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# The use of graphs in Malaysian companies' corporate reports: A longitudinal study

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**Abstract**

The purpose of this paper is to examine the nature and extent of voluntary disclosure of graphical information in the annual reports of 54 non-financial public listed companies in Malaysia using a longitudinal approach. The results show that the disclosure of graphical information in Malaysian companies' annual reports has increased at an 'average level' over the thirty-year period. The majority of Malaysian companies prefer to use the bar graphs and the most frequently graphed variables are profit, turnover, earnings per share, and shareholders' fund. The implications of this study are that: a) companies should be aware of the usefulness and advantages of providing graphical information for the benefit of various user groups; b) it may timely for the accounting regulatory bodies to propose a minimum/adequate level of graphical information using selected items of high importance to users of annual reports; and to formulate suitable guidelines in order to standardise the presentation of graphical information in annual reports of companies.


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*Keywords:* Voluntary disclosure; graphical information; annual reports; graphs; Malaysia

## 1. Introduction

Research in financial reporting has mainly focussed on the disclosure issue in two main categories of information, namely mandatory and voluntary disclosure. The majority of researchers pursuing such research

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endeavours normally use the annual reports as their main sample of studying corporate behaviour or practices. The use of annual reports in accounting research is also much more preferred due to its easy access or availability. This is especially true because the main output of a company's financial accounting system is the annual report. Although information regarding a company can be obtained from various sources, one of the most important and valued sources is the annual report (Hines, 1982; Vergoossen, 1993). It acts as a valued means of communication between an enterprise and its stakeholders. For example, shareholders would envisage that information conveyed to them is clear and precise. In addition, annual reports also function as public relations tools which portray corporate image and signal specific messages. In other words, corporate reports function as effective marketing tools as if they are brochures or leaflets describing the activities and performance of the companies concerned (Beattie & Jones, 1993; Holliday, 1994). In order to carry out their functions effectively, the contents of the annual reports should be presented to users of financial reports in a precise and understandable manner.

Prior research studies have shown that users with no accounting background find it difficult to understand the financial statements and have to rely on the director's report or chairman's statement as the alternative source of financial information (Lee & Tweedie, 1976). This report is normally presented in a narrative manner, and prior studies have also found that the readability level of this type of information depended upon the performance of the companies concerned. In other words, the higher the financial performance of a company, the higher (more readable) the readability level of its annual report (Subramaniam, Insley & Blackwell, 1993).

As an alternative, Wilson and Stanton (1996) suggest that the use of graphical information would be able to enhance the communication process in a more precise and effective manner. One of the most widely used pictorial methods in annual reports is the graph. However, the use of graphical method can only enhance the communication process effectively if it is designed according to the principles of graphical design and construction (Schmid, 1983).

Several researchers like Beattie and Jones (1999, 2000a), Merkl-Davies and Brennan (2011), Cho (2009) and others state that the use of graphs by management represents part of the 'impression management' process. Prior research by Neu (1991) and Neu and Wright (1992) explain how the Canadian accounting profession has used impression management techniques to convince users of financial statements that accountants are trusted and legitimate. In the same token, management use ‘impression management’, including financial graphs, to create the schema of trustworthy management. Beattie and Jones (1999, pp. 46-47) further argue that financial graphs display select information and present information in set ways to legitimise to the user of the annual report the management's right to run the company. As part of this legitimisation process, management attempts to convince shareholders that the company is being run competently and efficiently. In order to enhance corporate achievements, company managers have incentives to represent their company's performance in the best possible manner, potentially resulting in selective financial representation (Tweedie & Whittington, 1990; Revsine, 1991; Cho & Patten, 2007; Cho (2009).

Financial graphs, therefore, represent an important area of accounting research. Prior studies have been conducted in the U.S.A. (Johnson, Rice & Roemmich, 1980; Steinbart, 1989), in the U.K. (Beattie & Jones, 1992), in the U.K. and U.S.A. (Beattie & Jones, 1997), in Ireland (Green, Kirk, & Rankin, 1992), in Hong Kong (Courtis, 1997), in Australia (Beattie & Jones, 1999; Mather, Ramsay, & Serry, 1996), and in Canada (CICA, 1993). Despite the growing usage of graphical information, academic research into the use of graphs in corporate annual reports is still in its infancy (Beattie & Jones, 2001), even in the developed countries. This lack of research is even more disappointing in the developing countries, such as Malaysia, particularly the study on the use of financial graphs in a Malaysian context, which has been neglected. This is especially true compared to the wealth of research devoted to the financial statements.

## 2. Research objectives and significance of the study

The purpose of this study is to extend the understanding of graphical reporting practices in the Malaysian accounting environment. There are two main objectives. The first is to establish the nature of graph use in the annual reports of Malaysian companies and, in particular to describe the type of graphs used and the topics

graphed. The second objective is to examine the trend in the disclosure of graphical information over a thirty-year period using a ten-year interval period (1974, 1984, 1994 & 2003).

This research is particularly timely because of the current largely discretionary and unaudited nature of graphical information. This gives management ample opportunities to select and present corporate financial performance largely untroubled by mandatory constraints. This study is also innovative because in this study, we examine for the first time in Malaysia the growth of graphical information in annual reports for selected companies representing from various industry sectors. Specifically, this study will examine the extent of graphical information disclosure in annual reports for a selected number of companies as our preliminary survey. Prior research have mainly focused on measuring the disclosure of narrative information or items normally being disclosed in the financial statements using the well-known disclosure index developed by Cerf (1961). Generally, prior studies relating to graphical reporting practices have mainly concentrated on the issue of graph measurement distortion (see the research studies conducted by Beattie & Jones, 2000b, 2002; Frownfelter-Lohrke & Fulkerson, 2001). In addition, prior studies also focused on the top 100 companies based on the size variables such as market capitalisation, turnover, total assets, etc. This would inevitably bring much bias in the results obtained because size was always found to be a significant variable in most studies. As such, this study represents the first study in Malaysia which seeks to measure the extent of voluntary disclosure using a longitudinal approach by focussing on one particular type of information, i.e. the graphical information. It is hoped that this study would contribute to the body of knowledge in the area of financial disclosure by providing a new dimension on the extent and usage of graphical information in annual reports and would trigger future research in other countries.

The results of this study would be of beneficial to accounting policy maker especially in (i) encouraging companies to provide more voluntary information to users of annual reports; ii) proposing a minimum/adequate level of graphical information using selected items of high importance to users of annual reports.

The remainder of this paper is structured as follows. Section 3 reviews the extant studies on the disclosure of graphical information in corporate annual reports. We describe our research methods in section 4 and present the results in section 5. Finally, section 6 provides the conclusions, limitations, and recommendations for future research.

## 3. Literature review and theoretical background

Previous research found that the reason users did not read annual reports thoroughly was because the contents were too complex and contained too many details (Razae & Porter, 1993). For instance, Smith and Taffler (1992) found that some companies intentionally wanted their annual reports to be less understood by users, especially when the companies showed bad performance. As such, the traditional method using narrative and tabular techniques to convey important accounting numbers is deemed to be less effective. In addition, it only makes the annual reports less attractive and difficult to understand. As one of the judges in the 2002 Published Accounts Awards of the Leinster Society of Chartered Accountants, Mr. Kirk, R. states:

"User friendly is the buzz word at the moment. What we look far are accounts that are as clear as possible. We do not want to see vast volumes of information because the general user losses track of what is going on and will not be enticed into reading the report" (Canniffe, 2003: p.7)

He also stresses that the most important aspect of annual reports nowadays is the narrative at the front and the use of photography and graphics. He likes to see more use of graphics and trend analysis in annual reports (Canniffe, 2003: p.7). In the USA, the Securities and Exchange Comission (SEC) made a brave move in February 2004 by requiring registered investment companies (fund companies) to file quarterly reports that graphically depict (using tables, charts and graphs) their portfolio holdings in order to 'provide better information about fund costs, investments and performance' to fund shareholders (Silfen & Sperry, 2004). Beattie and Jones (1993) argue that graphs can be used to increase users' understandability level and at the same time can summarise financial information so that users can understand it in a reasonably short period. Information presented in a visual manner is much easier to understand and to retain in human memory. Besides, readers are able to see exactly what is

presented by a graph almost at a glance. In other words, users can simply glance at these graphs to see the trends inherent in a data (McNelis, 2000). This visual method is also capable of making annual reports much more attractive if suitable colours are chosen (So & Smith, 2002). Furthermore, graphs are also capable of communicating information effectively since they can present information in the most intelligible manner, are easy to read and more attractive (Kosslyn, 1989; Wilson & Stanton, 1996; Beattie & Jones, 2001; So & Smith, 2003). Information regarding trends, changes in performance, and data outliers are more precise and easy to understand when they are presented using graphs.

Johnson et al. (1980) randomly selected fifty U.S. corporate annual reports from the Fortune 500 in 1977 and 1978. They found that 30 percent of the graphs studied were constructed improperly. Later, Steinbart (1989) conducted a more extensive study, based on 319 U.S. annual reports for 1986, selected from the Fortune 500. He found that 79 per cent of the companies used some forms of graphical information in their annual reports. The companies also were more likely to include graphs of key variables (sales, income and dividends) when income had increased, rather than decline. In the U.K., a study by Beattie and Jones (1992) using annual reports of 240 U.K. listed companies for 1989 revealed that 79% of the companies used graphs, with four key financial variables (KFVs) i.e. sales, profit before tax, earnings per share (EPS), and dividends per share (DPS), constituting 60 per cent of all graphs. They found that financial companies were less likely to include KFV graphs, although the impact of industrial group was not explored further. They also found that KFV graphs were significantly more likely to be included in the annual reports of companies with 'good', rather than 'bad', performance. Here, performance was classified as good or bad on the basis of the directional change in both EPS and the specific financial variable being tested. However, a study in Ireland by Green et al. (1992) using 117 Irish semi-state sector and public limited companies, which replicated Beattie and Jones' (1992) study, found that only 54% of the companies included graphical information in their annual reports.

A survey by the Canadian Institute of Chartered Accountants (CICA, 1993) on 200 Canadian annual reports from 1991 shows that 83 per cent of companies use graphs, with the four most popular graph topics being sales or revenue (90 per cent of companies); earnings, income or profit (89 per cent); shareholders' equity (62 per cent); and assets (62 per cent).

Another study by Beattie and Jones (1999) using annual reports of 100 Australian listed companies for 1991 revealed that 89% of the companies used graphs, with a mean graph number of 9.4, and diversified companies were found to use the most graphs. The four most commonly graphed financial variables were sales, profit before tax, earnings per share (EPS), and dividends per share (DPS).

Beattie and Jones (2000b) also use a longitudinal approach using annual reports of 137 top UK companies during a five-year period from 1988 to 1992 to determine whether graph use depends on corporate performance. They found that at both the aggregate and individual levels, the management's decision to use key financial variable graphs was associated positively with corporate performance measures. They concluded that financial graphs in corporate annual reports are used to 'manage' favourably the reader's impression of company performance, and hence that there is a reporting bias.

Another recent study using the multi-year approach at the transnational level was conducted by Frownfelter-Lohrke and Fulkerson (2001) using a sample of 270 annual reports from 74 companies from twelve countries. The sample consisted US and non-US companies listed on the New York and American Stock Exchange. The study examined the relative incidence and measurement distortion of graphics in the annual reports of companies from 1984 to 1994. They found that the annual reports of non-US companies contained a significantly higher number of graphics than US companies. Both groups also failed to comply with many of the guidelines for good graphics and the incidence of graphic distortion was higher for non-US companies.

Another study at the transnational level was conducted by Beattie and Jones (2001) using 300 annual reports from six developed countries (50 companies from each country). They tried to identify any significant transnational variations in graphical practice and investigated whether these differences can be explained by differences in national accounting environments. They found that graphical practices in the microbased countries (Australia, the Netherlands, the UK, and the US) were significantly different from those in the macrobased countries (France and Germany), with German graphical practice being especially different. They also concluded

that selected graphical reporting dimensions were not generally consistent with predictions based on the macro/micro orientation of countries.

A recent study using a longitudinal approach was conducted by Beattie, Dhanani, and Jones (2008). They examine structural and format changes in annual reports of U.K. listed companies from 1965 to 2004 with a particular focus on graph use. The study compares a new sample of 2004 annual reports with pre-existing samples by Lee (1994) and by Beattie and Jones (1992). They find a sharp increase in page length, voluntary information, and narrative information, especially among large listed companies. In terms of voluntary disclosure, they discover major changes in the incidence and pattern of generic sections. Even though graph usage is found to be universally applied. They find that key financial graph use has slightly declined, replaced by graphs depicting other operating issues. They also discover the presence of impression management through selectivity, graphical measurement distortion, and manipulation of the length of time series graphed. They conclude that annual reports merely represent public relations documents rather than be financially driven, and they suggest that there is need for policy guidelines to protect users.

Recently, research on graphs usage has gone beyond examining the annual reports to include also stand-alone sustainability reports. For example, Cho, Michelon and Patten (2012) examine whether differences in the extent of impression management in sustainability reports are associated with differences in social and environmental performance. Based on an analysis of graphs for a sample of 77 U.S. companies for 2006, they find substantial evidence of favourable selectivity bias in the choice of items graphed. They also find moderate evidence of favourable bias when distortion in graphing occurs. However, they find mix evidence as to the relationship between impression management and performance. In addition, they also find that graphs of social items in sustainability reports for companies with worse social performance exhibit more impression management. However, they find no significant relationship between environmental performance and impression management in the use of environmental graphs.

The only study in the Asian region on graphical information in corporate annual reports was conducted by Courtis (1997) using two different samples of Hong Kong companies. The first sample comprises of 364 listed companies in the Hong Kong Stock Exchange from 1992 to 1993. The second sample comprises of 327 listed companies in the Hong Kong Stock Exchange from 1994 to 1995. It was found that only 38 per cent of the companies in the first sample included some forms of graphical information in their annual reports, whereas in the second sample, only 35 per cent of the companies did the same. Courtis also discovered that the level of usage of graphical information in annual reports of Hong Kong companies was quite low compared with companies in the U.S. and the U.K. He explains that the low usage of graphical information in annual reports in Hong Kong is related to the share ownership structure and composition of board of directors in most Hong Kong companies. In Hong Kong, the majority of company shares and board of directors are controlled by family members. Due to this closely-held-family structure, the company's management believes that a widely-based communication method is not needed and as such no efforts are being made to enhance communication effectiveness through the use of graphical information.

The only Malaysian studies that we are aware of were conducted by Shamharir, Md Suhaimi, and Nurwati Ashikkin (2000), Azhar & Mohd Diah (2001), and Ram (2004). Shamharir et al. (2000) examine the disclosure of graphical information using the annual reports of 130 listed Malaysian companies for 1997. They found that 70 percent of companies used graphs, with the bar graph being the most popularly disclosed (86 percent). Sales, income, earnings per share (EPS), and dividends per share (DPS) were the four most frequently graphed variables, representing 39 percent of all graphs. The subsequent study was conducted by Azhar and Mohd Diah (2001) using the annual reports of 54 selected Malaysian companies for the year 1994. They found that 59 percent of companies used graphs, with the bar graph being the most popularly disclosed (83 percent). Sales, income, earnings per share (EPS), and shareholders' fund were the four most frequently graphed variables, representing 45 percent of all graphs. They also examined whether graphical disclosure was influenced by selected company characteristics. They found that large companies (in terms of total assets), companies with high profit margin, and companies operating in a single business operation (non-conglomerate) disclosed significantly more graphical information in

their annual reports. The other variables namely, leverage and auditor type showed insignificant relationships. The third Malaysian study was conducted by Ram (2004) using the annual reports of 100 index-linked Malaysian companies for 2001. He found that 79 percent of the companies used graphs, with the bar graph being the most popularly disclosed (81percent). Sales, income, earnings per share (EPS), and dividends per share (DPS) were the four most frequently graphed variables. Unfortunately he did not examine other items or topics that were normally being disclosed besides the four KFVs.

As graphical information is non-obligatory in nature (especially in Malaysia as well as in most other jurisdictions), the theory behind the use of graphs is similar to other types of voluntary disclosures. However, the main difference between graphical information and other voluntary disclosures is that graphical information does not represent new information but rather reintroduces and highlights information already disclosed elsewhere in the relevant documents (such as annual report or prospectuses). In part at least, the voluntary disclosure of graphical information can be explained from the signalling theory. This signalling hypothesis attempts to explain the reporting behaviour of firms in relation to the disclosure of graphical information. Signalling theory explains why firms have an incentive to report voluntarily to the capital market even if there were no mandatory reporting regulations. In other words, firms have to compete with one another for scarce risk capital, and voluntary disclosure is necessary in order to compete successfully in the market for risk capital (Holthausen & Leftwich, 1983). A firm can raise capital more easily if it has a good reputation with respect to financial reporting. In addition, good reporting would lower a firm's cost of capital because there is less uncertainty about firms that report more extensively and reliably; therefore there is less investment risk and a lower required rate of return (Wolk et al., 2001; Muino & Trombetta. 2009). Firms also have the incentives to prepare a prospectus voluntarily when raising capital and to report regularly in order to maintain continued investor interest in the firm. In the same vein, companies that perform well have a strong incentive to report their operating results. On the other hand, competitive pressures would also force other companies to report even if they did not have good results. Silence (firms decide not to report) would be interpreted as bad news. Consequently, companies with neutral news would be motivated to report their performance in order to avoid being suspected of having poor results. This would inevitably leave only firms with bad news not reporting. However, according to signalling theory, such situation would also force 'bad news' firms to disclose their performance in order to maintain credibility in the capital market.

The signalling theory also proposes that there is an economic incentive to report (even bad news), in explaining voluntary financial reporting. Essentially, this theory argues that there is information asymmetry between the firm and external parties because insiders (the firm/management) know more about a company and its future prospects than outsiders (investors). Due to this situation of information asymmetry, outsiders will protect themselves (price protection) by offering a lower price for the company. However, the value of the company can be increased if the firm voluntarily reports (signals) private information about itself that is credible and that will reduce outsider uncertainty about the firm's future prospects. Based on this theory, graphical disclosures can be explained as a means employed by firms to highlight certain aspects of their performance so that firms can differentiate themselves from less desirable alternatives. A substantial number of theoretical and empirical research supports these arguments about the incentives for voluntary (as opposed to mandatory) information disclosure (see Leftwich, Watts, & Zimmerman, 1981; Verrechia, 1990; Gaeremynck, 1997; Tsoukalas & Sil, 1999; Durukan, 2002; Zeng (2003), Raj & Forsyth, 2004; Deumes & Knechel, 2008; Glover, 2012).

The second theory, the agency theory, explains why there are incentives for voluntary reporting to owners. This theory perceives the firm as having a nexus (intersection) of agency relationships and tries to understand organisational behaviour by examining how parties to agency relationships within the firm maximise their own utility. One such relationship is between the manager and the owners of the firm. Both parties have their own interests to pursue which in most cases are in conflict with one another. Due to this potential conflict, owners are motivated to contract with managers to reduce such conflict. Costs are incurred in monitoring agency contracts with management and to compensate for such costs, owners tend to reduce managers' compensation. Therefore, managers have an incentive to keep the costs low by not being in conflict with the firm owners. Agency theory argues that such conflict can be mitigated to some extent by routine financial reporting, which is normally referred to by accountants as stewardship or accountability to the owners of the firm. As such, the reputation of a manager

will be enhanced by good reporting (including by providing voluntary disclosures such as graphical information); and a good reputation should result in higher compensation because agency monitoring costs are minimised if owners perceive the accounting reports are reliable (Jensen & Meckling, 1976).

## 4. Research method

### *4.1 Sample selection*

The sample of companies was drawn from the companies listed on the main board of the KLSE since they represent the most well established firms. Companies from the finance and trust sectors are excluded due to the specialised nature of their business and also due to different or additional regulations imposed on them.

According to the Annual Companies Handbook published by the KLSE in 2005, the total number of listed companies in the main board as on December 31, 2004 is 557. After excluding finance, trust and PN41 companies, the number of companies was 461. The list of companies was furthered screened to detect those companies which have been incorporated before 1974 to carry out the longitudinal survey. The reason for choosing 1974 as the first starting year for collecting annual reports of companies is that the Kuala Lumpur Stock Exchange Berhad (KLSEB) was only formed in July 1973. As such, the first batch of annual reports to be submitted by companies to the KLSEB was for the year 1974. In order to examine a significant change that could take place in the disclosure of graphical information, a ten-year interval period was chosen. Hence, the next three consecutive years of study were 1984, 1994 and 2004. The sample of companies will also be restricted to those companies listed in the main board of the KLSE since they represent the most well established firms. The final list of companies consisted of 113 companies. These companies were requested for their annual reports for the year 1974, 1984, 1994 and 2004. Only 54 companies provided the full reports as requested, representing a response rate of 48 percent.

### 4.2 Determining the Existence of Graphical Information

Wallace and Naser (1995, p. 326) posit that 'financial disclosure is an abstract concept that cannot be measured directly'. Nevertheless, they agree that a suitable proxy such as an index of disclosure can be used to gain insight into the level of information disclosed by companies. However, in this study, since the main aim is to examine the use of graphs in annual reports and their trends over the 30 years period, a simple measure of the disclosure of graphical information is by counting the number of graphs being disclosed in the annual reports. The normal type of graphs disclosed by companies are the bar graph, line graph, and pie chart. A list of graphical disclosure items was employed in this study to gauge the extent of voluntary disclosure of graphical information by companies. A number of steps were taken to develop this index of graphical items. These steps were: (i) based on the common graphical items used in earlier studies (Beattie and Jones, 1997, 1999, 2000a, 2000b, 2001; and Azhar & Mohd Diah, 2001) a preliminary list of 72 items was generated; and (ii) the list was then examined by referring to the annual reports of Malaysian companies which have won the National Annual Corporate Report Awards (NACRA) 3 in order to derive an index of highly relevant items. After the index was subjected to these revisions, a final list comprising of 30 most generally disclosed items was compiled (see Table 1). After establishing the disclosure list, a scoring sheet was developed to assess the extent of voluntary disclosure by merely counting the number of graphs disclosed in the annual reports.

Table 1. Analysis of all graphs by possible topics

| No. | Topic/Item |
|---|---|
| 1 | Profit before tax |
| 2 | Turnover |
| 3 | EPS |
| 4 | Dividend Per Share |
| 5 | Shareholders' funds |
| 6 | Total assets |

| No. | Topic/Item |
|---|---|
| 7 | Net tangible asset per share |
| 8 | Net profit after tax |
| 9 | Share capital |
| 10 | Share price |
| 11 | Tangible asset |
| 12 | Employees |
| 13 | Depreciation |
| 14 | Production volume |
| 15 | Total liabilities |
| 16 | Share volume |
| 17 | Profit from operation |
| 18 | Profit after tax and minority interest |
| 19 | Operating cash flows |
| 20 | Operating profit before interest, depreciation, amortization and exceptional items |
| 21 | Plantation acreage |
| 22 | Capital expenditure |
| 23 | Asset employed |
| 24 | Turnover by activity |
| 25 | Profit by activity |
| 26 | Income tax |
| 27 | Borrowings |
| 28 | Return on shareholders' funds |
| 29 | Retained earnings |
| 30 | Breakdown of expenses |

The entire annual report was glanced through to find the type of graph and frequency of disclosure. In order to prevent any possible classification and counting errors, the score sheets were crossed checked by each researcher. Appendix 1 presents the number of graphs disclosed by each company according to the above procedure.

From this study, the researchers hope to develop an accounting simulation model, which is able to provide opportunities for accounting students to gain first-hand experience as well exposure on the comprehensive accounting cycle. It is hoped that the simulation training would inject entrepreneurial values such as high self-esteem, optimistic and high competitiveness in accounting students while giving them sufficient confidence to become entrepreneurs by starting their own accounting services business. With the emergence of more accountant’s entrepreneurs, it is expected that graduate unemployment crisis could be reduced while at the same time to answer the Government's call to produce more chartered accountant in the year 2020.

## 5. Result

### *5.1 Incidence of graph use*

The incidence of graph use is shown below in Table 2. In 1974, only fifteen per cent (8 companies) of Malaysian companies graphed at least one performance or non-performance variable. The percentage increased to thirty-one per cent (17 companies), fifty-nine per cent (32 companies), and sixty-five per cent (33 companies) in 1984, 1994, and 2004 respectively. Similarly, in 1974 only nine per cent (5 companies) of companies graphed at least one of the four generic KFVs identified by Beattie and Jones (1992. 1999): sales, profit, EPS and DPS. The percentage increased to twenty-six per cent (14 companies), fifty-seven per cent (31 companies) and sixty-two per cent (32 companies) in 1984, 1994 and 2004, respectively. The most commonly graphed KFVs were profit and turnover which accounted for between 9 per cent to 55 per cent of companies throughout the years selected. No standard profit measure was graphed, with many companies graphing various definitions such 'net profit after tax', 'trading profit', and 'profit before tax'.

Table 2 and 3 (panel A) also show that in 1974, 8 companies used 25 graphs, whereas in 1984, the number of companies increased to 17, using 82 graphs, in 1994, the number of companies again increased to 32, using 194 graphs, and lastly in 2004, the number of companies reached to 33, using 197 graphs. The mean number of graphs disclosed by companies in 1974 was only 0.5, then increased to 1.5, 3.7, and 3.9 in 1984, 1994, and 2004 respectively. If the analysis is based on graph-using companies only, the mean number of graphs disclosed was

3.1, 4.8, 6.2 and 5.9 respectively for the four selected years. The number of items or variables used in the graphs was 33, 95, 193 and 211 for 1974, 1984, 1994 and 2004, respectively; indicating an increase of 188 percent, 103 percent and 9 percent respectively between the three interval periods.

Table 2. Incidence of graph use in the annual reports of Malaysian companies

| Variable graphed | Companies (n = 54 for 1974, 1984 & 1994; n=51 in 2004) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1974 | | 1984 | | 1994 | | 2004 | |
| | No. | % | No. | % | No. | % | No. | % |
| Any variable | 8 | 15 | 17 | 31 | 32 | 59 | 33 | 65 |
| At least one key financial variable (KFV) | 5 | 9 | 14 | 26 | 31 | 57 | 32 | 62 |
| Specific key financial variables (KFVs): | | | | | | | | |
| | 3 | 9 | 8 | 9 | 26 | 14 | 24 | 47 |
| | 4 | 13 | 12 | 13 | 27 | 14 | 28 | 55 |
| Profit | - | | 5 | 5.2 | 16 | 9 | 20 | 39 |
| Turnover | - | | 3 | 3.2 | 7 | 4 | 3 | 6 |
| Earnings per share (EPS) | | | | | | | | |
| Dividend Per Share (DPS) | | | | | | | | |
| Mean number of graphs: | | | | | | | | |
| For all companies (n = 54) | 0.5 | | 1.5 | | 3.7 | | 3.9 | |
| For graph-using companies only *(1974: n* = 8; *1984: n = 17; 1994: n* = 32; *2004: n* = 33) | 3.1 | | 4.8 | | 6.2 | | 5.9 | |
| Number of variables graphed | 33 | | 95 | | 193 | | 211 | |

### *5.2 Distribution of Graphs by Type*

Table 3 (panel A) also shows that the most popular graph type used by Malaysian companies was the bar graph, constituting 82% of all graph types (taking the total number in all the four years). The bar graph was particularly popular for the KFVs, especially sales and profit. The number of bar graphs increased tremendously from 15 (60 percent) in 1974 to 57 (70 percent), 164 (83 percent) and 171 (87 percent) respectively in 1984, 1994 and 2004. For the non-KFVs, line and pie graphs were relatively more popular. In particular, pie graphs were used more frequently as a result of the non-time series nature of many of these non-KFVs. In other words, where the display of proportions rather than trends is the main graphical purpose, pie graphs are more appropriate than either bar graphs or line graphs (Spence and Lewandowsky, 1991).

Table 3.

| Panel A: Distribution of All Graphs by Type | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Type of graph | 1974 | | 1984 | | 1994 | | 2004 | |
| | No. | % | No. | % | No. | % | No. | % |
| **Line** | 5 | 20 | 11 | 13 | 16 | 8 | 17 | 8 |
| **Bar** | 15 | 60 | 57 | 70 | 164 | 83 | 171 | 87 |
| **Pie** | 5 | 20 | 12 | 15 | 15 | 7.5 | 9 | 5 |
| **Pictorial** | - | - | - | - | 1 | 0.5 | - | - |
| **Other** | - | - | 2 | 2 | 2 | 1 | - | - |
| **Total** | 25 | 100 | 82 | 100 | 194 | 100 | 197 | 100 |
| Panel B: Length of Years Graphed | | | | | | | | |
| Length of Year | 1974 | | 1984 | | 1994 | | 2004 | |
| | No. | % | No. | % | No. | % | No. | % |
| **5 years or less** | 4 | 50 | 15 | 88 | 29 | 91 | 30 | 91 |
| **6-10 years** | 4 | 50 | 2 | 12 | 3 | 9 | 3 | 9 |
| **Total** | 8 | 100 | 17 | 100 | 32 | 100 | 33 | 100 |
| Panel C: Number of Items Graphed | | | | | | | | |
| Number of Items | 1974 | | 1984 | | 1994 | | 2004 | |
| | No. | % | No. | % | No. | % | No. | % |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **5 Items or less** | 7 | 88 | 13 | 76 | 22 | 69 | 17 | 52 |
| **6-10 items** | 1 | 12 | 4 | 24 | 10 | 31 | 16 | 48 |
| **>10 items** | - | - | - | - | - | - | - | - |
| **Total** | 8 | 100 | 17 | 100 | 32 | 100 | 33 | 100 |

The overwhelming majority of graphs were for five-year time trends, as depicted in Table 3 (panel B). For instance, in 1974, fifty per cent of the graphs portrayed for five years and the remaining percentage portrayed more than five years. Then in 1984, 88 per cent portrayed for five years, while only 12 per cent portrayed more than five years. In 1994 and 2004, 91 per cent portrayed for five years, and only 9 per cent portrayed more than five years. None of the companies in any particular year portrayed more than ten years trend. In terms of the number of items being presented using time series, Table 3 (panel C) shows that in 1974, 88 per cent of companies used five items or less, and only 12 per cent used more than five items. Then, in 1984, the percentage dropped to 76 per cent (for five items or less) and increased to 24 per cent (for more than five items). Later, in 1994 the percentage further dropped to 69 per cent (for five items or less) and increased to 31 per cent (for more than five items). Finally, in 2004 the percentage further dropped to 52 per cent (for five items or less) and increased to 48 per cent (for more than five items) indicating a growing trend of companies willingly disclosing more items in their annual reports.

### *5.3 Analysis of graphs by topic*

Table 4 presents an analysis of all graphs by topic. The four KFVs (sales, profit, EPS and DPS), represent 22 per cent of all the graphs in 1974. The percentage then increased to 29 per cent, 39 per cent and 35 per cent in 1984, 1994 and 2004 respectively. Surprisingly, there was only three graphs (3 per cent) depicting dividend per share (DPS) in 1984 even though it was considered as KFV in prior research studies. The number then grew to 7 graphs (4 per cent) and 3 graphs (1 per cent) in 1994, and 2004 respectively. As for the non KFVs, the number of items decreased marginally from 78 percent in 1974 to 71 percent, 61 per cent, and 65 per cent in 1984, 1994, and 2004 respectively.

Table 4. Analysis of all graphs by topic

| Topic | 1974 | | 1984 | | 1994 | | 2004 | |
|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % |
| Key financial variables (KFVs): | | | | | | | | |
| Profit before tax | 3 | 9 | 8 | 8 | 26 | 13 | 24 | 11 |
| Turnover | 4 | 13 | 12 | 13 | 27 | 14 | 28 | 13 |
| EPS | - | - | 5 | 5 | 16 | 8 | 20 | 10 |
| Dividend Per Share | - | - | 3 | 3 | 7 | 4 | 3 | 1 |
| **Total KFVs** | **7** | **22** | **28** | **29** | **76** | **39** | **75** | **35** |
| Other non-KFVs (two or more graphs) | | | | | | | | |
| Assets (various definitional forms): | | | | | | | | |
| Total assets | | | 4 | 4.5 | 13 | 7 | 17 | 8 |
| Net tangible asset per share | | | | | 5 | 2 | 13 | 6 |
| Tangible asset | | | | | 3 | 2 | 3 | 1.4 |
| Shareholders' funds | | | 7 | 7 | 20 | 10 | 21 | 10 |
| Share price | | | 3 | 3.5 | 4 | 2 | 2 | 0.9 |
| Employees | | | | | 3 | 2 | - | - |
| Share capital | | | | | 5 | 2 | 3 | 1 |
| Depreciation | 3 | 9 | 5 | 5 | 2 | 1 | 1 | 0.4 |
| Net profit after tax | | | 3 | 3.5 | 9 | 5 | 6 | 3 |
| Plantation acreage | 2 | 6 | | | 2 | 1 | - | - |
| Production (volume) | | | | | 2 | 1 | 2 | 0.9 |
| Net dividend | | | 2 | 2 | 3 | 2 | 2 | 0.9 |
| Capital expenditure | | | 4 | 4 | | | 2 | 0.9 |
| Others (less than two graphs) | 14 | 42 | 22 | 23 | 32 | 16 | 64 | 30.6 |
| **Total non-KFVs** | **26** | **78** | **67** | **71** | **117** | **61** | **136** | **65** |
| **Total** | **33** | **100** | **95** | **100** | **193** | **100** | **211** | **100** |

Looking from Table 4, dividend per share only ranked in the ninth, seventh and eighth place in 1984, 1994, and 2004 respectively. It also interesting to examine the items ‘profit before tax’ and ‘net profit after tax’. If these two

items are combined as one item, then the percentage will change to 11.5 percent, 18 percent and 14 percent which represents the most popular KFV to be disclosed by Malaysian companies along with turnover. In contrast with prior studies (such as by Beattie & Jones, 2000b, 2002) which found that dividend per share was the most disclosed items in developed countries, this study found that the four most disclosed items were sales, profit before tax, shareholders' fund and EPS. Shareholders' fund was found to be the third most popular item to be disclosed.

Other commonly graphed variables (i.e., taken as more than two graphs) were non-KFVs: total assets (4 to 17 graphs), depreciation (1 to 5 graphs), net profit after tax (3 to 9 graphs), and net tangible asset per share (5 to 13 graphs). The remainder of the topics graphed were very varied, with a further fourteen to sixty-four topics being shown in less than two graphs.

In order to observe the growth of graphical information in annual reports of Malaysian companies, Table 5 summarizes the trend of such information during the thirty-year period. It shows that there was a moderate increase in the number of companies (23 companies - 43 per cent) disclosing graphical information. 17 companies (31 per cent) show inconsistent pattern of disclosure, while 12 companies (22 per cent) show no change in disclosure behaviour either by not disclosing graphs at all or only disclose the same amount or level of disclosure during the whole period. Table 5 merely summarizes the number of graphs disclosed by companies.

Table 5. The growth of graphs in annual reports (1974-2004)

| Trend of disclosure | Number of Companies | Percentage |
|---|---|---|
| Increasing | 23 | 43 |
| Decreasing | 2 | 4 |
| Fluctuating | 17 | 31 |
| No change | 12 | 22 |
| Total | 54 | 100 |

## 6. Conclusions, limitations and suggestions for future research

Based on the analysis of 54 annual reports of Malaysian companies, this paper documents the incidence of graphs use using a longitudinal approach. The survey of the annual reports shows that the most popular graph type used by the sampled companies for all the four years was the bar graph and this finding not only supports the earlier finding by Shamharir et al. (2000), but also supports prior research done in other countries (e.g. Courtis, 1997; Frownfelter-Lohrke & Fulkerson, 2001; Beattie & Jones, 2000b; Mather et al., 2000). The growth of disclosure was at the 'average' level, indicating the moderate level of awareness among Malaysian companies on the importance of providing additional voluntary information in their annual reports for the benefits of the general users of financial statements.

Among the topics graphed, profit, turnover, and EPS were the most commonly graphed financial variables whereas the other popular non-KFVs are shareholders' fund, total assets and net tangible asset per share. The DPS which was regarded as the main KFV in prior studies (e.g. by Beattie and Jones, 1992; 1999; Mather, et al., 1996) only ranked in the seventh to ninth place during the whole period. The number of companies disclosing any particular KFVs lies between nine to sixty-two per cent.

While these results not only provide credence to earlier research findings, they are of particular relevance for accounting policy-makers in Malaysia. Currently, legislative backing is being provided for accounting standards (Financial Reporting Act, 1997), a conceptual framework is in place and measurement issues are being explored (MASB, 1997), and several accounting standards are in the pipeline. In this regulatory scene, disclosure research would help answer such questions as 'What types of information that firms should be encouraged to disclose voluntarily?'; 'Is there a need for certain forms of guidelines in presenting such information (e.g. graphical information) so as to assist and benefit the users at large?' In Canada, an accounting standard regarding the disclosure of graphical information has been issued in guiding companies to provide such information. Is it timely for Malaysian accounting regulators (the MASB particularly, and the professional accounting bodies, generally) to issue the same accounting standard? Of course they have to sit together to weigh the costs as well as the benefits associated with increased disclosures by firms.

The findings of this study can also be of interest to Malaysian investors. For instance, they should be aware of possible impression management using financial graphs (e.g., Beattie & Jones 2008; Penrose 2008; Muino & Trombetta, 2009). This refers to whether firms have followed the principle guidelines in presenting graphical information as regards selectivity, measurement distortion, orientation distortion, and presentational aspects of graphs use, which is not covered in this study.

Nevertheless, there are some limitations in this study that is worth to be cautioned in interpreting the results. Firstly, this study does not develop a disclosure index to measure graphical information. Rather, it only counts the number of graphs presented in annual reports of companies and does not take into consideration the way the graphs are presented. In other words, other aspects of graphical disclosure such as measurement distortion and presentational formats are not covered. Secondly, this study only focused on one form of disclosure vehicle, namely the annual reports. Future research could extend this to include other channels of disclosure, such as preliminary announcements to the stock exchange, press releases, security analysts and financial news media editors, and announcements on takeover documents. Future research could also extend this study by using a continuous longitudinal approach (for example, 5 to 10 years period) to examine the gradual change in the disclosure of graphical information. In addition, the sample size could be increased to more than a hundred companies to give a better representation of the whole population or, alternatively, comparative studies between ASEAN countries could be carried out for possible extension of the current study. Nevertheless, despite the above limitations, we consider that the results of this study provide a useful insight into the disclosure practice of graphical information by Malaysian companies and provided a starting point for future research.

## References


Azhar Abdul Rahman & Mohd Diah Hamdan (2001). Voluntary Disclosure Using Graphical Information in Annual Reports of Malaysian Companies, *Proceedings of The 4th Asian Academy of Management (AAM) Conference,* Johor Bharu, Malaysia, Nov. 10-13, 93- 102.

Beattie, V. & Jones, M. (1992). The Use and Abuse of Graphs in Annual Reports: Theoritical Framework and Empirical Study, *Accounting and Business Research, 2*(88), 291-303.

Beattie, V. & Jones, M. (1993). Graphs in Annual Reports: Benefits and Pitfalls, *Management Accounting, 71*(6), 38.

Beattie, V. & Jones, M. (1997). A Comparative Study of the Use of Financial Graphs in the Corporate Annual Reports of Major U.S. and U.K. Companies, *Journal of International Financial Management and Accounting, 2*(1), 291-303.

Beattie, V. & Jones, M. (2000a). Impression Management: The Case of Inter-country Financial Graphs, *Journal of International Accounting, Auditing and Taxation, 9*(2), 159-183.

Beattie, V. & Jones, M. (2000b). Changing Graph Use in Annual Reports: A Time- Series Analysis, *Contemporary Accounting Research*, *17*(2), 213-226.

Beattie, V. & Jones, M. (2001). A Six-country Comparison of the Use of Graphs in Annual Reports, *The International Journal of Accounting, 36*(1), 195-222.

Beattie, V. & Jones, M. (2002). Measurement Distortion of Graphs in Corporate Reports: An Experimental Study, *Accounting, Auditing & Accountability Journal, 15*(4), 546-564.

Beattie, V. & Jones, M. J. (1999). *Australian Financial Graphs: An Empirical Study*, Abacus, 35(1), 46-76.

Beattie, V., & M. J. Jones. (2008). Corporate reporting using graphs: A review and synthesis. *Journal of Accounting Literature 27*, 71-110.

Beattie, V., A. Dhanani, & M. J. Jones. (2008). Investigating presentational change in U.K. annual reports: A longitudinal perspective. *Journal of Business Communication 45*(2): 181-222.

Canadian Institute of Chartered Accountants (1993). Using Ratios and Graphics in Financial Reporting, CICA: Ontario.

Canniffe, Mary (2003), Annual Reports, *Accountancy Ireland, 35*(1). February, 7-9.

Cerf, R. A. (1961), Corporate Reporting and Investment Decisions. Berkeley, CA: The University of California Press.

Cho, C. H. (2009). Legitimation strategies used in response to environmental disaster: A French case study of Total S.A.'s Erika and AZF incidents. *European Accounting Review 18*(1). 33-62.

Cho, C. H., & D. M. Patten. (2007). The role of environmental disclosures as tools of legitimacy: A research note. *Accounting, Organizations and Society 32*(7/8), 639-647.

Cho, C. H., Michelon, G. & D. M. Patten. (2012). Impression Management in Sustainability Reports: An Empirical Investigation of the Use of Graphs, *Accounting and the Public Interest, 12,* 16-37.

Courtis, J. K. (1997). Corporate Annual Report Graphical Communication in Hong Kong: Effective or Misleading?, *Journal of Business Communication, 34*(3), 269-288.

Deumes, R. & Knechel, W .R. (2008). Economic Incentives for Voluntary Reporting on Internal Risk Management and Control Systems, *Auditing, 27* (1), 35-66.

Durukan, M. B. (2002). The Relationship Between IPO Returns and Factors Influencing IPO Performance: Case of Istanbul Stock Exchange, *Managerial Finance, 28*(2), 18-38.

Financial Reporting Act, 1997 (1997). Kuala Lumpur: Malaysian Government Printers.

Frownfelter-Lohrke, C. & Fulkerson, C. L. (2001). The Incidence and Quality of Graphics in Annual Reports: An International Comparison, *The Journal of Business Communication, 38*(3), 337-358.

Gaeremynck, A. (1997). The Limitations of Signalling by the Choice of Accounting Methods, Managerial and Decision Economics (1986-1998), 18(1), 33-46.
Glover, J.C. (2012). Disclosure and Incentives, *Accounting Horizons, 26*(2), 371-380.
Green, P., Kirk, R. & Rankin, C. (1992). Graphs: The Use and Abuse, *Certified Accountant,* November, 34.
Hines, R. D. (1982). The Usefulness of Annual Reports: The Anomaly between the Efficient Market Hypothesis and Shareholder Surveys, *Accounting and Business Research, 12*(48), 296-309.
Holliday, K. K. (1994). Annual Report as Marketing Tools, *Bank Marketing, 26*(8), 22.
Holthausen, R. W. & Leftwich, R. W. (1983). The Economic Consequences of Accounting Choice: Implications of Costly Contracting and Monitoring, *Journal of Accounting and Economics*, August, 77-117.
Jensen, M. C. & Meckling, W. H. (1976). Theory of the firm: Managerial behaviour, agency costs and ownership structure, *Journal of Financial Economics, 3*(3), 246-271.
Johnson, J. R., Rice, R. R. & Roemmich, R. A. (1980). Pictures that Lie: The Abuse of Graphs in Annual Reports, *Management Accounting (US)*, 29-33.
Keeping Watch on Companies in Distress (2002). *Investors Digest*, March, 37-39.
Kosslyn, S. M. (1989). Understanding Charts and Graphs, *Applied Cognitive Psychology, 3*(3), 91-102.
Lee, T. A. & Tweedie, D. P. (1976). The Private Shareholder: His Sources of Financial Information and His Understanding of Reporting Practices, *Accounting and Business Research, 6*(24), 304-314.
Leftwich, R., Watts, R. L. & Zimmerman, J. L. (1981). Voluntary Corporate Disclosure: The Case of Interim Reporting, *Journal of Accounting Research, 19*, Supplement, 50-88.
Malaysian Accounting Standards Board (MASB), (1997). A Framework for the Preparation and Presentation of Financial Statements, Discussion Paper 1, Kuala Lumpur: Malaysia.
Mather, P., Ramsay, A. & Serry, A. (1996). The Use and Representational Faithfulness of Graphs in Annual Reports: Australian Evidence, *Australian Accounting Review, 6*(2), 21-30.
Mather, P., Ramsay, A. & Steen, A. (2000). The Use and Representational Faithfulness of Graphs in Australian IPO Prospectuses, *Accounting, Auditing & Accountability Journal, 13*(1), 65-74.
McNelis, L. K (2000). Graphs, an Underused Information Presentation technique, *The National Public Accountant, 45*(4), 28-30.
Merkl-Davies, D. M., N. M. Brennan, & S. J. McLeay. (2011). Impression management and retrospective sense making in corporate narratives: A social psychology perspective. *Accounting, Auditing and Accountability Journal 24*(3): 315-344.
Muino, F., & M. Trombetta. (2009). Does graph disclosure bias reduce the cost of equity capital? *Accounting and Business Research 39*(2), 83-102.
Neu, D. (1991). Trust, Impression Management and the Public Accounting Profession, *Critical Perspective on Accounting,* 2(3), 76-85.
Neu, D., & Wright, M. (1992). Bank Failures, Stigma Management and the Accounting Establishment, Accounting, *Organisations and Society,* 17(7), 451-465.
Penrose, J. M. (2008). Annual report graphic use: A review of the literature. *Journal of Business Communication 45*(2), 158-180.
Raj, M. & Forsyth, M. (2004). Management Motives, Shareholder Returns, and the Choice of Payment: Evidence from the UK, Mid-American *Journal of Business, 19*(1), 23-29.
RamAlJaffri, S. (2004). Malaysian Financial Graphs: An Empirical Study, Unpublished Research Report, Faculty of Accountancy, Universiti Utara Malaysia.
Revsine, L. (1991). The Selective Misrepresentation Hypothesis, *Accounting Horizons, 3*(3), 60-70.
Rezaee, Z. & Porter, G. L. (1993). Can the Annual Report be Improved, *Review of Business, 15*(1), 45-57.
Schmid, C. F. (1983). *Statistical Graphics: Design Principles and Practices,* John Wiley/Interscience: N. York.
Shamharir, Abidin; Md Suhaimi, Md Saleh & Nurwati Ashikkin, Ahmad Zaluki (2000). Disclosure of Graphical Information in Annual Reports: A Preliminary Study of the KLSE Listed Companies. Unpublished Research Report, School of Accountancy, Universiti Utara Malaysia.
Silfen, G. & Sperry, T. D. (2004) New and Improved Reports for Fund Shareholders, *The Investment Lawyer, 11*(6), 1-4.
Smith, M. & Taffler, R. (1992). The Chairman's Statement and Corporate Financial Performance, *Accounting and Finance, 32*(1), 75-90.
So, S. & Smith, M. (2002). Colour Graphics and Task Complexity in Multivariate Decision Making, *Accounting, Auditing & Accountability Journal, 15*(4), 565-593.
So, S. & Smith, M. (2003). The Impact of Presentation Format and Individual Differences on the Communication of Information for Management Decision Making, *Managerial Auditing Journal, 18*(1/2), 59-67.
Spence, I. & Lewandowsky, S. (1991). Displaying Proportions and Percentages, *Applied Cognitive Psychology, 5*(3), 35-44.
Steinbart, P. T. (1989). The Auditor's Responsibility for the Accuracy of Graphs in Annual Reports: Some Evidence of the Need for Additional Guidance, *Accounting Horizons, 3* (3), 60-70.
Subramaniam, R., Insley, R. G. & Blackwell, R. D. (1993). Performance and Readability: A Comparison of Annual Reports of Profitable and Unprofitable Corporations, *The Journal of Business Communication, 30*, 49-61.
The National Annual Corporate Report Awards (2004). *Accountants Today*, January/February, 17(1), 24-27.
Tsoukalas, D. & Sil, S. (1999). The Determinants of Stock Prices: Evidence from the United Kingdom Stock Market, *Management Research News, 22*(5), 1-14.
Tweedie, D. & Whittington, G. (1990). Financial Reporting: Current Problems and their Implications for Systematic Reform, *Accounting and Business Research, 6*(24), 304-314.
Vergoossen, R. G. A. (1993). The Use and Perceived Importance of Annual Reports by Investment Analysts in the Netherlands, *European Accounting Review, 2*, 219-244.
Verrechia,R. E. (1990). Information Quality and Discretionary Disclosure, *Journal of Accounting and Economics*, 365-380.

Wallace, R. S. O. & Naser, Kamal (1995). Firm-Specific Determinants of the Comprehensiveness of Mandatory Disclosure in the Corporate Annual Reports of Firms Listed on the Stock Exchange of Hong Kong, *Journal of Accounting and Public Policy, 14*(4), 311-368.

Wilson, K. & Stanton, P. P. (1996). Pretty Pictures, Damned Lies and Graphs in Reports, *Australian Accountant, 66*(5), 42.

Wolk, H. D., Tearney, M. G. & Dodd, J. L. (2001). *Accounting Theory: A Conceptual and Institutional Approach*, 5th ed., Thomson-Learning, Cincinnatti: Ohio.

Zeng, T. (2003). What Determines Dividend Policy: A Comprehensive Test, *Journal of American Academy of Business, 2*(2), 304-309.