function is capable to correct the positive skewness in the distribution of variables in level equations. Interpretation is in percentage terms and easy to handle in log functions. In table 2, Only Chen (2007) and Shen (2006) applied quadratic logs function and are reliable.

EKC is likely to affect from simultaneity bias due to casualty moving from the increase/decrease of emissions due to income. A Wu-Hausman test is conducted to test the exogeneity using lagged income as instrumental variable. The simultaneity bias is not present. The Breusch-Pagan tests for heteroskdasticity reject the null hypothesis of homoskedasticity in all cases. The Wooldridge test for first-order aoutocorrelation is significant which suggests the presence of first-order autocorrelation in the error term. We use robust standard error to correct our results.

The provincial turning point income (peak point) in the SO_2 series varied from 4,596 (Llorca and Meunie, 2009) to 10,226 (He, 2008). The turning point parameter estimates were dependent on the sample and type of emissions used in the respective studies (Table 2).[3]

Table 1: EKC turning point income in China: literature survey

Authors	Turning point in yuan and EKC form	Regions/periods	Estimation
Llorca and Meunie (2009)	SO_2 (P 4596): N	28 provinces 1985-2003	Level, Cubic, Panel, Fixed-effect
Diao et al., (2009)	Wastewater (P 20132), Waste gas (P 20762), Soot (P 12659), Dust (P 10804): inverted-U	1 city: Jiaxing 1995-2005	Level, Square, Cubic, OLS
He (2008)	SO_2 (P 10226): Inverted-U and N	29 provinces 1992-2003	Level, Square, Cubic, Panel, Fixed-effect
Chen (2007)	SO_2 (P 13442), Dust (P 7359), Soot (P 7583): N	29 provinces 1992-2005	Log, Cubic, Panel, Fixed-effect
Shen (2006)	COD (P 6547), Arsenic (P 13879), Cadmium (P7500): inverted-U	31 provinces 1993-2002	Log, Square, 2SLS
Groot et al., (2004)	Waste gas: Inverted-U Solid waste: N	30 provinces 1982-1997	Level, Cubic Panel, Fixed-effect

Note: P = Peak point, All the turning points are in 1990 price.

As Vincent (1997) pointed out, the cross-country version of the EKC is misleading because cross-country regressions seem to be sensitive to slight alterations in the policy variables and small changes in the sample of the countries chosen. More could be learnt by examining the experiences of individual countries at varying levels of development, income, and patterns of consumption. The provincial turning point income was relatively low which could be predictable for China because it is developing and learning from the mistakes of their forefathers from across countries and is much more likely to quickly reach the turning point income.

3. EKC ESTIMATIONS

Majority of the studies in Table 1 ignore using quadratic logs function correcting endogenity problem. Only Chen (2007) and Shen (2006) applied logs function. A Wu-Hausman test is conducted to test the exogeneity using lagged income as instrumental variable. The simultaneity bias is not present. The Wooldridge test for first-order autocorrelation is significant which suggests the presence of first-order autocorrelation in the error term. We use robust standard error to correct our results. Our own estimation of turning point in equation 1 is more reliable relative to other studies in Table 2.

$$\ln E_{it} = \beta_0 + \beta_1 \ln Y_{it} + \beta_2 (\ln Y_{it})^2 + \varepsilon_{it} \quad (1)$$

i = 1, 2, …, n
t = 1, 2, …, n

where i indexes provinces and t indexes time; E_{it} is one of the four pollutants measured in per capita terms for province i at time t. Y is real GDP per capita for province i at time t; β is coefficient parameter; μ_t are time effects; and ε_{it} is error term assumed to be stationary. The 'turning point' income, where emissions are at a maximum, is given by:

$$x^* = \exp(-\beta_1 / 2\beta_2) \quad (2)$$

To obtain support for the EKC hypothesis we estimated equation 1 using provincial level panel data (in constant 1990 prices) comprising 30 provinces\municipalities\autonomous regions for the period 1990 to 2007[4]. Our study incorporates industrial emission variables such as sulphur dioxide (SO_2), chemical oxygen demand (COD), smoke and dust and provincial level real income which were obtained from various issues of the China Environmental Yearbook and the China Statistical Yearbook.

Table 2 reports the estimation results of equations (1) for each of the two pollutants such as SO_2 and COD estimated by the fixed and random effect specifications. EKC is not found for industrial smoke and dust indicating existing monotonic relationship between the pollutants and income and removed from further analysis.

Table 2: EKC estimates and turning point income for 30 provinces in China: 1990-2007

	SO_2		COD	
	FE	**RE**	**FE**	**RE**
Y	1.54*** (4.91)	1.52*** (4.86)	2.12*** (5.57)	2.26*** (6.01)
Y^2	-0.08*** (-4.25)	-0.08*** (-4.20)	-0.12*** (-5.88)	-0.13*** (-6.13)
Constant	-11.69*** (-9.08)	-11.63*** (-8.99)	-13.52*** (-7.87)	-14.22*** (-8.25)
Turning Point	15138	13359	6859	5957
R^2	0.58	0.58	0.65	0.65
F-statistic	54.89***		308.26***	
X^2-statistic		110.59**		918.72***
No. of Obs.	540	540	540	540
Shape of curve	Inverted-U	Inverted-U	Inverted-U	Inverted-U
W-H test	3.75		5.94	
B-P test	17.90***		3.01*	
Wooldridge test	32.04***		39.14***	

Note: robust t-statistics/z-statistics in parentheses; *,**, and *** indicate significant at 10%, 5% and 1% level, respectively; turning point is in RMB at 1990 price.

$$\ln E_{it} = \beta_0 + \beta_1 \ln Y_{it} + \beta_2 (\ln Y_{it})^2 + \varepsilon_{it} \quad (1)$$

$$x^* = \exp(-\beta_1 / 2\beta_2)$$

For both pollutants, per capita SO_2 and COD, β_1s are positive and β_2s are negative at the 1% significance level, which suggests the existing inverted-U shaped EKC. Models are fit in terms of adjusted R^2 values. Maximum pollution for SO_2 and COD is reached at approximately 15,138 yuan and 6859 yuan per capita respectively. All 30 provinces exceeded COD threshold in the following order, the first 8 provinces achieved this from 1990 to 1995, the second 6 provinces from 1996 to 2000, the third 14 provinces from 2001 to 2005 and the last 2 provinces from 2006 to 2008. A few provinces, such as Shanghai, Zhejiang, Tianjin, Beijing, Guangdong, Jiangsu, Shandong, Fujian, Heilongjiang, Hebei, Hubei, Henan and Jilin, have exceeded SO_2 threshold since 2001. The results also show that the poor central and western regions appear to have turning points at lower income levels than the richer coastal region (Liu, 2009).

4. CONCLUSION

Our own estimation of EKC in China showed that the turning point provincial income were 15,138 yuan for SO_2 per capita and 6,859 yuan for COD per capita at constant 1990 prices, which was consistent with other studies (Shen, 2006; He, 2008). Only four provinces such have exceeded SO_2 threshold since 2001. All 30 provinces exceeded COD threshold in the following order, the first 8 provinces achieved this from 1990 to 1995, the second 6 provinces from 1996 to 2000, the third 14 provinces from 2001 to 2005 and the last 2 provinces from 2006 to 2008.

China's provincial income turning point is relatively low compared to cross country studies. As Vincent (1997) argued, the cross-country version of the EKC was misleading, which may be due to varying income and consumption patterns across countries. China is currently in the process of development and likely to reach the turning point income more rapidly than developed countries. This argument is consistent with Stern (2004) who showed that developing countries are adopting developed country standards with a short time lag, and are sometimes performing better than developed countries. A true relationship between development and the environment may be country specific and require further intensive research using more rigorous time-series panel data methods.

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[1] Dual-track refers to the coexistence of a traditional plan and a market channel for the allocation of a given good.

[2] Earlier studies focused Beijing (Wu et.al., 2002) using time series data. Groot et al. (2004) initiated using a sample of 30 provinces of China from 1982 to 1997.

[3] In a literature survey on cross-country studies (both developed and developing countries together) Stern (2004) finds that sulfer emissions and concentrations show the estimated income turning point range from $3137 to $22,675.

[4] Chongqing became a municipality directly under the jurisdiction of central government in 1996. In order to keep consistency, the relevant data for Chongqing are added to those for province of Sichuan.

HOW TO MAKE TEACHING OF STATISTICS MORE EFFECTIVE IN BUSINESS SCHOOLS?

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ABSTRACT

Statistics is taught in almost all Business Schools as a core course and prerequisite to may advance economics, finance and accountancy courses. However, Statistics has to be taught in a different way in Business Schools as compared to how it is taught in their own statistics department. There should be more emphasis on applications in Business area rather than theory. There has been lot of interest in teaching of statistics in Business schools for a very long time, for example see Cox (1965), Moore (1976) and Love and Hildebrand (2002). This paper discusses author's experience of teaching statistics in an Australian Business Schools, best curriculum to satisfy other departments and courses, how to make teaching of statistics more interesting and effective and several other issues dealing with teaching of Statistics.

Keywords: *Business Statistics, EXCEL, Assessment, Data Analysis*

1. INTRODUCTION

"Statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write." H G Wells
"There are three kinds of lie in the world; lies, damned lies and statistics."

Keeping in mind the first quotation and to disprove the second quotation we decided to make knowledge of statistics compulsory for all students in Bond University. It may be mentioned that Bond University is first private University in Australia and all students are required to do four core courses which are compulsory: Communication skills, Core computing, Ethics and Public speaking. Statistics was part of computing courses and consisted of descriptive statistics, probability, discrete and continuous distribution including normal distribution. However, the attempt was not successful because of various reasons. Statistics remained part of the curriculum in Business, IT and Psychology Schools. In many Universities Statistics is taught more as service course rather than to the students of their own department. In some departments it is taught by non-statisticians which are not liked by statistician and also it creates problem in the accreditation of their courses. However it is also difficult and challenging to teach statistics to students of other discipline who have very little or no knowledge of mathematics. In this paper we will concentrate only on the Business Schools and may be later we will look how to make statistics effective in whole University.

As pointed out by Hal Varian, Chief Economist at Google "The ability to take data- to be able to understand it, to process it, to extract value from it, to visualize it, to communicate it – that is going to be a hugely important skill in the next decades." Hence it is very important to teach statistics effectively in Business Schools. In many business schools Statistics is just considered as service subject and quite often ignored not only by students but other faculty members and taught by non-statistician. This creates serious problem when students go for higher courses in finance, economics, accounting etc. They also face serious problems when they finish their degree and start the job. Statistics courses are usually disliked by students and termed as "boring" or "dry". They just want to pass the course so that they can enroll in other courses

The other thing which we should take into consideration is the quality of students coming to Business Schools. Overall numeracy skills have declined a lot in Australia in the last two decades and most of the students admitted to Business schools have low numeracy skills as compared to their counterparts in Engineering, Science and IT schools. In the back ground test which we give in the beginning of the course suggests some students have completely forgotten how to do simple numerical computation like 50-2x10 (They subtract 2 first and then multiply by 10 using calculator). In some instances they think -4x-

4=-16. It has been observed that they rely completely on calculator. The problem is worse with mature students who come to do their masters degree after leaving school more than 20-30 years ago. Question is how to teach statistics to these students!

2. STATISTICAL APPLICATIONS IN MANAGEMENT

Statistics has got vast applications in almost all areas of management. In fact statistical tools are widely used in research in various disciplines of management. However, as far as teaching is concerned statistical techniques are used in the teaching of finance, economics, accountancy and market research. Some basic statistical tools and graphs etc are used in management, organizational behaviour etc. Statistical techniques which are required in the teaching of Finance, Economics and accountancy courses consists of descriptive statistics, normal distribution, expectation and risk (variance), simple and multiple regression etc. In market research the statistical techniques required besides these are confidence interval, testing of hypothesis, chi square, contingency table, ANOVA, Sampling etc.

3. STATISTICS CURRICULUM IN BUSINESS SCHOOLS

Statistics courses differ in quality as well as quantity in Business Schools. At the Undergraduate level most of the Universities have two different courses besides a course on Business Mathematics which may be prerequisite to this course. The first course usually referred as Elementary Business Statistics is mainly for those students who want to major in Organisation behaviour, Marketing or general management and it consists of descriptive statistics, discrete and continuous probability distributions, confidence interval and hypothesis testing, simple linear regression and correlation. The other course usually referred as Business Statistics or Econometrics is for those students who want to major in Economics, Finance or Accounting. This is a higher level course and besides covering most of the topics in Elementary Business Statistics also consists of multiple regression model, time series analysis, autocorrelation, hetroscedasticity and forecasting. It may be mentioned that in Australian Universities students have to do 24 courses to get an Undergraduate degree. They should do at least three courses in Mathematics and Statistics but because of the pressure from other core management disciplines they allow students to do only two courses. We assume students have sufficient basic background in Mathematics have done at least Maths B in grade 12 but as mentioned earlier it is very difficult to control the quality as students come from different back ground, states and countries. The main goal of these courses is to help students develop computational skills and problem solving capabilities using Excel as a tool for analysis and presentation of solutions to business problems. Usually there will be minimal coverage of the theory underlying statistical techniques. The emphasis will be placed on determining when it is appropriate to use the various techniques and how to use Excel to carry out the analysis. Interpretation of output generated by Excel is also an important objective.

At the post graduate level students usually do only 12 courses to complete their Master of Business Administration (MBA) or Master of Business (M.Bus) degree. Here usually statisticians get only one course to cover everything. This course referred as Statistics in Business usually consists of graphical representation of data, descriptive statistics, Discrete and Continuous probability distribution, confidence interval and testing og hypothesis, correlation and regression and quality control. This course is quite similar to Elementary Business Statistics courses mentioned above for Undergraduate students and is meant for those students who have no previous background of Statistics (students from any discipline can get admission in MBA or M.Bus). The other course referred as Forecasting for Management is for students doing major in Finance or Economics and have done Statistics course earlier. This consists of forecasting using multiple regression models, time series analysis, forecasting using ARMA model, exponential smoothing and ARCH, GARCH model which may be helpful in financial forecasting.

At the doctoral there is more flexibility in offering the courses. For example PhD students in marketing or OB may only need t-test, chi square test or multiple regression model but students doing research in finance or economics may need ARIMA, ARCH and GARCH model or Co-integration analysis. The courses usually offered are research methods, multivariate analysis, statistical modelling, forecasting for management and advanced Econometrics.

4. ASSESSMENT

Assessment plays a key role in making statistics effective in Business School. Usually at the Elementary courses we have homework and assignments every week , usually 10 homework worth 10%, Quiz each week which consists of short and multiple choice question every week usually 10 worth 10%, midterm exam worth 20%, EXCEL exam where students have to answer the questions using EXCEL worth 10% and final exam worth 50%. Usually students are allowed to bring 1 page of formula sheet besides calculator. In some courses we have also tried open book and fully EXCEL based exams. At the post graduate level students are supposed to do a project as described below:

The aim of this project is to analyse any set of data of their interest. It will be better if the students collect time series data for 3-5 years. It can be monthly or quarterly data. Students can collect the data from Reserve Bank of Australia Bulletin, Australian Bureau of Statistics or from any other organization. Students can also collect data from their own country. The following site has lots of Australian Data http://www.aph.gov.au/library/pubs/mesi

The project report should consist of

1. Introduction: Objective of study (to forecast gold price)
2. Data (Source, time, type- monthly, quarterly)
3. Descriptive statistics and graphical display
4. Correlation analysis (How the variable is correlated with other variables like exchange rate, All ord etc.)
5. Regression Analysis: Which variables are significant etc.
6. Seasonal indices and forecasting.
7. Conclusion
8. References

Students are supposed to present this project in front of the class in the last week of the course. This project gives them a good understanding of descriptive statistics, correlation, multiple regression, time series analysis and forecasting. Students can compare different forecasting methods like moving average and dummy variable techniques etc. The importance of doing a project in Statistics course has been emphasised by Evans and Griffith (1976) and Smith (1998).

5. TEACHING STATISTICS WITH THE HELP OF EXCEL

Teaching of basic statistics courses using Microsoft EXCEL has become more popular in Business schools. There are quite a few books (for example Levine et. al (2009)) which have appeared in the market on Business Statistics using EXCEL. One of the advantages of using EXCEL is that it is very user friendly and it comes as part of the Microsoft package which is available on most of the PCs. Other statistical packages may cost lot of money and may not be available on every manager's desk. So students don't have to buy additional statistical package.

Excel is very good tool for graphical representation and producing tables. The "Analysis Toolpak" can do lots of statistical analysis for example calculation of descriptive statistics, correlation, multiple regression, ANOVA, t-test, Z-test, confidence interval, moving average, random number generator etc. The basic statistical functions can be used to calculate normal probabilities, binomial probabilities, chi square test etc.

However, EXCEL has some weaknesses as pointed out by Bell (2000). Some students may not be familiar with EXCEL but the bigger problem is students may crunch the numbers without thinking why it is done or how we are getting results. Correct interpretation of the output is more important than just getting the output.

6. HOW TO IMPROVE TEACHING OF STATISTICS IN BUSINESS SCHOOLS

Usually statistics is considered as “boring” or “dry” subject. Here are few tips which can make statistics “interesting” or “juicy” and can improve teaching of statistics in Business Schools.

- We should use case or problem based learning where all the topics should be introduced with a problem in real life, may be in business context, and then the statistical tools should be taught to show how the problem can be solved with the help of these tools and techniques using real data.
- Emphasis should be more on applications rather than theory.
- Spread sheet like EXCEL can be used for data analysis and teaching various concepts in statistics for example graphical representation of the data, calculation of descriptive statistics, normal probabilities, confidence interval, hypothesis testing, correlation and regression. Those students who lack numeracy skills in school usually feel comfortable in calculations when they use EXCEL.
- Students should be taught how the statistics can be misused (for example correlation and causation) and the importance of verifying the assumptions in statistical data analysis.
- Emphasis should be placed on statistical communication which includes tabular analysis, graphical representation and report writing for non-statistician.
- Statistical thinking should be embedded in all business courses.

At the conclusion of this subject, students should be able to:

- have a basic knowledge of the application of mathematics and statistics to business disciplines
- Present and describe information using a range of numerical and graphical procedures.
- develop an ability to analyse and interpret data to provide meaningful information to assist in making management decisions
- Develop an ability to apply modern quantitative tools (Microsoft Excel) to data analysis in a business context.
- Understand the process of statistical inference where inference regarding the whole population can be drawn based on sample values.
- Understand how the correlation and regression analysis can be used to uncover relationship between variables and to produce forecasts.

It is envisaged that tomorrow’s manager will be working in a rapidly changing global environment where the internet and management information system will provide them with huge amount of data. The managers should have some basic skills in data mining where they can use empirical evidence to make better decisions and can successfully communicate their decision to others. Statistical courses in Business Schools should provide them tools needed to transform the large amount of data that managers must work with into information that can be used when making decisions.

7. CONCLUSIONS

We think there is a need to redesign the statistics curriculum in Business Schools looking at the need of the statistician in industry and importance of statistics to the middle and senior level management. Business School students should have some idea of data collection through interview and questionnaire as well as through secondary sources. Some of the techniques like statistical quality control, non parametric methods, statistical modelling, and data mining and basic multivariate analysis are not taught at the Undergraduate or Post graduate level because of the lack of courses offered by Business Schools. However, managers are aware that statistics can play a crucial role in quality improvement using these techniques. It will be interesting to see how the alumni from Business School feel about the statistics courses which they have learnt and their applicability in their jobs.

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CONVERGENCE OF TOTAL FACTOR PRODUCTIVITY AMONG BANKS: HONG KONG'S EXPERIENCE

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ABSTRACT

The objective of this study is to answer these questions by looking for convergence in total factor productivity (TFP) among banks in Hong Kong. If the gains from scale economies decline with firm size and the only difference between banks lies in their initial size, the initially smaller banks should eventually catch up to the initially larger ones because the former tends to grow more rapidly. However, the findings from this study do not support this hypothesis of "absolute convergence." Indeed, the findings show strong evidence for "conditional convergence," which means that the steady-state TFP to which a bank is converging is conditional on the bank's own level of X-efficiency.

1. INTRODUCTION

Comparison of productivity performance across financial institutions is central to many of the questions concerning factors leading to productivity growth: Are less productive financial institutions catching up to the more productive ones, and if so, how quickly and by what means? Groups as disparate as financial economists and business leaders have expressed profound interest in the answer to the question whether the currently best-performing institutions can maintain their roles as productivity leaders in the future. With special reference to the Hong Kong banking industry, this study examines the convergence of productivity among commercial banks.

Studies in past literature have identified two major factors governing productivity in the banking sector – scale economies and X-efficiency. Scale economies can arise from improved division of labor and specialization in larger banks. In addition, the risk diversification effect of a larger loan portfolio provides a bank-specific reason for increasing returns to scale. On the other hand, X-efficiency refers to all technical and allocative efficiencies of individual banks, which are related to managerial ability to control costs or maximize revenues. Findings from past research suggest that X-efficiency differences across banks are large and dominate scale economies [see Berger *et al* (1993a)].

However, results from past studies suggest that even within the output range where scale economies do exist their measured extent is small, of the order of 5% or less [Berger and Humphrey (1992)], and that banks typically display high (and variable) levels of X-efficiency [Berger and Humphrey (1991), Drake and Weyman-Jones (1992), and Miller and Noulas (1996)]. Therefore, X-efficiency is likely to be large enough to dominate scale effects. Since the factors determining X-efficiencies are bank-specific, productivity growth resulting from X-efficiency implies that banks may converge to different levels of steady-state productivity. This is the so-called "conditional convergence" hypothesis. Fung (2006) found strong evidence for conditional convergence in productivity among bank holding companies (BHCs) in the US, which suggests that the steady-state productivity to which a BHC is converging is conditional on the BHC's own level of X-efficiency. The objective of this study is to investigate whether such convergence in productivity exits in the Hong Kong banking industry.

2. EMPIRICAL FORMULATION

To model the bank production function, this study employs the intermediation approach [Sealey and Lindley (1997)] wherein banks intermediate financial services, collect purchased funds and use labor and capital to transform these funds into loans and other assets. We use a Cobb-Douglas production function where output is produced with fixed assets, liquid assets and variable input. A production function is therefore specified as follows:

$$Y_{i,t} = A_{i,t} K_{i,t}^{\alpha} D_{i,t}^{\gamma} L_{i,t}^{\beta} \tag{1}$$

where, $Y_{i,t}$ is the output, $K_{i,t}$ is the fixed assets, $D_{i,t}$ is the liquid assets, $L_{i,t}$ is the variable input, and $A_{i,t}$ is the total factor productivity of firm *i* at time *t*. $Y_{i,t}$ in equation (1) has two alternative definitions: $Y1_{i,t}$ and $Y2_{i,t}$. While $Y1_{i,t}$ is the book value of loans and investments, $Y2_{i,t}$ is the sum of interest and non-interest income. Note that $Y2_{i,t}$ is a combined measure of traditional and non-traditional banking services because incomes generated from these services have a common unit of measurement.

Equation (1) allows the possibility of non-constant returns to scale by not restricting $\alpha+\gamma+\beta=1$. It is a standard practice in past literature to divide equation (1) by L so as to express output, fixed asset and liquid assets on a per unit of variable input basis. That is,

$$y_{i,t} = A_{i,t}k_{i,t}^{\alpha}d_{i,t}^{\gamma}L_{i,t}^{\alpha+\beta+\gamma-1}, \tag{2}$$

where, $y_{i,t}$, $k_{i,t}$ and $d_{i,t}$ are output per unit of variable input, fixed assets per unit of variable input and liquid assets per unit of variable input, respectively. For the purpose of estimation, equation (2) is log-transformed as follows.

$$\ln y_{i,t} = \ln A_{i,t} + \alpha \ln k_{i,t} + \gamma \ln d_{i,t} + (\alpha+\beta+\gamma-1)\ln L_{i,t}. \tag{3}$$

Note that the test for constant return to scale involves whether the coefficient of $\ln L$ equals zero. The regression equation emerges by adding a constant term and a random error to equation (3), which is stated as

$$\ln y_{i,t} = \Gamma + \alpha \ln k_{i,t} + \gamma \ln d_{i,t} + (\alpha+\beta+\gamma-1)\ln L_{i,t} + \varepsilon_{i,t}, \tag{4}$$

where $\varepsilon_{i,t}$ is a white noise. Following the technique developed by Miller and Upadhyay (2000, 2002) for calculating total factor productivity, Γ is a vector of the constant term, firm-specific fixed effects and time-specific fixed effects. By subtracting equation (3) from (4), the expression of TFP becomes

$$\ln A_{i,t} = \Gamma + \varepsilon_{i.t}. \tag{5}$$

In addition, the level of X-efficiency can be calculated from a frontier estimation of equation (4).

In this study, the *β*-convergence of banks in TFP are tested in two ways – a cross-section test for absolute convergence and a pooled cross-section, time series test for conditional convergence. Following the approach of Fung (2006), the regression equations for absolute convergence in TFP have the following forms.

$$g_{A_i} = \ln \widetilde{A}_i - \ln \overline{A}_i = \gamma_A + \lambda_A \ln \overline{A}_i + \varepsilon_{A_i}, \tag{6}$$

$$\overline{A}_i = \sum\nolimits_{t=1}^{s} A_{i,t}/s, \qquad \widetilde{A}_i = \sum\nolimits_{t=s+u+1}^{T} A_{i,t}/(T-s-u),$$

where, g_{A_i} is the growth rates of bank *i*'s TFP from the initial period to the final period, *t* = 1, …,*s* is the initial period, *t* = *s*+*u*+1, …, *T* is the final period, and *u* = *T* – 2*s* ≥ 0 is the time lag between the initial and final periods. Absolute *β*-convergence implies λ_A < 0. The regression equation for conditional convergence has the following form.

$$g_{A_{i,t}} = \ln A_{i,t} - \ln A_{i,t-1} = \phi_A + \varphi_A \ln A_{i,t-1} + \pi_A X_{i,t-1} + \mu_{A_{i,t}} \tag{7}$$

Conditional *β*-convergence implies φ_A < 0. $X_{i,t}$ is a vector of firm-specific determinants of X-efficiency, which hold constant the steady-state TFP of bank *i*.

3. DATA

The sample includes 32 banks in Hong Kong that cover all the locally incorporated licensed banks in the territory. The sampling period runs from 1993 – 2002. The panel data set is imbalanced because of the missing observations for some banks (usually the relatively small ones) in early 1990s. The effective sample size is 225 after eliminating missing observations and creating lagged variables, with each observation contains yearly data on the book values of fixed assets ($K_{i,t}$), liquid assets ($D_{i,t}$), operating expenses ($L_{i,t}$), provisions for bad and doubtful debts ($BAD_{i,t}$), directors' emoluments ($DIR_{i,t}$), loans and investments, interest income, and non-interest income.

4. RESULTS

Table 1: Cross-section tests for absolute convergence of TFP

Coefficients	Model 1a: $Y_{i,t} = Y1_{i,t}$	Model 1b: $Y_{i,t} = Y2_{i,t}$
λ_A , u = 2	-0.384 (-1.023) R^2 = 0.230	-0.334 (-1.062) R^2 = 0.232
λ_A , u = 4	-0.303 (-1.290) R^2 = 0.284	-0.339 (-1.130) R^2 = 0.305
λ_A , u = 6	-0.329† (-1.484) R^2 = 0.298	-0.426† (-1.521) R^2 = 0.312

The results of the absolute β-convergence tests appear in Table 1. To allow for various time lags between the initial and final periods, equation (6) was estimated for u = 2, 4, and 6. The estimated coefficients for λ_A suggest no evidence for absolute convergence when u = 2 and 4, and only weak evidence (at 10% level of significance) when u = 6. Two findings with regard to the results of estimation deserve mention. First, the marginally significant coefficient (at 10% level) when u = 6 implies that absolute convergence is more likely to occur over a longer time period (i.e. when a longer time lag between the initial and final periods is allowed). Second, since a common steady-state TFP for firms producing different mixes of products is unlikely to exist, the non-existence of strong evidence for absolute convergence could be attributable to the diversity of product categories carried by the banks in the sample.

Table 2: Pooled cross-section, time series tests for conditional convergence of TFP (with X-efficiency)

Independent variable [coefficient]	$Y_{i,t} = Y1_{i,t}$		$Y_{i,t} = Y2_{i,t}$	
	Model 2a	Model 3a:	Model 2b	Model 3b:
$\ln A_{i,t-1}$ [φ_A]	-0.583** (-8.248)	-0.602** (-8.030)	-0.525** (-7.002)	-0.659** (-7.732)
$\ln DIR_{i,t}$	-	0.144** (2.506)	-	0.188** (2.254)
$\ln BAD_{i,t}$	-	-0.009* (-1.987)	-	-0.012* (-2.003)
$SPR_{i,t}$	-	0.594 (1.017)	-	0.385 (0.902)
$MS_{i,t}$	-	0.023 (0.939)	-	0.022 (1.100)
X-efficiency	0.352** (4.293)	-	0.331** (3.045)	-
Adjusted R-square	0.490	0.551	0.443	0.579

Compared to the results of absolute convergence test, a very different story emerges from the results of the conditional convergence tests reported in Table 2. While Models 2a (3a) and 2b (3b) have different output definitions, both of them capture unspecified firm-specific characteristics by the direct or indirect measures of X-efficiency. While the direct measure of X-efficiency is calculated from the production frontier, the indirect measures includes $\ln DIR_{i,t}$, $\ln BAD_{i,t}$, $SPR_{i,t}$, and $MS_{i,t}$.

Conditional convergence in each of the four models is evidenced by the negative and strongly significant coefficient for $\ln A_{i,t-1}$, which implies that the TFP growth rate of a bank decreases with its current level of TFP. In other words, each bank is converging to its own steady-state equilibrium, and banks possessing certain characteristics tend to grow faster at each particular point of time and end up with a higher steady-state TFP. First, the coefficient of $\ln DIR_{i,t}$ is significantly positive for both output definitions, which suggests that banks offering higher management incentives are able to grow faster by attracting more competent decision makers, or that the higher compensations paid to the top management simply reflect superior managerial ability. Second, the significantly negative coefficient for $\ln BAD_{i,t}$ in both models suggests that banks with better risk management are able to grow faster by reducing the cost of capital. However, another measure of risk management, $SPR_{i,t}$, is insignificant in the presence of $\ln BAD_{i,t}$. Moreover, the insignificant coefficient for $MS_{i,t}$ is inconsistent with expectation.

5. CONCLUSIONS

The empirical formulation for conditional convergence employed by this study assumes that scale economies and X-efficiency are separately determined. However, the relationship between scale economies and X-efficiency may well be an interactive one. On the one hand, a plausible interpretation for the findings of this study is that all banks are converging to a minimum efficient scale, but that this scale is conditional on the level of X-efficiency. As such, a higher level of X-efficiency caused by higher management incentives and better risk management may increase the minimum efficient scale. That is to say, while the gains from scale economies decline with firm size, banks with a higher level of X-efficiency will converge to a larger minimum efficiency scale and, thus, to a higher TFP in the steady-state. On the other hand, scale economies can be an important determinant of X-efficiency because larger firms may be better able to reach their optimal output mix and scale of output.

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EARTH SYSTEM GOVERNANCE IN SOUTH ASIA: DESIGNING CROSS-SECTOR COLLABORATION

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ABSTRACT

The example of the U.S. and India is provided to define the current geopolitical situation between developed and developing countries, with cross-sector collaboration identified as a strategy for addressing environmental sustainability in South Asia. Earth system governance is proposed as a structure for addressing environmental sustainability and the overarching goal of providing an environment in South Asia that can sustain future generations.

Keywords: Earth system governance, Cross-sector collaboration, Environmental sustainability

1.0 INTRODUCTION

South Asia's pursuit of economic development has exposed the fragility of the physical environment in the region, with environmental degradation and overuse of natural resources posing possible constraints on sustaining the food supply needed to support the rapid growth in population (Alauddin, 2004). With the establishment of the South Asia Free Trade Agreement (SAFTA) and trade and economic development institutions, such as the South Asian Association for Regional Cooperation (SAARC) (Kelegama and Adhikari, 2005), the timing is propitious for designing mechanisms in support of earth system governance in South Asia, which are also complementary of sustained economic development and the alleviation of social problems, such as poverty.

1.1 Defining Earth System Governance and Cross-Sector Collaboration
Earth system governance can be defined as "the sum of the formal and informal rule systems and actor-networks at all levels of human society (from local to global) that are set up to influence the co-evolution of human and natural systems in a way that secures the sustainable development of human society" (Biermann, 2006). In essence, the goal of earth system governance is to "analyze and design governance systems that can adapt to changes in monsoon patterns and other large-scale breakdowns of ecosystems" (Biermann, 2006), while also implementing collective action to address current ecological challenges. As conceptualized in the *New Delhi Declaration of Principles of International Law Relating to Sustainable Development*, the normative aspiration of earth system governance is sustainable development, with its triangle of ecological, economic, and social sustainability (International Law Association, 2002). Its measure of success is the providing of an environment that can sustain future generations.

This paper suggests that, given the scale, complexity, and urgency of the sustainability challenge in South Asia, cross-sector collaboration (private, public, and nonprofit sectors) is a necessary mechanism for sustained, broad-based societal support of earth system governance in South Asia. Gray (1989) defines collaboration as a "process through which parties who see different aspects of a problem can constructively explore their differences and search for solutions that go beyond their own limited vision of what is possible." Trist (1983) notes that collaboration is most likely to occur when problems are complex, wide in scope, and beyond the means of single organizations to solve unilaterally. Waddock (1991) refers to these "problem domains" (Trist, 1983) as "indivisible problems" which, as a result, require the efforts of two or more sectors in a forum in which they cooperatively attempt to solve a problem or issue of mutual concern that offers identifiable benefits for all participants, either directly or indirectly.

Recognizing the seemingly inextricable linkage between economic development and the environment, the design in this paper involves a two-step approach including the geopolitical sphere of South Asia (specifically, India in this case) trade relationships and politics (specifically, the U.S. in this case), as well as cross-sector collaboration on a local, regional, national, and global scale and scope.
In this context, the dynamic GDP growth of most SAARC countries in recent years, as well as the increasing power of India in WTO, multilateral, and bilateral trade negotiations, reflects the growing importance of South Asia on the global stage. However, economic growth in South Asia is in tandem with the burgeoning growth in population, which together imposes an increasing burden on the natural resource stock, resulting in degradation of the natural environment. From the perspective of earth system governance, this interaction of economic growth and natural resource depletion raises the central question of how a sustainable existence can be provided for future generations regionally and globally.

1.2 Theory Identification
Thus, this paper recognizes a gap between geopolitical factors, in which the dynamic growth of GDP in South Asia presents a new dimension in trade and economic relationships particularly with the developed economies, and the growing problem of environmental resource constraints and degradation, which demands a greater focus on cross-sector collaboration as a design mechanism to assist in managing sustainable ecosystems. In developing the design concept for addressing earth system governance in South Asia, this paper draws on institutional theory (Greenwood and Suddaby, 2006; DiMaggio and Powell, 1983; Meyer and Rowan, 1977) to address relationships in the geopolitical sphere, as well as among the government, private, and nonprofit sectors. Strategies for linking the geopolitical sphere with cross-sector collaboration are developed through approaches to regime theory (Hasenclaver, Mayer, and Rittberger, 1997; Keohane, 1984) in which international cooperation is based on evolving norms that support collective action (Wijen and Ansari, 2007). Finally, concepts from social marketing (Ling, Franklin, Lindsteadt, and Gearon, 1992) are drawn upon to implement strategies of cross-sector collaboration.

Ultimately, the objective of the paper is to provide a conceptual design for adapting economic, as well as political, governance systems to support earth system governance, with a particular focus on stewardship of earth's natural resources in order to support future generations.

2.0 MAIN BODY

2.1 The Geopolitical Perspective
During her recent visit to India, U.S. Secretary of State Hillary Clinton was told in a public exchange with India's Environment Minister, Jairam Ramesh, that India would not accept internationally set emissions limits or targets and that India should not have to pay for cleaner air because the developed countries caused the problem (Crossette, 2009). Minister Ramesh strongly opposed any limits on India's industrial sector, viewing the proposed emission limits as potentially stifling to the economy (SOS-USA, 2009).
During this trip, private sector executives in India expressed a strong interest to Secretary Clinton in sharing energy and environmental technologies. Secretary Clinton also indicated that anti-poverty programs and environmental clean-up need not be mutually exclusive (Crossette, 2009). Meanwhile, the head of the Intergovernmental Panel on Climate Change, Rajenda Pachauri, excoriated the U.S. for including a carbon tax on imports into the U.S. from countries [including India] that do not take steps to reduce carbon emissions, as stipulated in legislation passed recently by the U.S. House of Representatives (Johnson, 2009).

These interactions say a great deal about geopolitical relationships between South Asia (India, in this case) and developed countries (the U.S., in this case). Traditionally, multinational organizations such as the World Bank, IMF and, more recently, the World Trade Organization, have deferred to the policy preferences of the developed countries. This preference can be explained by the institutionalization of these organizations, in which developed countries tended to have the longest and most involved participation. Indeed, many of the developed countries were involved substantially in creating these multinational organizations which, at their origins, focused primarily on recovery and reinvestment in the post-World War II environment. Thus, from an institutional theory perspective, these organizations isomorphized toward the prevailing practices and procedures in their institutional context (Meyer and Rowan, 1977). Particularly in periods of dynamic change, organizations may isomorphize toward the behavior of other organizations in their environment either through a "taken for granted" adoption of commonly accepted practices, or as the result of decision makers being unconsciously compelled to take certain actions that mimic the behavior of other organizations in their environment (DiMaggio and Powell, 1983).

Against this backdrop, in recent years developing countries, particularly India and China, have grown considerably in terms of economic and geopolitical power. Whereas India and other SAARC nations struggled in developing a trade regime in South Asia since the origination of SAARC in the 1980s, India has recently ascended to a much stronger leadership role in South Asia and has become increasingly assertive in WTO and other trade negotiations (Das, 2007). Greenwood and Suddaby's (2006) description of "central" and "peripheral" organizational players serves as a corollary to the "developed" and "developing" country relationship. Central players are embedded in institutional contexts, while peripheral players are less connected to other organizations, from which norms are learned, and thus are less aware of institutional expectations. In this context, resource-rich central players such as the U.S. have interests that are aligned with current practices and are neither motivated to change, nor aware of, or open to, alternatives. Peripheral players, such as India, are often disadvantaged by prevailing arrangements and stand to benefit from change. Greenwood and Suddaby (2006) conclude that change will occur where contradictions are most acute, such as where incompatible values conflict or where actors are disadvantaged. In the current context, a consistent result would entail a shift to the status quo between developed (U.S.) and developing (India) countries, at least in terms of the treatment of environmental issues. In this particular situation, the result would be, predictably, for the U.S. to exert pressure on India to adopt cap and trade policies or face trade barriers, as imposed by the U.S. House of Representatives. In the parlance of U.S. domestic politics, this is referred to as fair trade. Interestingly, U.S. Senator John Kerry has indicated that the carbon tariff will be removed from congressional cap and trade legislation when the Senate considers the bill passed by the lower chamber, indicating that, at least for now, the U.S. does not want to risk disrupting trade relationships with India.

Thus, at least in this situation, the status quo is no more. How then, can the U.S., India, and other sovereign nations collaborate on energy conservation and environmental sustainability which, ostensibly, are the goals of the cap and trade concept? The U.S. understands that a cap and trade policy in the U.S. will have relatively little impact without India and China enacting similar policies. However, India and China are reluctant to follow suit and, politically, sense they do not need to comply, given their status as global economic powers. India must pursue strong economic growth in order to meet the needs of its rapidly growing population in which a significant percentage subsist at, or below, poverty level. The natural environment is a concern as well, despite India's unwillingness to adopt a cap and trade policy. For example, at the Fourteenth SAARC Summit held in New Delhi in 2007, the delegation expressed deep concern about the continued degradation of the environment and the need to collaborate on global climate change and renewable energy resources, as well as the continuing decline in natural resources and land availability in the SAARC countries (SAARC Tourism.org, 2007). Thus, while cap and trade is not a preferred policy in India (and other SAARC countries most likely), the issue of environmental sustainability is an important priority.

Conditions have changed in the U.S., as well. In a previous generation, the U.S. government would have extended assistance to SAARC countries and, it is hoped, developed rapport leading to greater cooperation on energy and environmental policy. However, as Kettl (2000) notes:

> "Over the last generation, American government has undergone a steady, but often unnoticed, transformation. Increasingly, American government shares responsibility with other levels of government, the private sector, and nonprofit organizations. So, while the basic structure of American government hails from President Franklin Roosevelt's New Deal era, environmental regulation (which did not exist during the New Deal) involves complexities such as defining air, water, and soil regulation on separate tracks, but then somehow merging these three separate processes into a single, coherent environmental

> policy. Additionally, New Deal-era American government did not face the challenge of indirectly managing policy through other entities, such as the private sector and nonprofits. [The structure and processes of American government cannot effectively manage these increased, diverse demands.] However, expectations for American government to perform have not changed, despite the fact that the organizational structures and processes of American government no longer fit its mission."

2.2 Designing Cross-Sector Collaboration
This leaves the remaining option of voluntary initiatives. There are some examples of Indian – U.S. cross-sector collaboration in addressing environmental and social issues. For example, SOS India, an Indian nonprofit organization, has partnered with Coca-Cola for Rain Water Harvesting projects. Through these projects, SOS Children's Villages, dedicated to caring for orphans in India and around the globe, and Coca-Cola seek to convert rain water into suitable drinking water for India's population (SOS-USA Press Releases, 2009).

But in order to address earth system governance on the scale and scope necessary, the design must link the legitimacy and power of national, regional, and global governmental units with the on-the-ground implementation capabilities offered by cross-sector collaboration. Wijen and Ansari (2007) offer collective institutional entrepreneurship as a vital design link. Drawing on Mollering (2007), Wijen and Ansari (2007), define collective institutional entrepreneurship as the process of overcoming collective inaction and achieving sustained collaboration among numerous dispersed actors to create new institutions or transform existing ones. They draw on regime theory (Hasenclaver et al., 1997, Keohane, 1984) to explain how actors, generally at the state level, overcome the collective action problem (free ridership, apathy, etc.) and realize collaboration in areas serving their common interests with or without the presence of a supranational authority. Regime theory further explains collective institutional entrepreneurship by aligning it with international institutions, particularly those involving multi-level governance formed around a common issue or interest, such as earth system governance. Regime theorists identify additional mechanisms for inducing cooperation at the collective level, such as linking issues and making side payments. For example, the apparent deadlock between the U.S. and India over cap and trade policies could be addressed by linking concessions on WTO trade issues with climate change agreements, other than cap and trade. Or, the U.S. could make a side payment of providing technology addressing agriculture productivity and land preservation in South Asia with agreements to purchase U.S. technology designed to fuel electric power generators with cleaner energy. Both of the state-level approaches could lead to sustainable benefits for all parties and provide the platform for collective entrepreneurial efforts, such as cross-sector collaboration, to further energy conservation and environmental sustainability.

The development of a platform by national, regional, and global governmental units has the potential to institutionalize cross-sector collaboration, by extending the legitimacy and power of these units through communicating values and aspirations, such as the SAARC delegation's pronouncements on environmental degradation and poverty alleviation. These units can also provide technical assistance in addressing regulatory, legal, and cultural barriers that could stifle entrepreneurial collaboration. In essence, in this design model, governmental units serve as bridging organizations which, in providing assistance and ongoing information flows, can lower the costs of collaboration and conflict resolution, while avoiding the higher transaction costs of a government-run effort. An example is the Asia-Pacific Partnership on Clean Development and Climate, a voluntary public-private partnership among seven major Asia-Pacific countries – Australia, Canada, China, India, Japan, Korea, and the U.S. – that are cooperating in an effort to address increased energy needs and the associated issues of air pollution, energy security, and climate change. A Policy and Implementation Committee oversees the partnership as a whole, guides eight Task Forces, and provides direction to the Administrative Support Group. Created in 2005, the Partnership has endorsed 123 projects, including support for implementation of an energy efficiency endorsement labeling program for India, a public sector market assessment for improving energy efficiency in public buildings in India, and regional efficiency centers in India. Another project would establish an information exchange network for continuous revision and improvement, which is designed essentially to support market transformation initiatives (Asia-Pacific Partnership, 2009).

In addition to public-private partnerships, the role of nonprofits in environmental efforts continues to grow in both developed and developing countries. For example, two nonprofits from India received the first Green Energy and Green Livelihoods Achievement Award in 2009 from the Sierra Club, the oldest and largest grassroots environmental organization in the U.S. The award will be shared between Ecosphere Spiti from the mountainous northern state Mimachal Pradesh Spiti valley and Barefoot College from the desert state Rajasthan, led by social entrepreneur Bunker Roy. Ecosphere Spiti conserves the valley, while Barefoot College has trained rural men and women as Barefoot Solar Engineers. They have built and installed solar units in 10,000 households, covering 574 villages across 16 Indian states (Trading Markets.com, 2009). Historically, nonprofits in India evolved from efforts to obtain greater “people’s participation” through the establishment of cooperatives by government, the movement of Mahatma Ghandi, and religious organizations (Fernandez, 2002). Currrently, over 2000 NGOs involved in environment, sustainable development, and nature protection are listed in the Envis Centre on NGOs, Parliament and Media (Envis Centre, 2009).

Thus, while business-NGO partnerships are an established practice in developed countries such as the U.S. (e.g., Environmental Defense Fund and McDonald’s); in South Asia countries such as India, similar partnerships are now taking root.

Ideally, both parties in business-NGO partnerships provide complementary benefits. For example, while the profit motive of private sector entities can raise concerns about being exploited and slow down commitments and rapport building, NGOs, as well as the government in some cases, can hasten credibility, while benefiting from private sector resources and marketing skills. An example of a successful cross-sector collaboration is a partnership involving Usha Martin, Lupin, the Tatas, Confederation of Indian Industry, United Nations Development Program, and the Ministry of Non-Conventional Energy Sources. This partnership is harnessing renewable energy to meet the entire energy needs of clusters of villages in Rajasthan and Jharkhand. Each partner has brought certain skill sets to the table. The perspective is that each partner, big or small, needs to be equal at the table to make sure the relationship keeps going (Karunkaran, 2006).

As is suggested here, voluntary initiatives, many involving cross-sector collaboration, are accepted practice. However, the issue remains the scale, complexity, and urgency of the environmental sustainability challenge. Too often, as the complexity of interactions in the social-ecological system increases, and as the consequential demand for large-scale, massive change grows more urgent, institutional isomorphism takes hold and organizations react by pursuing incremental, path dependent investments resistant to change (North, 1990). Instead, an earth system governance approach would seek to replace economic stagnation, short-term interests, and re-emerging nationalism with global governance and collective stewardship of the earth. Multi-level governance must take hold in a manner that leads to exponential growth in informal networks of relationships to provide the flexibility, adaptiveness, and transformative potential to support the needs of future generations.

There have been notable examples of social movements that have led to social change. One of the tools for implementing social change is social marketing, which combines the integrated planning and action framework characteristic of traditional approaches to social change with the recent advances in communications technology and marketing skills (Kotler and Roberto, 1989). An example is the nationwide contraceptive social marketing program, the Nirodh condom project in India, which began in 1967 with funding from the Ford Foundation (Ling, Franklin, Lindsteadt, and Gearon, 1992).

In sum, the challenge of cross-sector collaboration is to encourage participation, recognizing that addressing collective-action problems is a costly and time-consuming process that needs to be carried out over a long-term period (Ostrom, 1998). As noted by Parker and Selsky (2005), differences should not be treated as deviations, but as part of an emergent-culture approach, which highlights the active, negotiating work of boundary-spanning organizations. This encourages relationships that maximize cooperation. Cooperation, in essence, is what Gray (1989) implies in further defining collaboration as “the constructive management of differences, which can be used efficiently in the resolution of multi-stakeholder conflict and the advancement of shared visions.”

3.0 SUMMARY

This paper concludes that, at least in the case of environmental sustainability, status quo approaches no longer can be relied upon. Instead, the cross-sector collaboration is presented as a mechanism designed to address the scale, complexity, and urgency of the environmental sustainability challenge in South Asia. Earth system governance offers a conceptual approach for addressing the overarching goal of providing a sustainable environment to support future generations. The design put forth in this paper identifies a role for national and international governmental bodies in providing coordination and support for cross-sector collaboration, with the Asia-Pacific Partnership on Clean Development and Climate serving as a model. Conceptually, the earth system governance approach would seek to replace economic stagnation, short-term interests, and re-emerging nationalism with global governance and collective stewardship of the earth.

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UNOBSERVABLE INDIVIDUAL EFFECTS AND EFFICIENCY GAIN FOR PANEL DATA

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ABSTRACT

The within-transformation approach obtains unbiased estimators by eliminating the fixed effects out of panel regressions. In doing so, it removes between-groups variability only to use within-group variability, thereby losing much efficiency. By imposing restrictions on the regression coefficients, the Bayesian estimation method proposed in this study can utilize the between-groups variability and improve the efficiency of estimation.

Key words: *Unobservable individual effects; Efficiency; Bayesian*

1. INTRODUCTION

In panel data, individual effects are unobservable and often correlated with the explanatory variables. A widely-employed approach to control for the unobservable individual effects is the within transformation which is equivalent to including dummy variables. Payne and Mohammadi (2006) control for country-specific differences in their analysis of 26 transition economies. When eliminating the individual effects from the regression models, these approaches remove the between-units variability and use only the within-unit variability in estimating coefficients, thereby losing efficiency. However, it indicates a possibility that we can improve the efficiency if we keep at least a part of the between-units variability by imposing some restrictions on the coefficients (Hausman and Taylor, 1981).

This study reports experiment results which show a possibility of gaining efficiency with restrictions on the coefficients. As an exploratory study, we impose a restriction that the unit-specific effects sum to zero with setting the intercept to zero. Although this restriction appears to limit many applications, it has a wide range of applications as most regression models can be transformed to satisfy this restriction. The purpose of this study is to show that some restrictions imposed on the parameters can help us improve the estimation efficiency.

The following section explains the model and estimation methods. Section 3 presents the estimation results and evaluates the efficiency gain of the proposed method. Section 4 contains the conclusions.

2. THE MODEL AND ESTIMATION METHODS

Consider the following regression model which includes unit-specific effects (α_i).[1] For $i = 1, \cdots, M$ and $t = 1, \cdots, T$,

$$y_{it} = x_{it}^{'}\beta + \alpha_i + u_{it} \tag{1}$$

where x_{it} is a $k \times 1$ vector of explanatory variables which vary over time and across units, and β is a $k \times 1$ vector of regression coefficients. Notice that an intercept is not included in this regression model. The unit-specific effects may be correlated with some or all of the explanatory variables. For unbiased

[1] For time-specific effects we replace α_i with δ_t. The estimation method proposed in this study can also be applied to control for both time-specific and unit-specific effects: $y_{it} = x_{it}^{'}\beta + \delta_t + a_i + u_{it}$. For the effects due to group differences we change the subscripts: $y_{ig} = x_{ig}^{'}\beta + \alpha_g + u_{ig}$ for cross-sectional data, and $y_{tg} = x_{tg}^{'}\beta + \delta_g + u_{tg}$ for time-series data, where a subscript *g* stands for the group to which each observation belongs.

and consistent estimation of β, we have to control for the unit-specific effects α_i. The disturbance u_{it}, having mean 0 and variance σ_u^2, is assumed mutually independent and uncorrelated with the explanatory variables.

We impose a restriction on the unit-specific effects such that $\sum_i \alpha_i = 0$. Although this restriction appears to limit application, it in fact does not since most regression models can be transformed to satisfy this restriction.[2] In this study we focus on the estimation and efficiency gain of this simple model while we address general cases in future work. This regression model is different from usual regression models as it requires $\sum_i \alpha_i = 0$ without including an intercept.

In Eq.(1), once the values of α_i 's are given, the conditional posterior density for β and σ_u can be easily derived. Further, given α_i, this posterior density can use the total variation in x_{it}, not only the within-unit variation but also the between-units variation. Therefore, use of this conditional posterior density is expected to improve the efficiency of estimation.

To derive the conditional distribution for α_i, we take the average of Eq.(1) within each unit *i*.

$$\bar{y}_i = \bar{x}_i^{'}\beta + \alpha_i + \bar{u}_i \tag{2}$$

where the over bar of a variable denotes its within-unit average, e.g., $\bar{y}_i = \sum_{t=1}^{T} y_{it} / T$. This mean-equation can be rewritten to give information about the distribution of α_i.

$$\alpha_i = (\bar{y}_i - \bar{x}_i^{'}\beta) - \bar{u}_i \tag{3}$$

Thus, conditional on β and σ_u, α_i follows an independent normal distribution with mean of $(\bar{y}_i - \bar{x}_i^{'}\beta)$ and variance of σ_u^2 / T. Now, we can draw values of α_i 's using this conditional posterior density.

The Bayesian econometrics provides a method for unconditional estimation which integrates out the nuisance conditioning parameter α_i. It is well known in the Bayesian literature that the Gibbs samplers with complete conditional posterior densities can estimate the marginal posterior densities by drawing random numbers from the full conditional posterior densities (Chen, 2005; Mira, 2005; and references therein). Using the panel regression models specified above, Eqs.(1) and (2), we now derive the conditional posterior densities for the parameters β, α_i and σ_u.

(i) Posterior density for β given α_i and σ_u

The conditional posterior density for β is derived from Eq.(1) which is a usual regression model with the dependent variable $y_{it} - \alpha_i$.

[2] This transformation introduces cross-correlations between the disturbances within each group and could reduce the efficiency. It is expected that the efficiency gain would be smaller when this restriction is not imposed than the reported gain in this study.

$$p(\beta \mid \alpha_i\text{'}s, \sigma_u, X, Y) \sim N\left[\hat{\beta}\ ,\ Cov(\hat{\beta})\right] \tag{4}$$

where

$$\hat{\beta} = \left[\sum_{i=1}^{M}\sum_{t=1}^{T} x_{it}x_{it}^{'}\right]^{-1} \times \left[\sum_{i=1}^{M}\sum_{t=1}^{T} x_{it}(y_{it} - \alpha_i\ )\right]$$

$$Cov(\hat{\beta}) = \sigma_u^2\left[\sum_{i=1}^{M}\sum_{t=1}^{T} x_{it}x_{it}^{'}\right]^{-1}$$

As pointed out earlier, the above conditional posterior density for β keeps the between-units variability in the explanatory variables since it uses x_{it} by conditioning on α_i . In contrast, the dummy-variable (or the within-transformation) approach uses the deviations from the group means $x_{it} - \bar{x}_i$ which is smaller in absolute value than x_{it} .

(ii) Posterior density for σ_u given β and α_i

For given values of β and α_i in Eq.(1), the conditional posterior density for σ_u is known to follow an inverted gamma distribution

$$p(\sigma_u \mid \beta, \alpha_i\text{'}s, X, Y) \sim IG\left(\nu, s^2\right) \tag{5}$$

where $\nu = MT$ and $\nu s^2 = \sum_{i=1}^{M}\sum_{t=1}^{T}(y_{it} - \alpha_i\ - x_{it}^{'}\beta)^2$.

(iii) Posterior density for α_i given β and σ_u

For a given value of β and σ_u , Eq.(2) yields the following normal distribution.

$$p(\alpha_i\ \mid \beta, \sigma_u, X, Y) \sim N\left[\bar{y}_i - \bar{x}_i^{'}\beta\ ,\ \frac{\sigma_u^2}{T}\right] \qquad \text{for each } i \tag{6}$$

In drawing α_i 's, we need to make sure that the drawn values sum to zero to satisfy the restriction. Without this restriction, the drawn values by the Gibbs sampler tend to be highly auto-correlated and have a difficulty with convergence.

This Gibbs-sampler estimation divides the regression coefficients into two groups, the slope coefficients β and unit-specific effects α_i . Since the model in this study requires $\sum_i \alpha_i = 0$ without including an intercept, however, the Frisch-Waugh Theorem does not apply. Thus, this estimation method is fundamentally different from the least-squares dummy-variable estimation or the within-transformation estimation.

(iv) Gibbs sampler

Using the three full conditional posterior densities, we generate random numbers as follows: with an arbitrary set of starting values $\{\beta^{(0)}, \sigma_u^{(0)}, \alpha_i^{(0)}\text{'}s\}$,

(i) Draw $\beta^{(1)}$ from $p(\beta \mid \alpha_i^{(0)}\text{'}s, \sigma_u^{(0)}, X, Y)$ in Eq.(4),

(ii) Draw $\sigma_u^{(1)}$ from $p(\sigma_u \mid \beta^{(1)}, \alpha_i^{(0)}\text{'}s, X, Y)$ in Eq.(5),

(iii) Draw $\alpha_i^{(1)}\text{'}s$ from $p(\alpha_i \mid \beta^{(1)}, \sigma_i^{(1)}, X, Y)$ in Eq.(6),

(iv) Repeat (i)-(iii) with conditioning the densities on the most recently drawn values.

To ensure the convergence of the Gibbs sampler, we use values drawn after the 500-th iterate. Since the estimation of marginal densities is poor if drawn values are auto-correlated, we save only every *k*-th iterate after the burn-in period of 500. For the examples in the next section, we choose a value of *k* such that sample autocorrelations of drawn values are below 0.1. Then we obtain unconditional estimates of β and their standard errors by calculating the means and standard deviations of the drawn values of β.

3. AN ILLUSTRATIVE EXAMPLE

We experiment using simulated panel data of different sizes. The following simple regression generates three sets of data using (*M, T*)= (5, 50), (10, 50) and (50, 50) and also with *T*=10.

$$y_{it} = \beta_0 + \beta_1 x_{it} + \alpha_i + u_{it} \tag{9}$$

Values for the explanatory variable x_{it} are drawn from uniform distributions with an interval of 1 in a way that adjacent periods do not overlap : for cases of *M*=5, an interval [0,1] is used for *i* =1 and [1, 2] for *i* =2; and for the case of *M*=10, ten intervals of [0,1], [1, 2], …, [9, 10] are used. The efficiency gain of the proposed method over the dummy-variables estimation is determined by the variability in explanatory variables between cross-sectional units.[3] Thus, the proposed method is expected to produce more precise estimates than the dummy-variable OLS method for all three sets of simulated data. Further, the efficiency gain should be greater for *M*=50 than for *M*=5.

Consistent with our expectations, Table 1 shows that the Gibbs-sampler estimation achieves a substantial gain in efficiency over the dummy-variable estimation. The efficiency gain, measured by the multiple of the OLS standard error against the Gibbs-sampler standard error, is greater for *M*=50 than *M*=5, i.e., 104.5 vs. 9.0 for *T*=50 and 96.0 vs. 9.3 for *T*=10. However, large *T* has little impact on the efficiency gain. For the case of *M*=50 and *T*=10, the OLS dummy estimation concludes that the coefficient β_1 is not significant at a usual significance level of 5% as the *t*-statistic is only 1.57 (=0.752/0.480). In contrast, the Gibbs-sampler estimation correctly concludes that β_1 is significantly different from zero with the *t*-statistic of 198.8 (=0.994/0.005).

[3] Values for the parameters do not affect the relative efficiency of the estimation methods. Arbitrarily chosen values are (β_0, β_1) =(0, 1) and σ_u =3. The values for the unit-specific effects are assigned in a way that they increase by 1 and sum to zero, e.g., $(\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5)$ =(-2,-1,0,1,2) when *M*=5.

Table 1
Estimation Results for Simulated Data

Size of panel data	Coeff. estimate[a]		Standard error		Ratio of $\frac{s.e.(OLS)}{s.e.(Gibbs)}$
	OLS dummy	Gibbs sampler	OLS dummy	Gibbs sampler	
M=5, T=50	0.936	0.920	0.675	0.074	9.0
M=10, T=50	0.733	0.968	0.462	0.024	19.3
M=50, T=50	0.926	0.999	0.209	0.002	104.5
M=5, T=10	2.777	0.961	1.490	0.160	9.3
M=10, T=10	2.238	0.988	1.101	0.060	18.4
M=50, T=10	0.752	0.994	0.480	0.005	96.0

[a]The simulated data were generated using $\beta_1 = 1$. The coefficient estimates and standard errors reported in this table are calculated using 500 drawn values, which were selected every 200th iterate to avoid the autocorrelation.

4. CONCLUSIONS

This study imposes a restriction that the unit-specific effects sum to zero with setting the intercept to zero. In this regard, this estimation method is fundamentally different from the least-squares dummy-variable estimation or the within-transformation estimation. Therefore, the Frisch-Waugh Theorem does not apply. Although the restriction in this study appears to limit many applications, it has a wide range of applications as most regression models can be transformed to satisfy this restriction.

The empirical evaluation in this study was against the dummy-variable OLS estimation which did not impose the restriction on the unit-specific effects. In this regard, the evaluation is in favor of the proposed Bayesian method. However, as the main purpose of this study is to show that some restrictions imposed on the parameters can improve the efficiency substantially, the experiment in this study has its own value. Based on the results in this study we plan to develop efficient estimation methods for general models.

ACKNOWLEDGEMENTS:

This work was supported by the Hankuk University of Foreign Studies Research Fund.

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THE INFLUENCE OF BUSINESS OWNER ETHICS ON THE VULNERABILITY OF LOW-INCOME LABOR CURRENTLY IN SOME INDUSTRIAL CITIES OF VIETNAM

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ABSTRACT

The business ethics of business owner directly affects the vulnerableness of low-income labor and their benefits. Business in global era can only be sustainable if profit targets and developmental strategies are adjusted by self-awareness of enterprises;enterprises must respect business ethics to ensure a stable source of labor. However, this can simply not only be calculated by self-awareness of the business owners, but also there must be some supporting measures and sanction.

Keywords: *Developing country, labor disputes, business owner ethics, low-income labor, vulnerability.*

1. WHY DO LOW-INCOME LABOR IN THE DEVELOPING COUNTRIES, MIDDLE-INCOME COUNTRIES HAVE MANY VULNERABLE FACTORS?

According to the latest forecast, it takes Vietnam a decade to get out of the currently state that attracts foreign investment by low-cost labor and outworking. From now to then, low-income continues to be a barrier that prevents labor from full opportunities in their society. According to the report of HCMC Labor Federation for the last 6 months, the average salary of HCM City labor in December 2008 is approximately $ 1,400,000, equal to $ 90/month; until December 2009, this amount was risen to $ 1,800,000; but with the exchange rate between VND and USD in December 2009, this amount is also equivalent to $ 90/month[1].

The under-average salary mainly falls into vulnerable labors such as women, low-level workers, common labors and the labors moved from rural to urban who no longer have enough land to cultivate as in the old days due to urbanization. Most of these labors concentrate in areas of textile, garment, footwear and consumer goods. Easily seen that the majority of them lack of skills/industrial manners; their education level belows the average; low ability to find jobs; influenced by the reallocation of employment forces...; these factors lead them to be vulnerable by economic events. Vulnerableness of low-income labors become more heavily when the legitimate salary is mostly depending on the attitude of employers besides the terms of the labor contract.

Common problems of the countries wishing to grow fast, or giving priority to growth are environmental issues, the legitimate benefits of labor and social welfare are sometimes less important than output expansion demand, exports, attracting foreign investment and all for the increasing income per capita. Unfortunately, the consequences of them are the disturbances of environment, water supply and natural resources after a certain time, as well as the seriousness of inequal income distribution. Average income obtained after a few decades is not equally distributed to all people but fall into a few people, while the majority bear the basic income that does not change much. Therefore, the accessibility of public services such as education, health or the ability to give opinions in society issues is limited. The disease of giving priority to growth is indispensable to make law to benefit the investors; or at least, this law does not create difficulties for them. Indispensability of this conduct is investors who easily manipulate the law to benefit them when the conflicts occurred between their benefits and those of labors, even though this loophole may violate benefits of the majority of labors.

In HCM City in particular and Vietnam in general can now see such cases like that. In the year 2008, 2009, hundred thousands of labors were affected by irresponsible attitude behavior of investors. The two most common forms are salary debt and social insurance debt then flee after leaving a salary debt and/or social insurance debt which are more bigger enough than the property or equipment of the company. Unfortunately, most these enterprises are foreign investment. As reported by the functional agencies in HCM City, foreign investment business owners fled in 2009 are more than in 2008. There are 10 enterprises that have been fled and closed social welfare or insurance of workers. There are four enterprises in district 12 (Simb Company of South Korea, S/M Company of England, Hoang Tam Company & Huynh Tram Company of Vietnam) ran away, leaving the giant salary debt; Hoang Nghiep Company with capital of Malaysia, Kentwen Company with capital of British in Binh Tan, Binh Chanh District, Duc Quan Company of Taiwan also fled in 2009. In Jan. 14, The Hanson Vina at Binh Duong Industrial Zones ran away, leaving dept included 1,1 billion VN Dong of salary, 1,8 billion VN Dong of social insurance fee, and 100 billion VN Dong of the banks; caused the huge sufferings to more than 700 workers[2]. A different situation is that enterprises did not flee, but did not resolve the longlasting salary debt situation, social insurance debt and jobless allowance debt, typical as Anjin Company of South Korea in Binh Tan District.

2. BUSINESS ETHICS OF BUSINESS OWNERS TOWARDS THE VULNERABLENESS OF LOW-INCOME LABOR

Although workers or their representatives, the Trade-Unions, organized the lawsuit and proposed the government to seal assets of the companies and conduct temporary support for them, there have not already been completely resolution. Within the country, cases that business owners fled, leaving great salary debt and insurance debt has been reported by Vietnam General Confederation of Labor at the end of the year 2007. Until December 2008, the whole country has 40% of the total number of employees liable to compulsory social insurance participation, but can not enjoy it, chiefly because business owners deliberately evade the responsibility to pay as stipulated by law. This situation is basically not much improved at the end of December 2009.

According to the Reprort of VN Social Insurance Trust (VNSIT), business owners owed as much as 1,734 billion VN Dong (more than $ 110 millions) in 2007; 2,286 billion VN Dong (more than $ 138 millions) in 2008. By the end of December 2009, that number is growth up to 2,094 billion VN Dong[3]. In Vietnam Regulations, business owners have the duty to keep 6% of labor monthly salary to pay directly to VNSIT for the social insurance fee. How could such circumstance happen? The VN government supposes that if the Law gives labor the right to pay social insurance fee freely, majority of them would keep the money for another spending. It is the popular story of low income and high demand. In fact, this Government Regulation is based on the assumption that the business owners will be the better obeyer than the labors. Thus, when business owners choose not to pay such fee, they in fact not only stole the money from the labor and also violate the Law.

The question is why companies can seriously violate labor contract and owe salary and/or social insurance fee of labor until they escape? Obviously, main reasons are the unfair behavior, irresponsibility and even can say, the lack of business ethics of business owner. They violate the human rights when signing labor contract with workers, owe their salary for years, do not pay social insurance fee and health insurance fee to the extent that can not be payable and run away. This shows the way of following benefits and unsustainable business style. Moral decay of foreign investment business owners from South Korea, Taiwan, Malaysia and even Europe have pushed many worker families to the difficulties, contribute to exacerbate unemployment that caused by the impact of global economic recession in the years 2008-2009, generally in Vietnam and particularly in HCM City. With the number of 21.844 workers who lost jobs and 16.929 employees who only work part time in 192 enterprises in HCM City in 2009, there are 180,000 jobless on 2009 in the whole country[4]. The number of employees from foreign enterprises that lack of business ethics accounts for more than half.

It is true that the legal loophole has abetted the poor ethic business. But the business owners who put up the long-term benefits than immediate benefits, valued the sustainable development, not focused on increasing short-term revenue, respect the rights of workers to ensure stability of human resources for production, will certainly remain the top priority regardless of the extent of the law. If business owners follow immediate benefits but long-term developmental goals, even though the closely law, they still keep having a law spleen and exploitation of workers. Ethical behavior of business owners is key issue.

In the era of globalization, vulnerableness of economies are more and more clearly revealed. In turn, vulnerableness gradually spreads to lives and jobs of workers, especially low-income workers. Long-lasting salary debt has indispensably affected worker lives, which was difficult because of economic crisis, has now been more and more difficult; the ability to regenerate labor, study to upgrade qualifications, self-training to can adapt to fluctuations of job market become impossible. For prolonged social insurance owing as in Thua Thien-Hue province: 168 enterprises of social insurance liabilities extended from 18 to 48 months; in Hanoi, there are 166 enterprises that do not pay social insurance for employees in 2008 and more than 1,800 business enterprises owed social insurance fee in 2009[5]; in HCM City in December 2008, 54% of enterprises do not pay social insurance, in December 2009, this rate is 43%. Of course, this prevents workers from access to free of charge health services, maternity services, and social assistance services when problems occur. Where the community still exists that business ethics, lives and jobs of workers continue to be precarious, the workers lack many of measures for social protection, the ability to restructure professional, re-recruitment into the labor force is very difficult. It is easily realized that low-income workers in the industrial cities of Vietnam are becoming more vulnerable in the context of globalization.

3. WHERE IS THE SOLUTION:

In 2009, 75 labor disputes occurred in Ho Chi Minh City (decrease 123 cases in compare to 2008), in which 32 cases happened in the foreign investment enterprises (15 Korean, 10 Taiwanese, two British, one Japanese, one Malaysian, one of Hong Kong, one of France, one of Pakistan) includes a large number of workers. The main reason is the unsatisfied of salary, rewards and other reasons such as work overtime out of the contract, overtime with unreasonable rewards, refuse to pay social insurance fee, poor quality meals, drinking water unsafely, grossness manner in communication with workers ...;. When asked for reasons why the number of labor disputes has fallen, Ho Chi Minh City Confederation of Labor declare two critical points:

1) The workers understand the difficults of fabrication and export as a result of economic crisis, then actively share with business owners to maintain employment, do not express the negative reactions as much as in 2008;

2) The business owners are convinced by the Union the need to respect the rights of workers to maintain labor stability while the employment situation in HCMC is increasingly difficult.

Thus, when cultural behavior changes on both sides, the rights of workers is more guaranteed as well as the less of vulnerableness. Program "Together with enterprises in 2009" initiatived by the City Confederation of Labor, has attracted the participation of more than 1,000 enterprises and 30 Union Organizations, have pulled the workers share the difficulty with the enterprises. It heightens the businesses' awareness of the importance of the workers' support and sharing, as well as their obligations to ensure the rights of the workers. This activity has significantly affected the psychology of business owners.

In addition, the Unions stand out on behalf of workers take legal proceedings against businesses violating the law, owing salary, insurance; petition the government to resolve a blockade of the property, handle pay for debt as well as campaigns the other business employ the workers, introducing new jobs for workers (Reallocation). They settle directly the debt of worker's welfare. The vulnerableness of low-income workers reduces significantly.

In the situation of each production system country is gradually globalization, economic risk in any place in the world can create consequences in Vietnam in a certain time. Thus, the vulnerableness of jobs, incomes increasingly more sensitive. However, the impact of globalization acts can be used to restrict the lacks of ethics business, harmful to workers. There are a number of measures can strengthen business ethics to enterprises:

1) Continuously complete laws related to business ethics, rights and obligations of enterprises with employees such as the Enterprise Law, Labor Law, Social Insurance Law, Economic Law, Civil Law to keep up with the changing of global business environment and it's daily characteristics arise, especially the Punishment Articles to business owners violated the Law. Remember the HCMC officer's comment that the main reason to stimulate business owners violated the Social Insurance Law is the punishment giving by the Resolution of Resolving Official Violation (the Resolution of April 22, 2008). It only gives the government the right to punish violated business firm the highest sum of money is 30 million VN Dong

(just more than $ 1,500) by once violation. That amount of money has no value in comparison with the money business owners can stole from their workers in one deal[6].

2) Ostracize goods of those companies violated ethical business, or goods that the manufacturing process violates the ethical standards and environment;

3) Proposed WTO expand Black-List of international businesses violated the business ethics (eg. salary debt, social insurance debt, labor welfare debt, destroy the environment...) as well as provide the balance information to public. These pressure will force the globalize enterprise must adjust the development strategy, target profit and ethical/behavior.

In short, strengthen the role of mediation of Unions in all level; continuous propaganda advantage of business ethics for the sustainable the development of enterprises in the new circumstances. Continuously improve the institutions of law, use the global rules to create pressure to the international business will be both immediate and long-term effective measures to strengthen ethical business and reduce vulnerableness of low-income workers not only in the industrial cities but also the whole country of VN in the next decade. This is the appropriate solution for such newly-rising countries like VN ■

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CREDIT RISK MANAGEMENT IN THE ECONOMIC CRISIS

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ABSTRACT

The crediting activity identifies itself as being the main activity of the banking entities and the credit risk is the most important one out of the various risks that may affect the results obtained by financial intermediaries. Credit risk should be evaluated by comparing it to the expected benefits from lending, so the most important function of banking management is that of controlling and analyzing the quality of the loan portfolio, because the low quality of credits is one of the main causes of bank bankruptcy.

Keywords: *Romanian banking system, globalization, banking activity risk, risk management, credit risk, interest rate risk, liquidity risk, exchange rate risk, banking liquidity indicators, bank bankruptcy*

1. INTRODUCTION

The economic, monetary and financial banking environment is continuously subject to the harsh competition. A lot of unknown risks appear and they manifest themselves in different ways. In these circumstances, it's very difficult to present a certain form of risk /to give a precise definition of it, basically if we take into account one of the most common characteristics of our contemporary world-uncertainty.
The importance and the complexity of the banking risk management have been given more attention lately, due to the new models, techniques and methods of handling risks that have been developed recently. A lot of new types of banking services and products appeared as a result of the liberalization of the financial markets. The banks should be aware of all these new approaches to banking risk management in order to handle it in the most effective way.

Credit risk management must be a process which allows the bank to handle the credit portfolio in order to minimize the losses and to get to an acceptable/reasonable level of the profit.
According to the classical approach to decision, the risk is identified as an uncertain, but possible element, which permanently appears in the process of the social activities. The results of it are damaging and irreversible.

- This period is mainly considered the **risk management era** in banking , and the risk management is a very important and complex task of banking management (Stoica,1999)
- Financial risks: they are risks specific to crediting operations. Most of them are part of banking regulations. The most important forms are: credit risk, interest rate risk, liquidity risk, exchange rate risk, insolvency risk.
- Credit risk - refers to that situation when one of the parts of the credit instrument cannot fulfill the undertaken obligation, a situation that brings financial losses to the other part
- Credit risk is defined as the risk of registering losses or being impossible to achieve the estimated profit as a result of not being able, as a counterpart, to fulfill the contract obligations (Norm 17, 2003 of NBR)
- Crediting activity is the main activity of banking entities and the credit risk is the most important of all risks and can burden the results between different financial banking intermediaries and the extent to which the risks manifest themselves.

2. CREDIT RISK MANAGEMENT IN THE ECONOMIC CRISIS IN ROMANIAN

According to the current banking regulations, the strategy of crediting institutions concerning the credit risk must include the following:

a) Credit categories that are going to be promoted, exposure, economic sector, property form/type, counterpart category, residence, geographical area, currency, initial period and estimated profitability

b) Identifying the target markets and determining the characteristics of the credit portfolio (including the diversification and the financial concentration)

Banks need to evaluate/to assess the risks that they are going to face when crediting a business. They need to look for the reason of the loan and identify the paying back sources. The last ones depend on the development of the business that is going to be credited.

The global economic crisis has had an impact on the Romanian banking system too. In order to prevent the economic crisis in the Romanian banking system, the professionals from The National Bank of Romania along with other decision-making factors have decided to harden the granting conditions. These restrictions came after a boom crediting period (crediting with one's identity card).As a result of these restrictions imposed by NBR, the banks' crediting activity has been practically paralyzed along with the banks' cautious attitude. This attitude was undertaken in order to eliminate the unplayable risk as a result of an increase of the interest rate and the depreciation of the Romanian currency.

After a few months characterized by the banks' continuous attempt to settle down the crediting conditions, NBR tried to improve the situation by modifying the Statute of the National Bank of Romania, but any of the banks hurried up to ask for NBR's approval in order to increase the debt level in the case of the credits on real estate.

According to the new regulations, the banks will calculate the debt level for credits on real estate without applying the stress test which takes into account the exchange rate risk and the interest rate. Also, the new regulations refer to the fact that banks have to set up the guarantee conditions for each of the different types of credits, including the maximum admitted level for the granting level as compared with the value of the mortgage. In other words, banks will take into account the demand for an advance in the case of mortgage credits.

Official sources consider that because of the very high costs of the banks' financing funds, these are not interested in applying the new regulations yet. There aren't any crediting institutions that agreed to increase the level of the clients' debt, because, the higher the market expenses the higher nonpayment risks. Nowadays, the crediting demand has decreased because the clients have become more cautious.
The banks 'attitude might seem paradoxical given the situation that in the last months the banks have continuously asked for modifying the Statute which hardened the crediting conditions for the natural persons. But it's not, because, meanwhile, the market conditions have become so harsh - the depreciation of the national currency, the expensiveness and the cutting down of outside financing, the uncertainty from the real estate market, so that the crediting institutions prefer the stand by approach to the new Statute. Besides that, more and more European entities from the field have pointed out the risks of the economies from the Eastern countries.

The current analysis methods are based on different concepts and techniques that represent the core in the technical and qualitative crediting analysis.

The banks tend to become addicted to the credit worthiness and the solicitor's collaterals. The credit worthiness does not reflect the reality, and even if they would, they should be considered just a sort of a business card for the company. The collateral should be seen as an insurable measure and not as a certainty for the paying back of the credit.

Because of the global economic crisis all principles and methods of an effective analysis concerning the undertaking of the creditors' minimum risks have to face the pressure from the internal and international economic environment.

Although the analysis which was made at the granting point showed a company with the credit worthiness on an acceptable crediting level and the collaterals were considered strong enough at that moment, the company could have problems with the paying back of the credit.

The crediting bank could have problems in collateral execution because of a decrease of the collateral's value which was introduced at the starting point of the crediting. By making use of the collateral, we are going to have an amount of money smaller than the credit value.

The last thing we should take into account refers to the difficulty of making good use of the collateral in this period of economic crisis, when most transactions are blocked, so that a lot of unusual situations could arise in securing banks with liquidities. In these situations the banks need to find external and very expensive solutions.

I think that there are three important factors that should be taken into account when granting: management quality, company's effectiveness and business' safety.

The evaluation and management banking risks techniques are still developing a lot. They are being used more and more in the management of the crediting institutions in order to handle the risks, determined by the continuous financial and institutional changes. Romania is just at the very beginning as far as it concerns the usage of credit risk management techniques. Undertaking the new and modern credit risk management models involves the need for data bases for a longer period of time, concerning the possibility of the turning up of different credit events (transition, bankruptcy), rate of return.

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DID THE BEIJING OLYMPIC GAMES CHANGE CONSUMERS' PERCEPTIONS TOWARD CHINA AND ITS PRODUCT?

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ABSTRACT

China aimed to use the 42 billion dollars Beijing Olympic Games to transform commonly-held country images as the country that 1) troubled with human right violations and 2) plagued with environmental issues and 3) manufacturing and exporting cheap and low quality products to the new picture of China as a leader in the international community. To portray the new brand image of China, three themes running through the Beijing Olympic Games were 1) people's Olympics, 2) green Olympics, and 3) high- tech Olympics (Berkowitz et al, 2007).

Did the Beijing Olympic Games change the perceptions of consumers toward China and its product? This study used a face-to-face mall intercept to collect data between September and October, 2008. A total of 227 useable surveys were returned, with 46 rejections, resulting in a 83 percent response rate. The sample represented well the general US population of active shoppers. The majority of respondents were female (52%), were between 18 and 34 years old (64%), were single (60%), had some college (56%), had annual household income between $30,000 and $44,999 (22%).

Paired sample t-tests were conducted to determine changes in consumers' attitudes toward the image of China pertaining to human right, technology, and environment as well as product quality of Chinese products. Paired sample t-tests were also used to assess changes in consumers' evaluations of the quality of a nation's quality, durability, reliability, workmanship, and dependability.

According to Table 1, paired Sample t -tests revealed that respondents demonstrated significantly higher human right scores (mean difference = 0.146, t=2.768, p<0.01) after the 2008 Beijing Olympics (m =2.38) than before the 2008 Beijing Olympics (m2.23). The results showed that, after the 2008 Beijing Olympics, consumers' perceptions about China pertaining to human right were improved. Nevertheless, both real scores were relatively low, indicating that the goal to portray China as a country that respects human rights through Olympics had limited effects.

The results also showed that respondents demonstrated significantly higher technology advance scores (mean difference = 0.169, t=3.697, p<0.005) after the 2008 Beijing Olympics (m =3.42) than before the 2008 Beijing Olympics (m=3.25). The results illustrated that, after the 2008 Beijing Olympics, consumers' perceptions about China improved pertaining to technological advance. The Bird's Nest and the MEGLEV train were good indicators of China's cutting edge technology.

Besides, the results suggested an improvement in the environment respect scores (mean difference = 0.282, t=4.593, p<0.005) after the 2008 Beijing Olympics (m =2.57) than before the 2008 Beijing Olympics (m=2.29). The results demonstrated that, after the 2008 Beijing Olympics, consumers perceived that China behaved more responsively over the environment. Nevertheless, both real scores were relatively low, indicating that the goal to portray China as a country that behaves responsibly over the environment through Green Olympics had limited effects.

Table 1

Paired Sample t-Tests Comparing Mean China and China Brand Ratings before and after the 2008 Beijing Olympic Games

Item	Pre/Post-Olympics	N	Mean	Standard Deviation	Mean Difference	Std.Dev. on Mean Difference	t-value
China Image							
Human Right	Post	227	2.38	1.044	0.146	0.797	2.768**
	Pre	227	2.23	0.983			
Tech Advance	Post	227	3.42	1.023	0.169	0.689	3.697***
	Pre	227	3.25	0.998			
Envir. Respect	Post	227	2.57	1.221	0.282	0.924	4.593***
	Pre	227	2.29	1.093			
China Product Image							
Reliable	Post	227	2.74	1.03	0.112	0.651	2.6*
	Pre	227	2.62	0.998			
Good Workmanship	Post	227	2.82	1.023	0.165	0.63	3.948***
	Pre	227	2.65	1.008			
High Quality	Post	227	2.59	1.059	0.18	0.636	4.265***
	Pre	227	2.41	0.979			
Dependability	Post	227	2.7	1.016	0.09	0.6	2.262*
	Pre	227	2.61	0.995			
Durability	Post	227	2.71	1.061	0.136	0.634	3.235***
	Pre	227	2.58	0.981			

Significance at *p ≤ 0.05, **p ≤ 0.01, ***p ≤ 0.005

The results from the paired sample t-tests also indicated that respondents demonstrated significantly higher product reliability scores (mean difference = 0.112, t=2.6, p<0.05) after the 2008 Beijing Olympics (m =2.74) than before the 2008 Beijing Olympics (m=2.62). The results also demonstrated that respondents demonstrated significantly higher product workmanship scores (mean difference = 0.165, t=3.948, p<0.005) after the 2008 Beijing Olympics (m =2.82) than before the 2008 Beijing Olympics (m=2.65). In addition, the results pointed out that respondents demonstrated significantly higher product quality scores (mean difference = 0.18, t=4.265, p<0.005) after the 2008 Beijing Olympics (m =2.59) than before the 2008 Beijing Olympics (m=2.41). Furthermore, the results showed that respondents demonstrated significantly higher product dependability scores (mean difference = 0.09, t=2.262, p<0.05) after the 2008 Beijing Olympics (m =2.7) than before the 2008 Beijing Olympics (m=2.61). Finally, the results from the paired sample t-tests indicated that respondents demonstrated significantly higher product durability scores (mean difference = 0.136, t=3.235, p<0.005) after the 2008 Beijing Olympics (m =2.71) than before the 2008 Beijing Olympics (m=2.45).

Overall scores pertaining to consumers' perception about China and the quality of China products after the 2008 Beijing Olympics were improved. However, all absolute post-scores were relatively low (except technology), indicating that consumers were still somewhat uncertain about image of China and the quality of products from China. These results suggested that a country's and its product images cannot be changed overnight, indicating that one single effort at nation branding is not sufficient to generate dramatic impact on all desirable outcomes. Rather, nation branding is a long term initiative. The results from this study suggested that the effects of branding China is in the right direction; however, the effects need to be sustained through 1) continuously measuring global consumer's perceptions; 2) continuously *reinforce the images through different nation branding tools (e.g., World Expo, World Cup, International expositions, etc.); and 3) continuously work with relevant Chinese companies/organization (e.g., Lenovo, Tsingtao beer, Haier, and China Mobile) to promote the right images of China and to sell itself as a brand.*

THE IMPACT OF CORPORATE GOVERNACE ON EFFICIENCY PERFORMANCE OF THE THAI NON-LIFE INSURANCE INDUSTRY

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ABSTRACT

This paper examines the relation between corporate governance and efficiency performance of public non-life insurance companies in Thailand over the period 2000-2007. Data envelopment analysis (DEA) is used to compute insurers' efficiency performance, including technical, allocative, cost, and revenue efficiency. We then employ weighted tobit fixed effects regression to test the relation between efficiency performance and corporate governance. Results show that corporate governance characteristics influence efficiency performance of non-life insurer. Specifically, board independence, board meeting frequency, audit committee size, board tenure, board ownership, and firm size have positive impact on efficiency performance of Thai non-life insurance companies. On the other hand, audit committee meeting frequency, board age, and board compensations have negative impact on efficiency performance. Finally, our empirical evidence also indicates that there is an unclear relation between insurers' efficiency performance and board size and financial expertise on audit committee.

Keywords: *data envelopment analysis, corporate governance, efficiency performance, Thai non-life insurance.*

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ONLINE FINANCIAL REPORTING: THEORETICAL FRAMEWORK

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ABSTRACT

Meant to emphasize the importance of internet in financial reporting disclosure, the present paper intend to analyze a number of theories such as the theory of communication process, the entity theory, the enterprise theory and the human computer interaction theory in order to see how communication between companies and the users of business information works.

Our objective is to establish a theoretical framework for online financial reporting. In the first part we defined the terms “online” and “internet” and their importance in online financial reporting. After this, reviewing the literature we underline the importance of each theory in our study taking into consideration five relevant criteria for our purpose and we extract some interesting conclusions.

1. INTRODUCTION

In general, when a machine is "online," it is turned on and connected to other devices. For example, when a network printer is online, all the computers connected to that network can use it. Recently, however, the term "online" usually means being connected to the Internet. In our study we aim to underline the importance of Internet in presenting financial reports.

The Internet offers a new medium for companies to present their financial reports. New applications, new users and faster connections have spurred the Internet to become an important medium for communication, information dissemination and commerce (McKnight et al 1995). The transition from hard copy to Internet usage in order to provide financial information is difficult to achieve and requires major changes to create a clear and concise legal basis. Thus, the Internet will ensure a faster delivery of financial information and will increase user confidence in the financial information.

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2. RESEARCH METHODOLOGY

The objective of our work is to establish the conceptual framework of the online financial reporting. In order to achieve our goal, we reviewed the existing literature and found the theories related to our study. The most important and relevant theories are described and critical analyzed in the chapter three of this paper.

From the perspective of online financial reporting, we divided the literature in two main parts:
sociological theories and fundamental accounting theories.

All the theories emphasize the communication need for a company in order to maintain or improve its own activity. If it’s a decision making, the accountability, the user’s cognitive learning or guidelines for how to use the interne, they are all communication means
For each of the theory above we intend to perform an analyze in order to answer to the following questions:

- Why report?
- What to report?
- Who will decide?
- What way should we report?
- What form should we choose for the report?

3. ACCOUNTING THEORIES IN THE CONTEXT OF FINANCIAL REPORTING

For the beginning, we’ll describe the literature related to our study and the relation between each theory and our paper.

A. SOCIOLOGICAL THEORIES

a. Communication theory (Shannon and Weaver 1949) – The internet is a communication tool. This theory underlines the steps that a communicator has to take in order to transmit his information and, in the same time, to be sure that the receiver understands it. A universal form of financial reporting is vital. If every firm has her own financial reporting model, it's hard for the users to compare one financial report with another. The same thing it will happened if we have a financial report form for one country and another forms for the rest of the countries.

In the basic theory, any type of communication is based on at least one information source. In the context of the Internet, the information source is the company itself. Therefore, if the company decides to provide its financial reports on its own web page, it will be a lot easier for the users to collect the information directly from the source. It will also be easier for the company to control the qualitative characteristics of timeliness, completeness, understandability and relevance of information.

The Internet itself is the channel for communicating the information to the user. Before the Internet was used as a medium of presentation of financial information, and even now, the hard copy, the paper version was the major if not the sole means of channeling financial information to users. The Internet poses new aspects as a medium of information presentation. The issues that relate to the Internet as a communication medium include the readability, usability and understanding of the information. These aspects relate to the nature of the information as well as the technical aspects of the medium of presentation itself.

The Internet as a channel for communicating information faces aspects of quality control and security of the information presented. Security of the information is a major element in the context of Internet financial reporting. Internet is a channel that allows around the clock access to the information. It also allows information to be susceptible to manipulation and change by any party that can and has a motive to do so. It is the responsibility of the company to ensure the security of the financial information while it is presented via the channel. This is more complicated than hard copy channel because of the continuous exposure of information to unauthorized change on the Internet. This is because hard copy versions of reports cannot be changed by third parties once printed and disseminated. Users and third parties can change them for personal use but the original version coming from the source itself cannot be changed.

The destination elements are the various types of users of financial reports. The user may question the nature of the information, the quality and completeness of the information and the authenticity of the information. Or the user may accept the information to be credible enough to be used for decision making. The Internet poses a major dilemma regarding this aspect of presentation of information. In order to increase user confidence companies can take measures such as providing information on security measures adopted, verification reports, such as additional assurance by auditors and statements from third parties guaranteeing the quality and content of the information so presented to be at least of the same standard as hard copy.

b. User's Cognitive Learning Theory (Kennedy & Maines 2002)
The users tend to be sequential when they look for a information. If the information would be disclosed on the internet, it would be easier for them to reach it. We have the option "find" if the financial report is presented in Acrobat or html form. When the internet is not used, the companies tend to present the information mostly in the notes of the financial report. Usually the user doesn't get to read this kind of information. He stays to much trying to understand all the previous information, and, in the end, doesn't reach the most important one: the one he looks for.

In their paper, "Recognition versus Disclosure in Financial Statements: Does XBRL Improve Transparency" ,Hodge, Kennedy and Maines set out to determine whether or not the new programming language will assist analysts and investors in evaluating financial information and create transparency in financial statements.

The management prefers to disclose data in the notes of the financial statements rather to recognize it in the main body. The researches identified that most users are sequential seekers. They look in the financial statements in the order in which they are presented, and usually, they don't even read the notes of the financial statements.

If the companies will disclose the financial data on the internet, the users will easily identify the information they need. This will lead to accurate and efficient decision making in behalf of the users. With a simple "Find" the user might find the information he needs if the financial report is disclosed in acrobat or html form.

c. Human-Computer Interaction Theories: Information Foraging Theory (Pirolli 2002) – The human computer theories emphasize the benefits and the problems of internet usage. It is true that we find the information we need a lot easier. But it is also true that on the internet we find a lot of information, and we need to select the one we are interested in. For a user that research for the first time information on the internet it will be hard. He needs to learn how to look, what to look for and what key words he must use in order to find the right information.

Human-computer theory deals with the problems and the benefits that may arise when a user looks for the information he needs through computer and internet.

Information Foraging Theory took in consideration that every user has a cost associated with the data extracting on the internet. The first cost is the times spend researching the information needed. The second one is the resource cost that relates with the users attention and effort. In the context of financial reporting on the internet, the cost of research is cumulated in the time and the effort that he will spend looking for reliable information.

The internet doesn't mean only an easier way to obtain information, but also a large area of information. Rao has described information overload as the situation where the user is faced with large amounts of data that they have to look through to get to the specific information that the user wants.In the process of research, we look over an amount of web sites, hoping to find the right one. If we find it, we start to look for the information that we need. It's not usually to find it from the first step of the searching. We need to be either very lucky or experienced.

Like in every other domain, the internet searching needs practice. At the beginning of the road, the user doesn't know how to look the information that it is necessary in the decision process. Step by step he will discover what to look for, how to use the search engines, and what cues to choose for "his" information. Rao found that display of key words that best describe the information that may be accurately linked to the key word minimized the costs associated with the information Foraging Theory. In order to achieve transparency in financial reports on the internet, the company must lead the user to find the information he desires, disclosing correct keyword and relevant hyperlinks.

B. FUNDAMENTAL ACCOUNTING THEORIES

a. Entity theory (Paton 1962) –Companies must maintain a good relationship with all the users of their business information. In order to do so, they should disclose their financial report on the internet. We found a various regulatory bodies that established some regulations for use of internet in order to present a financial report.

The entity theory emphasizes the concept of accountability, where the company has to meet the needs of its users in order to meet the legal requirements and to maintain a good relationship with them. In other words, this theory explains why the company should publish their financial reports on their website. For large companies, the internet is an added advantage. The company will meet the needs of shareholders and, at the same time, will reach a wider audience at the same point in time.

There is a range of regulatory bodies which have made pronouncements on the submission or use of electronic accounting data in various ways. These include The International Monetary Fund (IMF), International Accounting Standards Board (IASB), International Federation of Accountants (IFAD), Web Trust, COB (France), the Financial Accounting Standards Board (FASB, U.S.). Other bodies include the Australian Securities and Investment Commission (ASIC) and the Auditing and Assurance Standards Board, Australia.

b. Enterprise theory (Suojanen 1954) - This theory is based on decisions made by the management. If the financial report should be or not disclosed on the internet is a management

decision but it will influence all the interested parts. A decision once taken will influence both the company and all the interested parts.
In the present paper, we want to emphasize that if the financial reports are presented means that a decision has been made. This decision, according to the Enterprise theory, will influence all the interested parts, and the companies' responsibility will increase. Revealing financial reports means that everyone will have access so they need to be both reliable and complete. Each and every information has an effect on the decision making process. Finding information is easier, but it must have all the attributes of information: reliable, complete, qualitative and so on, in order to be useful.

c. Regulatory capture theory (Posner 1974) - In context of Internet reporting there are rules and guidelines provided by the regulatory agencies. The information must meet minimal requirements in order to be disclosed on the internet. According to Posner theory, the bodies of regulatory issue norms and rules which are designed to reduce the gap between companies.
The role of this theory was to emphasize the importance of the regulatory agencies and the rules that they try to develop and enforce. The boundaries defined by the regulatory agencies are general. Between practice and regulatory is a gap that can not by minimize easily.
In order to use Internet financial reporting there are rules and guidelines provided by the regulatory agencies. The information must meet minimal requirements.

3. RESULTS

After analyzing each theory and trying to find answers to the following questions: Why report? What to report? Who will decide? What way should we report? What form should we choose for the report?, we extracted our conclusions. In the table below we highlighted the connection between each theory analyzed in the present study and the research questions that we described above.

Theories	Why?	What?	Who?	What way?	What form?	Connection
Communication theory	O	O	O	X	O	X
Entity theory	X	O	O	O	O	X
Enterprise theory	O	O	X	O	O	X
Regulatory capture theory	O	X	O	O	O	X
User's cognitive learning theory	O	O	O	O	X	X
Human-computer interaction theory	X	X	X	X	X	X

Taking in consideration the communication theory and the human-computer theory we find that the first underlines the importance of communication while the second one underlines the importance of internet usage. But isn't the internet itself a way of communication? Of course it is. It is the best way of communication nowadays. Although internet fraud is very high, everyday we find a new way of communicating on the internet: for banking, phoning, researching etc. In order to reduce the fraud, there are many organizations that are emitting regulations regarding the internet.

From the table above, we can see that each theory is connected to our study. Each one answers to a research question, demonstrating our point of view of internet financial reporting. The only theory that answers to all our research questions is the human-computer interaction theory. A entity must know why it should report online – what are the benefits of online financial reporting, what it should report – all the information must be available, transparent, or should it disclose only a part of the information, who should report – the entity, the auditor, some other organization interested on the companies financial reports, what way should it report – over the internet or on paper form, and what form soul the report be – online financial reporting in .doc, .pdf, .xls or html form?

4. CONCLUSIONS AND FUTURES RESEARCH

The objective of this paper was to underline the importance of internet in financial reporting disclosure. It is true that the data we need to sort out are wade, but without internet the user's tasks were a lot difficult. All the previous theories are related to our study. The main purpose is a better communication between users and companies. We start with the information we want to spread, chose the way we will do it, and assure that it's understood by the user. The decision that management has to take is how will the information be spread? And the easier way is through the internet. In our days, due to the present crisis in the economic field, we not only see, but also feel the importance of transparency in all domains of economy.

The financial reporting disclosure is as closer as it can be to the transparency. The information is the same for all the users: it's complete and easier to go through. Because the company is the one that provides it, the information is reliable and as complete as possible.

In our opinion, the most important theories, from the ones provided before, are *the entity theory*, that motions witch regulatory bodies have made pronouncements on the submission or use of electronic accounting data in various ways and *the human-computer theory* witch deals with the problems and the benefits that may arise when a user looks for the information he needs through computer and internet.

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Proceedings of the IABE-2010 Bangkok, Thailand

Volume 7, Number 1, 2010

International Academy of Business and Economics®

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ISSN: 1932-7498

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