**Does Regulatory Change Improve
Financial Reporting Timeliness? Evidence
from Bangladeshi Listed Companies**

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Abstract

The present study is an attempt to empirically test a research question: whether regulatory change can improve financial reporting timeliness in developing countries. Financial reporting delays in Bangladesh have historically been long. In some cases companies are found to publish results of as many as five financial years at a time. Even in 2003, company audits in many cases can be found to take longer than eighteen months. Long audit delay is one of the main causes behind chronic delay observed in issuing financial statements to shareholders. In a significant move to reduce such delays, the country's Securities and Exchange Commission (SEC), in the year 2000, imposed a mandatory maximum of 120 days to complete audits of listed companies. This provides an interesting setting to examine the research question set out at the beginning. The paper reports the results of multiple linear regressions to test the possible association between financial reporting timeliness and regulatory change while controlling for relevant corporate and auditor attributes. Two levels of analyses were carried out. First, using observations from 1999 and 2001, and then using the observations from 1999 and 2003. The results show that audit delays could be reduced by effective regulatory change. Subsidiaries of MNCs demonstrate significantly shorter delay while companies who do not pay dividends show significantly longer delays. Company size, audit complexity, return on equity, and audit fees (except for one model) do not appear to have any bearing on audit delay.

I. Introduction and Motivation

Timeliness has long been recognised as one of the qualitative attributes of general purpose financial reports (AICPA, 1973; APB, 1970; FASB, 1979). Empirical research on timeliness of financial reporting provides evidence that the degree of timeliness of information release has information content (Beaver, 1968) and affects firm value (Kross and Schroeder, 1984; Chambers and Penman, 1984; Givoly and Palmon, 1982; Schwartz and Soo, 1996). Recognising the theoretical and practical importance of timely release of financial information, regulatory agencies around the world have set statutory maximum time limits within which public companies are required to issue audited financial statements to shareholders and other external users and/or file them with regulatory bodies (for a summary of maximum allowable reporting lags in different countries, see Alford *et al.*, 1993, pp. 188-190). Most organised stock exchanges have similar or more stringent reporting and/or filing requirements.

In emerging economies, the provision of timely information in corporate reports assumes greater importance since other non-financial statement sources such as media releases, news conferences and financial analysts forecasts are not well developed and the regulatory bodies are not as effective as in Western developed countries (Wallace, 1993). The motivation for this study derives from a long-standing problem of a lack of timely provision of corporate financial information in Bangladesh. A survey of 650 financial statement users and preparers of financial reports in Bangladesh revealed that an overwhelming majority of respondents, both preparers and users (93.8 percent), believe that the observed time lag in publishing corporate annual reports is too long and should be reduced substantially (Karim, 1995). While approximately 10 percent of listed companies do not publish annual reports even three years after fiscal year-end dates, considerable delays are also observed among those who publish their annual reports on a more timely basis. The average audit delay of all listed companies that published annual reports during the period 1990 to 2003 is 175.13 days. The maximum audit delays recorded in those 14 years ranged from 505 days (in 2003) to 1,487 days (in 2000).

The long audit delay normally leads to an even longer publication delay as companies in Bangladesh are reluctant to convene the annual general meeting (AGM) of shareholders in years with poor financial performance and/or low or no dividend announcement prospects.

Although the Companies Act requires all companies, listed and unlisted, to furnish their annual accounts before the AGM within nine months of expiry of their respective financial years, a significant portion of these companies do not comply with this requirement. Many companies do not submit their annual accounts with the Registrar of Joint Stock Companies for several years. Some companies are found to take up to seven years to present audited financial statements before the AGM of shareholders. Although it is generally believed that audit delay is '[T]he single most important determinant of the timeliness of earnings announcement' (Givoly and Palmon, 1982; p 491), the case in Bangladesh is not necessarily so. Even after completion of the audit process, a few companies are found to have taken few more years to release the audited financial statements to outsiders including shareholders. Together with this post-audit delay, the total delay in releasing audited information to external users can be extremely long, potentially defeating the whole purpose of external financial reporting. A few companies were seen to present four to five years' annual reports in one annual general meeting. One such company, Kohinoor Chemical Co. (BD) Ltd held its 8th, 9th, 10th, 11th, 12th, and 13th AGMs corresponding to financial years 1994-95 through 1999-00 on the same day on 8th of June 2001. The same company held its 4th, 5th, 6th, and 7th AGMs – all on the same day on 27 February 1995. Another such company, Orion Infusion Ltd held its 14th, 15th, 16th, and 17th AGMs corresponding to 1996-97 through 1999-00 financial years on 27 July 2000. Similar examples can be found in MAQ Enterprise Ltd (combined 4 AGMs), MAQ Paper Industries Ltd (combined 3 AGMs), and Mark Bangladesh Shilpa and Engineering Ltd (combined 3 AGMs) etc. In the backdrop of this unsatisfactory picture there are examples of more timely reporting too. The auditors of two of the largest multinationals operating in Bangladesh – Bangladesh Oxygen Ltd and Glaxo Wellcome Ltd took only 41 days (1992) and 45 days (1996) respectively to complete their respective audits. Auditors of a domestic listed company, Tallu Spinning Mills, completed their 1995 audit in just 27 days.

Until the enactment of the Companies Act 1994, the unusually long audit and publication delays were normally attributed to outdated legislative provisions, weak enforcement mechanism and a less than sound regulatory framework governing corporate reporting and disclosure (Parry and Groves, 1990). It was argued that the Companies Act of 1913, the main component of the financial reporting regulatory framework, was long outdated and there was a lack of adequate oversight on securities markets and on companies listed on the stock exchanges.

Six major developments, directly or indirectly relevant to corporate financial reporting, took place in Bangladesh between 1993 and 2000. *First*, a Securities and Exchange Commission (SEC) was established with effect from 3 May 1993 under the SEC Act of 1993. The SEC Act, in its preamble, states that the SEC was established 'for the purpose of protection of interest of investors in securities, for the development of (securities) markets and for matters connected therewith or incidental thereto' (GOB, 1993). One of the functions of the Commission, as specified by the SEC Act, is to call for information from issuers of securities. Although the SEC Act does not directly deal with the issue of timeliness of financial reporting, it empowers the Commission to issue new rules or amend existing rules, as it considers appropriate to improve the capital market and ensure its smooth functioning. *Second*, a new Companies Act was enacted in 1994 that came into force on 1 October 1995, replacing the Companies Act of 1913. The Companies Act 1994 maintained the provisions of the 1913 Act with regard to the 9-month time limit within which companies were required to furnish their financial statements before an AGM of shareholders. However, the new Act increases the penalty for non-compliance with this provision by ten times the penalty imposed by the old Act. Under the Companies Act 1913, the company and every officer of the company, party to the default, could be fined of an amount up to Tk 500 (NZ$11) for failure to comply with this provision. On the other hand, the new Act provides for a penalty of up to Tk 5,000 (NZ$ 110) on each director of the company for failure to comply with the said provision. A *third* development took place in October 1997 when the SEC amended the Securities and Exchange Rules (SER) of 1987 to require listed companies to prepare half-yearly financial statements within one month of the close of the first half-year of its accounting year and issue those statements to the stock exchange(s) in which its securities are listed, to holders of its securities, and to the Commission. *Fourth*, the country's capital market saw an unprecedented boom and a subsequent collapse in stock prices during 1996-97. One of the reasons contributing to the unusual rise and fall in securities prices was found to be artificial manipulation of securities prices by a number of securities dealers and issuers in the absence of timely provision of reliable financial information in the market (Report of the Inquiry Committee, 1998). *Fifth*, after the stock market crash in 1996, the SEC has been insisting on listed companies holding regular AGMs and publishing up to date annual reports. The fact that some companies were found to hold up to 5 AGMs and publish financial statements of up to 5 consecutive years on the same day is most likely to be in response to the SEC pressure. *Finally*, on the 4th of January 2000, the SEC amended the SER 1987, to require,

among other things, that the financial statements of an issuer shall be audited within 120 days (or within a period as extended by the SEC on good cause).

The above events that took place in Bangladesh over the period 1993 – 2000 provide an ideal setting to study whether regulatory change(s) can improve financial reporting timeliness in developing countries. It is plausible to expect more timely provision of annual financial information after the 120-day maximum had been set by the SEC and in view of the above developments for the following reasons:

(i) The creation of the SEC in 1993 would mean listed companies would come under the SEC oversight leading to improvement in all aspects of corporate financial reporting including timeliness;

(ii) The increase in penalty for non-compliance with the time limit for holding the AGMs under the Companies Act 1994 could be expected to improve the overall timeliness in corporate financial reporting following enactment of the Act;

(iii) The amendment of the SER in 1997 requiring publication of half-yearly financial statements within one month of the first half of the year should make it easy for companies to prepare annual financial statements sooner as they would already have prepared half-yearly financial statements;

(iv) In the aftermath of the biggest stock market crash in Bangladesh history in 1996-97, listed companies could be expected to be extra careful in maintaining and/or increasing shareholder confidence in the company and its management. They could also be expected to install internal audit and/or improve existing internal audits to improve accountability within the organization. Timely provision of financial information and regular holding of AGMs could be two of the ways management might want to signal their commitment to the shareholders; and

(v) Until 2000, the 6-month time limit set by the Companies Act was the maximum allowable limit for companies to hold AGMs. No time limit was stipulated for the completion of audit of companies listed or otherwise. Now that a specific limit is set for audit completion, one would expect a significant improvement in financial reporting timeliness of listed companies.

In addition to the above, the steady increase in foreign investment into the country and greater degree of financial liberalisation could be expected to improve the timeliness of financial

reporting in the country over time. This study focuses on one aspect of corporate financial reporting – timeliness. The study aims to see whether the change in the financial reporting regulatory environment has been successful in significantly reducing the time lag in publishing financial statements by companies in Bangladesh.

The motivation of the study is derived from the long-standing problem of lack of timely provision of corporate financial information in Bangladesh. A survey of 650 financial statement users and preparers of financial reports in Bangladesh revealed that an overwhelming majority of respondents - both preparers and users (93.8 percent), believe that the observed time lag in publishing corporate annual reports could be substantially reduced (Karim, 1995). Having outlined the motivation for the study in the current section, the rest of the paper is organised as follows: Section II reviews prior research on the issue of audit delay and its determinants, Section III shows the trend in audit delay over the last 14 years since 1990. Section IV outlines the methodology of the present study and discusses the rational for using specific variables in the study. Section V discusses the results of the analysis carried out in the paper while Section VI summarises the findings and concludes the paper.

II. Prior Research

A number of studies have been undertaken on the issue of timeliness in Australia (Dyer and McHugh, 1975; Whittred, 1980 and 1980a; Davies and Whittred, 1980; Whittred and Zimmer, 1984; and Simnett, 1995), in New Zealand (Courtis, 1976; Gilling, 1977 and 1983; and Carslaw and Kaplan, 1991), in the United States (Garsombke, 1977; Kross, 1981 and 1982; Givoly and Palmon, 1982; Kross and Schroeder, 1984; Chambers and Penman, 1984; Zeghal, 1984; Keller, 1986; Ashton *et al*, 1987; Williams and Dirsmith, 1988; Kinney and McDaniel, 1993; Bamber *et al*, 1993; Schwartz and Soo, 1996; Lawrence and Glover, 1998; Knechel and Payne, 2001; and Payne and Jensen, 2002), in Canada (Ashton *et al*, 1989; Newton and Ashton, 1989;), in Hong Kong (Ng and Tai, 1994 and Jaggi and Tsui, 1999), in Bahrain (Abdulla, 1996), in Bangladesh (Imam *et al*, 2001; Ahmed, 2003; and Karim, 2003), in Zimbabwe (Owusu-Ansah, 2000), in France (Soltani, 2002), in Saudi Arabia (Al-Sehali and Spear, 2004) and in Greece (Leventis and Weetman, 2004). The body of literature on financial reporting timeliness can be categorised into two broad categories: studies attempting to identify the determinants of audit delay and studies on the association between information content and timeliness.

The first category of studies generally assumes that cross-section variation in audit delay is not a random phenomenon. It is functionally related to certain client and auditor attributes. These studies, therefore, aim to identify those attributes that might explain, at least to a certain extent, the variations in audit delay (Dyer and McHugh, 1975; Courtis, 1976; Gilling, 1977; Garsombke, 1977; Davies and Whittred, 1980; Whittred, 1980; Gilling, 1983; Ashton *et al*., 1987; Ashton *et al*, 1989; Carslaw and Kaplan, 1991; Ng and Tai, 1994; Simnett, 1995; Abdulla, 1996; Jaggi and Tsui, 1999; Owusu-Ansah, 2000; Knechel and Payne, 2001; Ahmed, 2003; Payne and Jensen, 2002; and Leventis and Weetman, 2004). Apart from looking at the determinants of audit delay, a few studies in this category looked at the association of audit delay with specific issues such as audit technology (Williams and Dirsmith, 1988; Newton and Ashton, 1989; and Bamber *et al*, 1993), audit qualification (Whittred, 1980a and Keller, 1986), auditor switch (Schwartz and Soo, 1996, audit firm merger (Lawrence and Glover, 1998), auditor's international link (Imam *et al*, 2001), financial distress (Whittred and Zimmer, 1984), correction of previously reported earnings (Kinney and McDaniel, 1993 and Simnett, 1995), and relationship between decision relevance of accounting earnings and timeliness of earnings disclosure.

The second category of studies tend to argue that if accounting reports have information content they must cause the market to react to that information. They also argue that reactions surrounding announcement period should be different from that in non-announcement period (Beaver, 1968). These studies mainly examine whether timeliness is associated with information content, i.e., whether bad news is systematically delayed (Kross, 1981 and Givoly and Palmon, 1982) and whether market reacts differently to early and late release of information (Kross, 1982; Zeghal, 1984; Kross and Schroeder, 1984, and Chambers and Penman, 1984).

The corporate attributes examined in the first category of studies include size, profitability, leverage, audit risk, audit complexity, fiscal year-end, listing status, industry sector, quality of internal control, dividend, presence of extraordinary items, presence of contingencies, ownership, financial condition, correction of earnings, company age etc. The auditor attributes examined include auditor size, type of audit opinion, auditor's international link, audit technology, auditor change, incremental audit effort, etc. Empirical evidence is overwhelmingly in favour of an inverse relationship between audit delay and client size

(Givoly and Palmon, 1982; Chambers and Penman, 1984; Williams and Dirsmith, 1988; Newton and Ashton, 1989; Ashton *et al.*, 1989; Carslaw and Kaplan, 1991; Bamber *et al.*, 1993; Ng and Tai, 1994; Abdulla, 1996; and Owusu-Ansah, 2000). However, Davies and Whittred (1980) find that both small and large firms have significantly shorter delays than moderate-sized companies. Schwartz and Soo (1996) find a direct relationship between audit delay and size while Ashton *et al* (1987) find mixed results with regard to size and audit delay. Simnett (1995) and Courtis (1976) do not find any significance for size in explaining audit delay.

Dyer and McHugh (1975) and Davies and Whittred (1980) do not find any relationship between relative profitability and audit delay. Similarly, Garsombke (1977) reports that good news is not reported more timely than bad news. Courtis (1976) on the other hand, suggests slow reporters tend to be less profitable. Kross (1981 and 1982), Givoly and Palmon (1982) reveal that late announcements have a higher probability of containing bad news. Chambers and Penman (1984) and Kross and Schroeder (1984) find that the market greets early announcement as good news and vice-versa. Ashton *et al* (1989) find the sign of net income to be significant in explaining audit delay. Carslaw and Kaplan (1991), Simnett (1995) and Owusu-Ansah (2000) find that audit delay is positively associated with existence of loss.

Some measure of audit risk has been used in many studies (Ashton *et al*, 1989; Bamber *et al*, 1993; and Schwarz and Soo, 1996; and Simnett, 1995). Simnett (1995) argue that auditors may be extra cautious while auditing companies with high debt levels. Abdulla (1996) argues that highly geared firms would be under greater monitoring and scrutiny by debt holders, which might provide incentives to early release of financial information. Carslaw and Kaplan (1991) find that companies with low debt proportions had shorter audit delay while Simnett (1995), Abdulla (1996), and Owusu-Ansah (2000) did not find any such relationship.

Ashton *et al* (1987) find significant association between audit delay and complexity of operations. Ashton *et al* (1989) argue that presence of extraordinary items and contingencies could lead to increases in audit delay. Other studies finding significant association between audit complexity and audit delay include Givoly and Palmon (1982), Bamber *et al* (1993), Ng and Tai (1994), Jaggi and Tsui (1999), Owusu-Ansah (2000).

A number of studies examine association of audit delay with audit firm size and/or its international link. They have generally hypothesised an inverse relationship between auditor size and audit delay (for example, Gilling, 1977; Garsombke, 1977; Davies and Whittred, 1980; Ashton *et al*, 1989; Carslaw and Kaplan, 1991; Ng and Tai, 1994; and Simnett, 1995). They rely on the argument that the big firms invest more to maintain the reputation of audit quality (DeAngelo, 1981) and therefore, clients of larger audit firms are likely to have shorter audit delay. Empirical results, however, do not support the hypothesis as none of the above studies except Ashton *et al* (1989) find any significance of auditor size in explaining audit delay. The only study using auditors' international link found a direct relationship between international link and audit delay (Imam *et al*, 2001).

Some studies test whether month of the year-end is associated with audit delay. Garsombke (1977) finds inconclusive evidence that firms with 'busy season' year-ends have longer audit delays while Ashton *et al*, (1987) and Newton and Aston (1989) find the opposite. Ashton *et al* (1989) find year-end to be significant in three of the six years studied while Carslaw and Kaplan (1991) do not find any significance for year-end.

Williams and Dirsmith (1988), Newton and Ashton (1989) and Bamber *et al* (1993) study the impact of audit technology on audit delay. All of them proxy audit technology by the degree of structure vs. judgment involved in the audit process using Kinney's (1986) classification. Williams and Dirsmith (1988) find structured audit approach associated with shorter audit delay while Newton and Ashton (1989) find a direct association between the two. Cushing (1989) questions Newton and Ashton's (1989) rationale behind expecting a positive association between audit structure and audit efficiency. He argues that a more structured approach does not necessarily increase audit efficiency and even if it did, he doubts whether audit efficiency necessarily translates into reduced audit delay. Bamber *et al* (1993) attempt to resolve the conflicting findings reported by Williams and Dirsmith (1988) and Newton and Ashton (1989) and find results consistent with Newton and Ashton (1989). However, they find that when an unanticipated event occurs, structured audit firms are able to adapt more quickly.

Kross (1981 and 1982) examines whether firms systematically report bad news later than good news and whether the market interprets a later than expected delay as a sign of bad news. In both cases the findings confirm a systematic relationship between the type of news

and announcement time lag. In terms of market reactions to early vs. late announcements, Kross (1982) finds that late reporters earned lower residual returns than early reporters around the actual announcement dates. Kross and Schroeder (1984) examine both the association between earnings announcement timing and type of news and between stock returns around announcement dates and announcement timing. They find that earlier (later) announcements are characterised by higher (lower) unexpected earnings and that earnings announcement timing is associated with abnormal stock returns around the earnings announcement date. In a similar study, Chambers and Penman (1984) find that with the exception of the reports of relatively small firms bearing good news, there is no significant relationship between reporting lags and the variability of stock returns associated with earnings releases. They observe larger market reactions to earnings reports of small firms than to those of large firms. They also find that unexpectedly early reports bring good news and vice versa and that reports released earlier than expected tend to have larger price reactions than reports published on time or later than expected. Abdulla (1996) also studies the impact of type of news on audit delay and finds that good news is significant in explaining audit delay in Bahrain.

III. Trend in Audit Delays Since 1990

This section provides a general idea of the secular trend in audit and reporting delays of corporate annual reports in Bangladesh over the period 1990–2003. To draw a reasonably comprehensive picture of the audit lag situation, we report the summary statistics in two levels. First, we report the results based on the whole population of companies whose annual reports were available. Second, we concentrate on the lag pattern of a matched sample of only 61 companies throughout the period. Graphs 1 (whole sample) and 2 (matched sample) show the trends in mean values of audit lag for the whole study period. Both the graphs show somewhat similar trends. The lags steadily increased for 2 to 3 years after 1990, then dropped for 2 to 3 years before rising again for 4 years and finally dropped to their 1990 levels by the end of the decade. However, after the SEC's 120-day limit has been imposed, the audit lag saw somewhat significant decline in the years since 2000 in both the samples.

Insert graph 1 here

Insert graph 2 here

Table 1 presents the summary statistics of the lags for the 14 years under study using all listed firms. The table shows that the mean audit lag over the 14-year period ranges from

Insert Table 1 about here

131 days in 2003 to 212 days in 1998 with a mean delay of 175.12 days for the entire population. The median ranges from 118 days in 2003 to 173 days in 1998. The medians are considerably lower than the means for all ten years suggesting a non-normal, positively skewed distribution.

The unusually long audit delays of some companies can be observed from the maximum audit delay statistic in Table 1. Some companies are found to have taken more than 1,400 days to complete an audit. These companies are clearly well outside any reasonable limit allowable. These are companies who are mostly non-functional, non-operating and in clear violation of the securities and company regulations.

Table 2 presents summary statistics on the matched sample of 61 companies whose annual reports were available for each of the sample years and who held an AGM every year, i.e., who had never doubled-up AGMs during the study period. Since they never held two AGMs on one date, these companies are unlikely to have unusually long audit or reporting delays.

Insert Table 2 about here

Table 2 shows that the lowest average audit delay (127 days) is observed in 2003, the year with the lowest median audit delay (118 days) as well. At the beginning of the study period, the average audit delay was 180 days, rose by a few days for two years until dropping to 169 days in 1994, remained steady at 172 days in 1995, then kept rising for 3 years to reach its highest level of 212 days in 1998. Since 1998, audit lag continued to decline and the trend remains declining until now. The median audit delay was the highest in 1998 but had drooped by 27 days in 1999.

Insert Tables 2(a) and 2(b) about here

Both Tables 1 and 2 have limitations of own kinds. Movements in average audit lag shown in Table 1 are of limited value, as the averages in each year are not based on the same set of companies. To overcome heterogeneity in year-to-year samples, we produce a matched sample in Table 2 whereby we show the average audit delays of the same set of companies over the period. However, in doing so, we lose many observations as our samples include only 61 companies each year. In order to provide a bigger picture of the lag situation, we produce Table 2(a) that shows the lag situation of a matched sample of 144 companies over a relatively shorter period, 1999 to 2003.

Table 2(b) summarises the audit lag pattern of significant sub-groupings within the whole sample for the period 1999 to 2003. It shows how banks and insurance companies differ from non-financial domestic companies and how multinational subsidiaries stand out by having some of the shortest audit lags.

IV. The Present Study

Research Design

The regulatory change taking place in the year 2000 via amendment of the SER 1987 is the event under the present study. Using event study methodology, the study first intends to identify if there was an impact of the said regulatory change on timeliness of financial reporting and then measure such impact (if any) by comparing the audit delays of a sample of companies for a period prior to and a period after the event took place. For the purpose of the study audit delays in the year immediately preceding the regulatory change and in two years after the regulatory change are examined. The year 1999 is selected as the pre-regulatory change year while the years 2001 and 2003 are chosen as post-regulatory change years. The year 1999 is selected as it is the last year before the imposition of the 120-day time limit to complete audit of listed companies. Therefore, it is expected to be the year least affected by any noise taking place between the selected pre-event year and the event. The years 2001 and 2003 are selected to make separate comparisons with the year 1999. The year 2001 is first compared with the year 1999 to see the immediate effect of the regulatory change while the year 2003 is compared with the year 1999 to see if the effect of the regulatory change is more visible as some time is allowed for the new ruling to take effect. For each company audit delay was measured as the number of days between company's accounting year-end and the

date appearing in the audit report as the date of signing the report. A dummy variable, labelled *regchnge* differentiates firm years before the regulatory change from those after the change. Data on selected corporate attributes, e.g., size, leverage, profitability, audit risk, audit complexity, etc., were also collected from the annual reports for each company. Multiple linear regression technique was used to examine the impact of the regulatory change on the delay measure. The regression models use audit delay as dependent variable and *regchnge* as the main explanatory variable in all the models while controlling for selected corporate attributes that might also be associated with the concerned delay measures. It is argued that controlling for relevant corporate attributes, the emergence of *regchnge* as a significant variable with a negative beta co-efficient would imply a positive impact of the study event on audit, issue, and total delay and vice-versa for a significant positive co-efficient. If one the other hand, *regchnge* does not emerge as a significant variable, it would imply that the regulatory change did not have any significant impact, positive or negative, on the delay measures.

Matched Pair Sample and Data Collection

On 31 December 2003 there were 267 listed securities issued by 248 companies. On the same date 11 mutual funds and 8 debentures were also listed on the two exchanges.   Among the listed securities, 58 were issued commercial banks (21), Non-Bank Financial Institutions (5 leasing, 11 mutual funds and ICB shares) and Insurance companies (20). The number of securities on 31 December 1999 was 220. Some companies listed in 1999 were delisted in the later years while many new companies got their securities listed on the DSE since 1999. Annual reports of many companies listed throughout the period were either not published or were not available. Two matched pair samples were developed for this study, one between the years 1999 and 2001 and the other between the years 1999 and 2003. The matched-pair samples were constructed using the following criteria: (i) the company was listed in the DSE during the period under study, i.e., from 1999 to 2001 for the first sample and from 1999 to 2003 for the second sample; (ii) the annual reports of the concerned years were available; and (iii) the company held separate AGMs for each accounting year under study. The exercise produced 320 firm years ($160X2 = 320$) in the 1999 *v* 2001 sample and 330 firm years ($165X2 = 330$) in the 1999 *v* 2003 sample.

Measuring Timeliness

Financial reporting timeliness is a function of a number of auditor and client-related factors such as (i) the time taken to complete the audit; (ii) management decision with regard to the timing of issuing financial statements; (iii) statutory requirement of a minimum number of days' that have to be allowed between AGM date and the date of serving the notice of holding the AGM; and (iv) other logistical barriers, e.g., availability of a suitable date and/or venue for holding the AGM. For the purpose of this study, we concentrate on the first component mentioned above, that is, the time taken by auditors and their clients in completing an audit. We focus on audit delay for two reasons: *first*, it is an unavoidable part of the financial reporting process, *ceteris paribus*, the longer it takes to complete the audit, the longer it is going to take to issue audited financial statements to interested users and *second*, the regulatory change that we examine in this paper affects this component only. Therefore, audit timeliness is used as a proxy for overall financial reporting timeliness in this study. Audit delay represents the number of days elapsed between the accounting year-end and the date auditor(s) sign(s) the financial statements.

In order to test whether there have been significant improvement in audit lag, we use two matched-pair samples, one using observations from the years 1999 and 2001 and the other using observations from 1999 and 2003. For each matched pair, we run two separate regressions – one based on all companies and the other based on non-financial companies alone. The descriptive statistics for both pre and post-regulatory change years is given in Tables 3 and 3(a) respectively for the 1999 *v* 2001 matched pair and the 1999 *v* 2003 matched pair.

Insert Tables 3 and 3(a) about here

It may be observed from the descriptive statistics that the mean audit delays in each of the years under study are above the statutory maximum of 120 days. Although steady improvement could be observed in the delay pattern, it is somewhat disturbing that the majority of the companies fail to comply with the relevant regulation. As a distinct group, only the MNC subsidiaries are showing greater urgency in completing audits. As shown in Table 2(b), their average audit delay is consistently below 100 days and is only 87 days in the year 2003. Once we take a closer look at the audit delay situation of individual companies,

we find that in 1999, only 27.5% (44 out of 160) companies of the 1999 v 2001 matched pair sample have completed their audits within the 120-day period. However, the percentage of companies completing audits within 120 days increased to 48.12% (77 out of 160) in 2001 and to 55.15% (91 out of 165) in 2003. While this improvement is encouraging, it is a matter of concern that so many companies are still failing to comply with the regulatory ruling of the SEC. This combined with the fact that the present study only covers the companies whose annual reports were published and available to this researcher. By the time we have completed collecting annual reports for this study (June 2005), many companies would not have convened their AGM and it is likely that many of them would not have completed their audits either. Overall, it is encouraging to see significant improvements taking place in financial reporting timeliness as in 2003 only 14 companies (out of 165) appear to have taken longer than 6 months in completing their audits while in 1999, 47 companies in the same sample of 165 companies took longer than 6 months.

Hypothesis of the Study

The study tests the following hypothesis:

Ho1: *There is no significant difference between audit delays in corporate financial reporting prior to and after the regulatory change taking place in the year 2000.*

Multiple linear regressions have been used to examine the impact of regulatory change on audit delay. A total of four models have been developed – two using 1999 v 2001 matched pair sample and two using 1999 v 2003 matched pair. Within each of the matched pair samples, there are two models one based on all companies (i.e., both financial and non-financial companies) and the other based on no-financial companies alone. In each of the four regression models, the crucial variable, *regchnge* represents regulatory change.

The Dependent and Explanatory Variables

Dependent Variables

The only measure of timeliness (or lack of it) that has been used in the study is audit delay.

Explanatory Variable

Regchnge: The main explanatory variable in the study is *regchnge* – the variable representing regulatory change. The variable is used under the assumption that if the regulatory change was effective in improving timeliness in corporate financial reporting, then after controlling for relevant control variables explained later, the observed audit delays in the post-regulatory change, i.e., in 2001 and 2003, should be significantly less than those in the pre-regulatory change period, i.e., 1999. The variable captures regulatory change by separating the annual report belonging to the 1999 sub-sample from those belonging to 2001 or 2003 sub-sample.   The two sub-samples represent the periods prior to and after the study event respectively.   Each company in the 1999 sub-sample is present in the 2001 and 2003 sub-samples too.   The variable is coded 0 if it belongs to 1999 sub-sample and 1 if it represents 2001 or 2003 sub-samples. If post-regulatory change audit and publication delays were significantly longer (shorter) than those of pre-regulatory change, this variable would emerge significant with a positive (negative) co-efficient. An *insignificant regchnge* would mean the regulatory change over the two sub-periods were not significantly different from each other. We expect an improvement in audit delay in the post-regulatory change period and hence expect a negative sign with a significant beta for this variable.

Control Variables

While examining the impact of regulatory change on financial reporting timeliness, it is important to control for possible corporate and auditor attributes that are likely to affect timeliness. A number of such corporate and auditor attributes have been identified from a review of literature and analysis of bi-variate correlations between timeliness measures and such attributes. The rationale for using them in the regression models and the procedures of operationalizing them are explained in the following paragraphs.

Client Size: The size of the reporting company has been a major variable of interest in most studies examining audit and publication delays. It is argued that large firms are likely to have stronger internal control, more sophisticated accounting information system, internal audit, and greater accountability – all of which should make it easier to audit large number of transactions in a relatively shorter time. On the other hand, it could also be argued that it is likely to take longer to audit larger companies because of the volume of audit work involved. However, Ashton *et al* (1989) rebut this argument suggesting that greater volume of audit work might not necessarily lead to longer audit delay, as the auditor has flexibility in timing

the audit work, e.g., commencing the audit before the year-end date. The other reason why a large client should not necessarily take longer to audit is that the presumably higher audit fees paid by larger clients allow auditors to deploy more audit personnel or more efficient audit personnel, in larger clients, to cope with the extra volume of work. Apart from auditors' perspective, there are economic reasons why larger clients have incentives to opt for smaller audit lag. Such reasons include larger companies' being politically visible, having more external stakeholders, being more closely monitored by analysts, having more to lose from a negative signal provided by a longer than expected audit delay, and being able to exert pressure on the auditor to expedite the audit process. We considered several size measures such as log of total assets, log of sales, and log of market capitalisation, for inclusion in our audit delay models. However, each of the size measures shows possible multicollinearity with log audit fee, audit firm size, and multinational subsidiary variables. Hence all size measures were dropped from the models.

Profitability: Corporate profitability affects timeliness in many ways. Studies on the understandability of financial statement messages have found that narrative disclosures in corporate annual reports are deliberately made complex to communicate bad news and made more lucid and easily understandable to communicate good news (Adelberg, 1979). Companies are likely to feel more comfortable when disclosing favourable rather than unfavourable information. Higher than expected profits tend to be good news for investors and other corporate stakeholders unless the company is a regulated utility. With regard to timeliness, it is expected that companies would be eager to release 'good news' without delay and be reluctant in releasing 'bad news' or 'not so good' news. In years of high profit, they are likely to feel more confident to face the shareholders than in other years. Therefore, at least the meeting lag should be minimal in profitable years. The audit delays could also be shorter in profit years compared to the loss years as there would be less perceived audit risk (discussed later) in profit years. On the other hand, the existence of a loss could induce auditors to carry out additional tests as the likelihood of lawsuits against auditors increase when the company fails.

In this study, a number of profitability measures were computed from the annual report data, but return on equity (ROE) was selected for the analysis. The reasons for selecting this variable as the profitability measure are as follows. First, many market-based measures of

profitability like price-earning ratio are not calculable for companies incurring losses. Second, dividend-based measures could not be used because many companies in the sample were found to have earned profits but to have paid no dividends and *vice-versa* during the years under study. These problems limited the choice of profitability measures to: net profit to sales, return on total assets, and return on equity. The correlation coefficients of all three measures showed that return on equity (ROE) had the highest correlation with the dependent variable and so it was used as the profitability measure in the regression models and is labelled ROE. No specific sign is expected for this variable, as more profitable companies are likely to demonstrate smaller improvement in audit delays, because they are likely to have shorter delays in the pre-regulatory change period anyway.

Leverage: The degree to which a firm's financial structure is geared has been used in a few timeliness studies to examine if there exists any association between gearing ratio and timeliness in financial reporting. Simnett (1995) argue that auditors may be extra cautious while auditing companies with high debt levels as the riskiness of a company's equity securities generally increases with increases in its degree of financial leverage. The increased risk leading to increased audit work is likely to lead to an increase in audit delay. On the other hand, Abdulla (1996) argues that highly geared firms would be under greater monitoring and scrutiny by debt holders which might provide incentives to directors to release of financial statements as earlier rather than later. Carslaw and Kaplan (1991) find that companies with low debt proportions had shorter audit delay while Simnett (1995), Abdulla (1996), and Owusu-Ansah (2000) did not find any significance of debt levels in explaining audit delay. Nevertheless, we decided to use leverage in the present study as a control variable. The debt-equity ratio is used as the measure of leverage. Some other leverage measures were also computed such as debt to total assets, total debt, and capital gearing ratio. The debt-equity ratio was selected for analysis because it showed the highest correlation with the dependent variable. However, due to possible multicollinearity problem, the variable was later dropped from the analysis, as it appears to be significantly correlated with other variables in the model, e.g., accountant, multinational subsidiary, and size of audit firms.

Audit Risk: Audit risk is likely to explain cross section variations in audit delays because the volume and scope of audit work normally increases as audit risk increases. Auditors being risk averse have incentives to take longer, if necessary, to form an opinion when the financial position and performance of the client signals presence of audit risk. It can be argued that

auditors generally exercise more caution certifying financial statements of loss firms than they do with profit firms. Firms making current year losses or having accumulated losses are more likely to draw litigation, sometimes involving auditors, than profit firms. Therefore, it is likely to take longer to complete audit of a loss-making client than that of a profit-making client. So the audit delay is argued to be positively associated with audit risk. Some measure of audit risk has been used in many studies as an explanatory variable to audit and/or publication delays (see for example, Ashton *et al*, 1989; Bamber *et al*, 1993; and Schwarz and Soo, 1996; and Simnett, 1995).

In addition, companies with a current year operating loss or accumulated losses for consecutive years would be reluctant to release timely information and hold timely AGMs. Hence they would not insist that their auditors complete the audit on a timely basis. Since they would not be in a position to declare any or reasonable dividends, they would have less incentive to call for AGMs early or on time. On the other hand, the companies with profits or higher than expected profits are more likely to announce dividends and call for early AGMs, leading to more timely publication of financial statements. Therefore, even if the audit is complete, loss companies are likely to have more meeting delay leading to increases in publication delay. The measures of audit risk used in previous studies include: leverage ratio, operating loss in the year of study, and existence of accumulated loss. In this study, leverage (as already discussed) and the existence of accumulated loss in companies' accounts were used as the measures of audit risk. Neither of the variables has been included in the multivariate analysis due to multicollinearity problem with the market category (mktcat) variable.

Audit Complexity: Audit complexity has also been used to explain audit delay. It is plausible to expect a positive association between audit delays and audit complexity. Ceteris paribus, a more complex audit can, of course, take longer than a less complex one. The potential measures to proxy audit complexity include number of branches, number of subsidiaries, number of overseas subsidiaries, number of industries in which the client operates, the absolute amount of inventory and receivables, and the proportion of assets in inventory and receivables. Givoly and Palmon (1982) suggested the ratio of inventory to total assets as a complexity measure. Ashton *et al* (1987) use four measures of audit complexity in their study of audit delay in the US. Their measures include complexity of operations, accounting and financial control systems, electronic data processing systems, and the number

of separate audit reports issued. Among the four variables, they find significant association between audit delay and complexity of operations. Ashton *et al* (1989), in their Canadian study, argue that presence of extraordinary items and contingencies could lead to increases in audit delay. Other studies that find a significant association between audit complexity and audit delay include Bamber *et al* (1993), Ng and Tai (1994), Jaggi and Tsui (1999), Owusu-Ansah (2000). In the present study, the proportion of assets in the form of inventory and receivables was used as the measure of audit complexity. The use of a relative measure of audit complexity meant that the size effect was not affected by the inclusion of the variable. The variable was labelled COMPLEX. A positive sign is expected, as more complex audit clients are likely to show smaller improvements in the post-regulatory change periods.

Size of the Audit Firm and its International Link: The size of the company's audit firm and/or its international link is believed to influence audit delay. Studies on audit delays have generally hypothesised an inverse relationship between auditor size and audit delay (for example, Gilling, 1977; Garsombke, 1977; Davies and Whittred, 1980; Ashton *et al*, 1989; Carslaw and Kaplan, 1991; Ng and Tai, 1994; and Simnett, 1995). They rely on the argument that clients of larger audit firms are able to publish their annual reports much earlier than the clients of smaller audit firms because the big firms invest more on training and are equipped with modern techniques of performing an audit than their non-big counterparts. They are also likely to attract more efficient audit personnel. DeAngelo (1981) argued that larger audit firms invest more to maintain the reputation of their audit quality. Empirical results, however, do not support the hypothesis as none of the above studies except Ashton *et al* (1989) find any significance of auditor size in explaining audit delay. The only study using auditors' international link found a direct relationship between international link and audit delay (Imam *et al*, 2001).

In Bangladesh, none of the Big-Four audit firms have a named branch. However, some of the larger Bangladeshi firms claim affiliations with the international Big-Four. These few big firms are responsible for auditing most of the big companies in the private sector and almost all the multinational companies operating in Bangladesh. In the present study, both size and international link of audit firms were considered for use as explanatory variables, but there was no obvious cut-off point for firm size. Moreover, since information on the audit firms' international links was available, it was considered a more objective measure of audit quality than using any arbitrary measure of auditor size. Therefore, two criteria were used to capture

audit-firm size and quality. They were: number of chartered accountants (partners and employees) employed by an audit firm and the international link of the audit firm. The use of the above two criteria meant that the selected variable is capable of capturing both auditor size and the influence of international audit firms. Audit firms having four or more chartered accountants (including partners) and an affiliation with an international Big-Four or a non Big-Four firm were treated as 'Big' and audit firms failing to meet either criteria were treated as non-Big firms in the context of Bangladesh. Six audit firms were found to have international links, five of which were with an international Big-Four firm and the remaining firm with a non-Big-Four firm. On the other hand, eight firms were found to have four or more chartered accountants, four of them having links with international Big-Four and one with an international non-Big-Four firm. Using both the criteria, five audit firms were found to satisfy both the criteria. These five firms together audited 49 percent of the sample firms. In order to see if the auditor's international link and size had any impact on timeliness, this was used as an explanatory variable labelled AUDITOR. The variable was operationalised by assigning one if the company's audit firm was big and zero if it was not. A negative sign is expected for the auditor variable, as clients of auditors with international links are likely to show greater improvements in audit delays in the post-regulatory change periods.

Influence of Multinational Parent: Subsidiaries of multinational corporations operating in developing countries are expected to provide timely information and observe higher standards of reporting for a number of reasons. First, they have to comply with the regulations of not only the host country but also the parent company whose financial reporting is much more timely. Any delay at the subsidiary end in publishing financial reports would delay the parent's preparation of consolidated financial statements. Therefore, subsidiaries of multinational companies have incentives and pressure to make timely provision of information. Second, they are usually equipped with more competent and efficient management and are more likely to have installed sophisticated accounting systems and so, they have the resources to cut down publication delay without much incremental costs. The influence of a multinational parent is operationalised by means of a dummy variable labelled MNCSUBSI with one for MNC subsidiaries and zero for domestic companies. A negative sign is expected for this variable signifying lower audit delays for MNC subsidiaries.

Audit Fee: The production of audit services involves cost to the auditor. Such costs of performing an audit theoretically depends on a number of factors including auditee size, audit complexity, audit risk and so on. Ceteris paribus, the cost of producing a higher quality audit should involve additional costs as evidenced in the fee premia charged by the international big-4 audit firms. Similarly, ceteris paribus, the cost of producing a timely audit could involve additional costs to the auditor. The auditor, therefore, should charge higher audit fees from clients requiring timely audit or audit in a shorter period of time. We capture the impact of audit fees on audit delay by incorporating audit fees paid by the sample companies into our regression models. In the model based on combined sample, we control for audit fees while examining the impact of regulatory change on audit delay. The actual audit fees paid by the companies are used for this purpose. Since audit fees were not normally distributed, log transformations of actual audit fees are carried out to ensure normality of the distribution. The variable is labelled LOGADTFE. A negative sign is expected for this variable, as companies paying higher audit fees are likely to take shorter audit delays.

Market category: Recently DSE listed companies have been categorized into 3 categories-A, B, and Z based o their regularity of holding AGMs and/or payment of dividend. It is expected that companies in the Z category are likely to have higher audit lags than those in the other two categories. The phenomenon is captured with a dummy variable with the value of 1 if it is in the Z category and 0 otherwise. The variable is labelled **mktcat1**. A positive sign is expected for this variable, as companies in the Z category are likely to have longer audit delays.

Financial services sector company: Companies in the financial services sector are under simultaneous regulatory jurisdiction of the central bank and the SEC. Therefore they have to comply to the central bank requirements in addition to complying to SEC requirements or the provisions of the Companies Act. Therefore, these companies, i.e., banks, leasing, and insurance companies, are likely to have shorter audit delays than their non-financial counterparts. The variable is has been captured using a dummy variable denoting 1 for financial services sector firms and 0 otherwise. The variable is labelled **Fin**. In the models based on all companies (financial as well as non-financial), this variable is expected to have a negative sign, as these companies are likely to have shorter audit delays than non-financial companies.

V. Results

Multivariate Analysis of Audit Delays

In the multiple linear regression analysis the proposed dependent and independent variables and their expected signs are shown in Table 4.

Insert Table 4 about here

Two correlation matrices for the two matched pair samples are constructed. They are shown in Tables 5 and 5(a).

Insert Tables 5 and 5(a) about here

Dependent Variable:

ADITLAG = Audit lag (in days)

Independent Variables:

REGCHNGE = Regulatory change
LOGADTFE = Natural log of audit fees
COMPLEX = Audit complexity
ROE = Return on equity
MKTCAT = Market category
AUDITOR = Auditor size and international link
MNCSUBSI = Multinational subsidiary
FIN = Financial sector company

The models:

Two models have been developed for each of the two matched pair samples. The only difference between the two models is the inclusion or exclusion of the FIN variable. The first model includes the FIN variable as it is based on all (both financial and non-financial

companies) observations while the second model does not have the FIN variable as it is based on non-financial companies only.

Model based on all observations:

AUDITLAG = α + β1REGCHNGE + β2LOGADTFE + β3COMPLEX + β4ROE+ β5MKTCAT + β6 AUDITOR + β7MNCSUBSI + β8FIN + ε ....(1)

Model based on non-financial companies only:

AUDITLAG = α + β1REGCHNGE + β2LOGADTFE + β3COMPLEX + β4ROE+ β5MKTCAT + β6 AUDITOR + β7MNCSUBSI + ε ....(2)

The regression results are reported in Tables 6 and 6(a).

Insert Tables 6 and 6(a) about here

Discussion of the Results

The results of multivariate analysis as presented in Tables 6 and 6(a). They show that the main explanatory variable, *regchnge,* is significant in all four models based on both the matched pairs and on both the whole samples and the non-financial company samples. In the two models based on 1999 and 2001 data, the *regchnge* variable is significant although only marginally (at 10% and 5% levels of significance respectively). This implies that regulatory change may be an effective in reducing audit delay. As shown in Table 6(a), the beta co-efficients for the *regchange* variable are –19.84 and –22.27 respectively. This implies that it took the non-financial companies almost 20 fewer days 2001 than in 1999 to complete their audits. When we turn to both financial and non-financial companies together, we find that in 2001 their audits took 22 fewer days than in 1999.

Turning to Table 6 where 1999 and 2003 audit delays are matched, we find a more encouraging picture. The regulatory change variable is significant in both the models. Interestingly, the level of improvement is greater among non-financial companies (32.27

days) than among all companies together. The reason for this might be the fact that the audit delays of the financial sector companies used to be shorter than their non-financial peers and hence they did not have to shorten their audit lag by as much as their non-financial peers. Nevertheless, there is clear evidence to support that both financial and non-financial companies have reduced their audit lags as a result of the 120-day maximum set by the regulatory change.

From among the 7 control variables, audit fee (at 10% level of significance), multinational subsidiary (at 5% level), market category (at 1% level of significance) and financial services sector (at 10% level of significance) appear to be significant in one or more models. The audit fee variable is significant in only tone model – the model based on all companies in the 1999 v 2003 sample. The MNC subsidiary variable is significant in all four models. However, the levels of significance of the multinational variable are not very high. It is significant at 5% level in only one of the models while in the three other models it is significant at only 10% level. The market category variable is significant at 1% level in both the models based on 1999 v 2003 sample. The variable could not be tested on the 1999 v 2001 sample as security categorisation into A, B, and Z, did not start until the year 2002. The high level of significance of the variable shows that Z category companies are likely to take more than a month longer to complete their audits than companies in the two other categories. The financial services sector (FIN) variable also emerged as a significant variable in the 1999 v 2003 sample showing significant improvement in their audit delays. Most of the significant variables have expected signs. The beta co-efficient of mnc subsidiary variable is negative suggesting that mnc subsidiaries have shorter audit delays than their domestic counterparts. The beta co-efficient of the market category variable suggests a significant additional lag for firms belonging to the Z category. The audit fee variable emerged significant, albeit at 10%, in the 1999 and 2003 model based on all observations. However, the sign of the beta co-efficient is contrary to expectations. A positive and significant beta implies that companies who pay higher audit fees take longer to complete the audit. This is counterintuitive.

The findings of the multivariate analysis could be summarised as follows: (i) the regulatory change via amending the SER has led to significant reductions in the number of days taken to complete audits of listed companies in Bangladesh. However, such reductions in audit delays are more significant in 2003 than in 2001, suggesting that the companies are taking some time to comply with the SEC imposed maximum of 120 days; (ii) subsidiaries of multinational

companies and companies in the financial services sector have significantly shorter audit delays; (iii) companies in the Z category of DSE take significantly longer to complete their audits; (iv) audit complexity, profitability (ROE), and auditor size are generally not significant in determining audit delays; (v) the impact of audit fee on audit delay is also fairly weak; (vi) despite significant improvements overall, there exists widespread non-compliance with the statutory maximum of 120 days to complete audits of listed companies; and (vii) less than 9% (14 out of 165) of the companies have taken longer than six months to complete their audits in 2003.

VI. Summary and Conclusion

The paper reported the results of multiple linear regressions of the association between financial reporting timeliness and regulatory change while controlling for relevant corporate attributes. Two levels of analyses were carried out. First, using observations of 1999 and 2001, and then using the observations of 1999 and 2003.

The results showed that audit delays could be reduced by regulatory change. The variables that were found to be significant in determining timeliness during the two sub-periods were multinational subsidiaries and market category. Company size, audit complexity, return on equity, and audit fees (except for one model) do not appear to have any bearing on audit delay. Most of the findings are consistent with findings other studies. One explanatory variable, audit fees, does not show predicted signs. The findings of this study can be used in the debate on the efficacy of regulatory pressure on financial reporting.
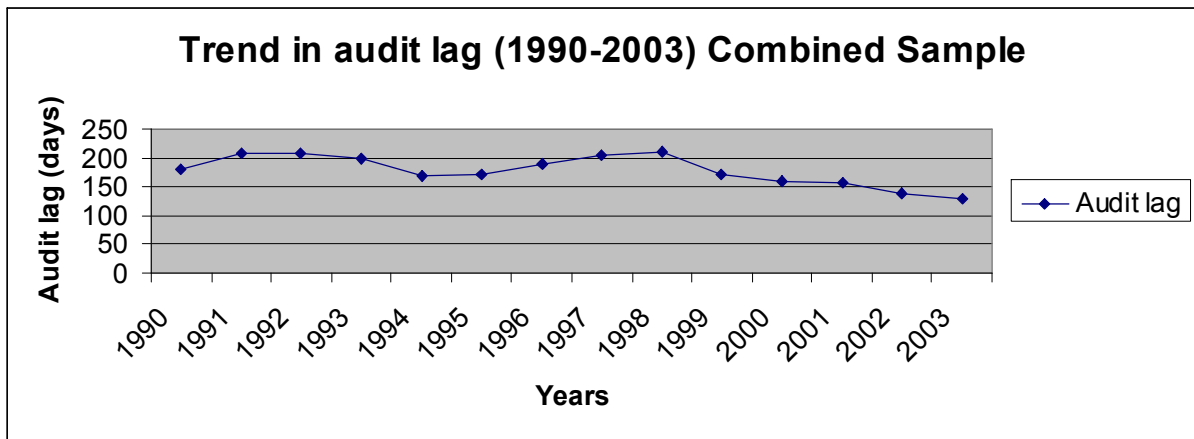
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Graph 1

Trend in audit lag (1990-2003) Combined Sample

Graph 2

Trend in audit lag (1990-2003) Matched Sample
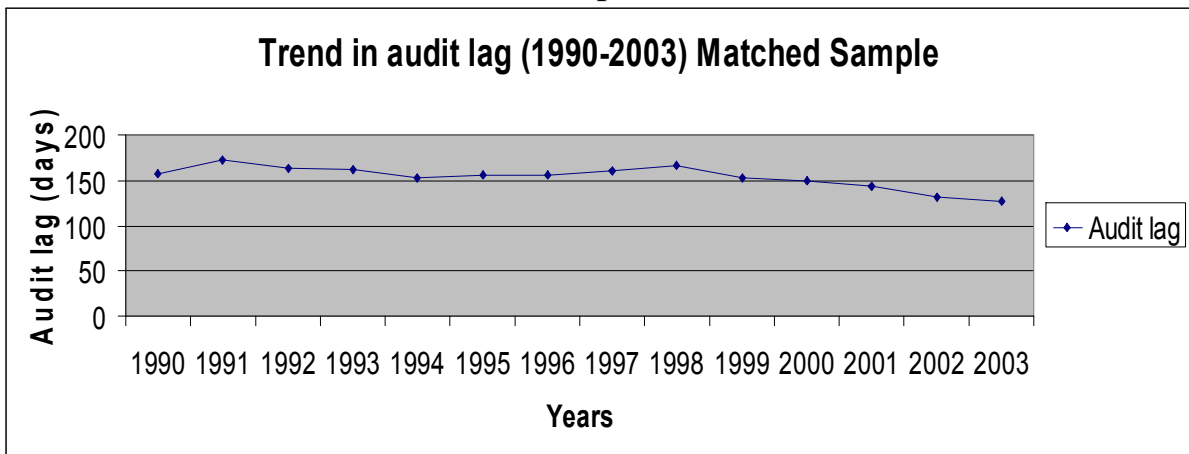
Table 1
Distribution of Audit Lag for the Whole Sample

Year	N	Minimum	Maximum	Mean	Median	Std. Deviation
1990	90	51	693	180	155	104
1991	97	48	1068	209	161	152
1992	98	41	993	207	164	159
1993	99	46	782	198	158	125
1994	111	36	877	169	149	100
1995	129	27	775	172	149	120
1996	140	41	1065	190	159	139
1997	154	43	1054	206	161	157
1998	159	47	870	212	173	141
1999	201	39	515	172	146	90
2000	144	27	1487	161	124	155
2001	178	41	1121	158	121	118
2002	168	24	757	140	120	83
2003	207	32	505	131	118	60

Table 2

Distribution of Audit Lag for Matched -Pair Sample (1990 – 2003)

Year	N	Minimum	Maximum	Mean	Median	Std. Deviation
1990	61	51	408	158	148	71
1991	61	48	792	173	154	110
1992	61	41	545	164	152	77
1993	61	48	406	162	153	68
1994	61	51	320	152	139	62
1995	61	27	394	155	148	69
1996	61	41	401	155	146	72
1997	61	43	425	161	150	67
1998	61	58	306	167	152	70
1999	61	58	316	153	133	62
2000	61	57	779	150	120	99
2001	61	58	408	143	120	63
2002	61	46	335	131	120	52
2003	61	32	386	127	117	59

Table 2(a)

Distribution of Audit Lag for Matched -Pair Sample (1999 – 2003)

Year	N	Minimum	Maximum	Mean	Median	Std. Deviation
1999	144	39	378	154	141	59.76
2000	144	31	727	139	122	69.96
2001	144	41	450	137	120	59.68
2002	144	29	336	129	120	50.08
2003	144	32	386	130	118	50.93

Table 2(b)
Major Sector-Wise Audit Lag Trend (1999-2003)

SECTOR1		Audit Lag of 1999	Audit Lag of 2000	Audit Lag of 2001	Audit Lag of 2002	Audit Lag of 2003
Banks	Mean	150.32	133.24	104.91	106.00	115.48
	N	22	17	22	19	29
Insurance	Mean	160.35	155.33	142.35	136.75	131.20
	N	20	15	17	16	20
Other domestic	Mean	179.84	169.23	170.29	148.01	136.98
	N	152	107	134	127	150
MNC subsidiaries	Mean	97.43	99.00	102.20	92.17	87.00
	N	7	5	5	6	8
Total	Mean	171.80	161.10	157.63	140.19	131.48
	N	201	144	178	168	207

Table 3
Descriptive Statistics
1999 *v* 2001 matched pair sample (N = 160)

	Pre-regulatory change year (1999)			Pre-regulatory change year (2001)		
	Mean	Std. Deviation	Percentage	Mean	Std. Deviation	Percentage
Audit lag	170.580	86.27		159.750	122.63	
Log of audit fee	4.660	0.345		4.697	0.359	
Audit complexity	0.345	0.194		0.367	0.205	
Return on equity	0.051	1.061			0.047	0.333
Audit firm size			26%			26%
Multinational subsidiary			5%			5%
Financial services sector company			23%			23%

Table 3(a)
Descriptive Statistics
1999 *v* 2003 matched pair sample (N = 165)

	Pre-regulatory change year (1999)			Pre-regulatory change year (2003)		
	Mean	Std. Deviation	Percentage	Mean	Std. Deviation	Percentage
Audit lag	165.460	90.026		135.510	63.139	
Log of audit fee	4.654	0.352		4.718	0.386	
Audit complexity	0.332	0.199		0.415	0.332	
Return on equity	0.049	0.850		0.062	0.193	
Market category			27%			33%
Audit firm size			30%			36%
Multinational subsidiary			4%			4%
Financial services sector company			19%			19%

Table 4
Variable Description and Expected Sign

Variable Label	Variable	Expected sign
Regulatory change	Whether the data belong to pre-regulatory change or not	-
Log of audit fee	Natural log of audit fee paid by the company	-
Audit complexity	Audit complexity: Ratio of inventory plus receivables to total assets	+
Return on equity	Return on equity	+/-
Market category	Whether the company belongs to Z category or not	+
Audit firm size	Size and international link of audit firm	-
Multinational subsidiary	Whether the company is a subsidiary of a multinational company	-
Financial services sector company	Whether the company belongs to the financial services sector or not	-

Table 5 Correlation Matrix
1999 v 2001 matched pair sample (N=160)

	Audit lag	Regulatory change	Log of audit fee	Audit complexity	Return on equity	Audit firm size	Multinational subsidiary	Financial services sector company
Audit lag	1.00							
Regulatory change	-0.05	1.00						
Log of audit fee	-0.14*	0.05	1.00					
Audit complexity	-0.76	0.06	0.01	1.00				
Return on equity	0.03	-0.05	0.03	-0.04	1.00			
Audit firm size	-0.10	0.02	0.35**	0.12	0.03	1.00		
Multinational subsidiary	-0.10	0.00	0.19**	-0.11	-0.01	0.15**	1.00	
Financial services sector company	-0.11*	0.00	0.58**	n/a	-.02	0.08	0.12*	1.00

* Significant at 5%
* *Significant at 1%

Table 5a Correlation Matrix
1999 v 2003 matched pair sample (N=165)

	Audit lag	Regulatory change	Log of audit fee	Audit complexity	Return on equity	Market category	Audit firm size	Multinational subsidiary	Financial services sector company
Audit lag	1.000								
Regulatory change	-.190**	1.000							
Log of audit fee	-.070	.086	1.000						
Audit complexity	-.081	.145*	.108	1.000					
Return on equity	.041	-.052	.016	-.032	1.000				
Market category	.200**	.000	-.253**	-.121*	.072	1.000			
Audit firm size	-.139*	.071	.352**	.140*	-.029	-.207**	1.000		
Multinational subsidiary	-.135*	.000	.317**	.054	-.002	-.131*	.268**	1.000	
Financial services sector company	-.057	.000	.503**	.232**	-.016	-.100	.096	-.103	1.000

* Significant at 5%
* *Significant at 1%

Table 6
Results of Multiple Linear Regressions
Combined 1999 and 2003 Sample

	Model based on non-financial companies (N=133 X 2)		Model based on all companies (N= 165 X 2)	
	Beta Co-efficient	*t* value	Beta Co-efficient	*t* value
Intercept	110.75	1.30	46.44	.66
Regulatory change	-32.27	-3.18***	-29.50	-3.45***
Log of audit fee	12.62	.68	25.82	1.66*
Audit complexity	-7.91	-.34		
Return on equity	.29	.26	.22	.21
Market category	31.69	2.72***	32.57	3.31***
Audit firm size	-14.46	-1.17	-15.05	-1.52
Multinational subsidiary	-43.88	-1.72*	-53.09	-2.26**
Financial services sector company			-23.27	-1.75*
Adjusted R²	.074		.082	
F	3.97		5.13	

* Significant at 10%
* *Significant at 5%
** *Significant at 1%

Table 6(a)
Results of Multiple Linear Regressions
Combined 1999 and 2001 Sample

	Model based on non-financial companies (N=124 X 2)		Model based on all companies (N= 160 X 2)	
	Beta Co-efficient	*t* value	Beta Co-efficient	*t* value
Intercept	217.65	2.10	163.59	1.764
Regulatory change	-19.84	-1.67*	-22.27	-2.109**
Log of audit fee	-5.75	-.25	3.14	.153
Audit complexity	-44.80	-1.49		
Return on equity	.46	.38	.43	.374
Audit firm size	-2.68	-.18	-8.19	-.641
Multinational subsidiary	-44.28	-1.78*	-42.22	-1.788*
Financial services sector company			-20.36	-1.153
Adjusted R²	.016		.016	
F	1.618		1.720	

* Significant at 10%
* *Significant at 5%
** *Significant at 1%