

**TRANSPARENCY IN FINANCIAL REPORTING AND INVESTORS'
CONFIDENCE: THE CASE OF CEO's AND CFO's CERTIFICATION OF
FINANCIAL STATEMENTS IN THE KINGDOM OF SAUDIA ARABIA AND
THE U.S.A**

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ABSTRACT

Corporate reporting on management's responsibilities for financial statements has become a major requirement after the collapse of many seemingly successful corporations such as the Enron and Tyco companies at the beginning of the current century. Significant market corrections have also taken place recently in many emerging capital markets such as the Saudi equity market. As a result, investors lost significant part of their wealth, and confidence in business corporations and their underlying financial reporting system. To regain investors trust, regulators in the USA and Saudi Arabia have taken legislative actions to enrich reliability and transparency in corporate financial reporting. Among these regulations, is the mandating of Chief Executive Officers (CEOs) and Chief Financial Officers (CFOs) certification of the financial statements, and to the effectiveness of the internal control system and disclosures of their respective firms.

This research examines the market valuation effects of CEOs and CFOs certification of the filled financial statements with the respective capital market authority in both the USA and the Kingdom of Saudi Arabia. The findings of this research should proof the valuation relevance of CEOs and CFOs mandatory certification of financial statements. This research hypothesizes that management certification of financial statements reduces the information asymmetry between the company's management and its investors and, thus, should produce a positive market appreciation. Using a sample of publicly traded firms in both the USA and Saudi capital markets, and the market model for asset valuation, the results of this research show a positive and significant association between management certification and security prices. This finding lends support to the hypothesis that management certification signals transparency in financial reporting which, in turn, increases investors' confidence in capital markets.

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I. INTRODUCTION

The sudden failure of many large and seemingly-profitable US firms at the beginning of the current century, along with the increased frequency of accounting irregularities and frauds, led to a sharp decline in the capital market's confidence in the US businesses and their financial reporting models.¹ To regain investors' faith in the integrity of US businesses and their financial statements, the Congress and the SEC imposed tougher corporate governance and financial reporting regulations in the Sarbanes and Oxley Act of 2002 (S-O Act). The S-O Act requires, among other mandates, Chief Operating Officers (CEOs) and Chief financial Officers (CFOs) of publicly traded companies to certify to the integrity (and responsibilities) of their firms' financial statements.

For the three decades that preceded the S-O Act, there had been many recommendations by regulators and interested organizations requiring public firms to issue a report on management responsibilities(RMR) accompanying their financials but actual reporting remained discretionary, and many firms have voluntarily issued RMRs. In addition, immediately before the S-O Act, the SEC issued the administrative order of June 27, 2002 requiring CEOs and CFOs of certain firms to certify to the integrity (and responsibilities) of their filled financial statements thereto. Although regulators view the S-O Act (and its prior recommendations) as an effective mechanism for producing more reliable and transparent financial statements, many market participants and commentators expressed great skepticism (Marden and

Edwards 2003; Chang et al. 2005; Roman 2005). A widely accepted criterion for assessing the benefits of financial disclosure (or reporting) is the valuation relevance of the reporting issue under analysis (Beaver 2002; Negakis 2005).

This study examines the valuation effects of corporate reporting on management's responsibilities for financial statements and disclosures both in the voluntary reporting period (pre S-O Act) and in the mandatory certification times. The findings of this study should help in assessing the benefits of the mandated certification. Many researchers and regulators believe that the extended debate over the costs and benefits and the long delay of mandating RMRs constituted a market failure in corporate disclosure, which contributed to the investors' capital loss from the sudden corporate failure and financial frauds during the period 2000 to 2003 (El-Gazzar And Fornaro 2005).

In the due process that preceded the legislation of S-O Act, advocates of the act claimed that management certification enforces the legal liability of the firm for fraudulent and/or inaccurate financial reporting and disclosures² (Geiger and Taylor III 2003). The premise of management certification is that the explicit acknowledgement of CEOs and CFOs to their responsibilities for financial reporting heightens their cognition to the legal consequences of reporting inaccurate or fraudulent financial information. As a result, corporate management would adopt effective internal controls, conservative accounting practices and governance

¹ Examples of these firms include ENRON, TYCO, and WORLD COM.

² Although management's responsibility for financial statements is assumed, and the audit report explicitly states that management prepared the audited statements, an explicit certification enforces the management's liability for misstatements and fraudulent disclosures in the court of law (Levinsohn 2003).

structure that promotes shareholders' interest which, in turn, reduces investors' risk resulting from information asymmetry.

The above discussion leads to the inference that certification of financial statements by management could be viewed by investors as a signal of higher quality accounting information and transparent financial reporting, which is a critical factor in the market's reliance on accounting information in valuing corporate securities. There had been three stages of corporate reporting on management's responsibilities for financial reporting: 1) the voluntary issuance of RMRs prior to S-O Act; 2) the one time certification by certain firms under the SEC's administrative order issued on June 27, 2002 and, 3) the mandatory annual certification by all publicly traded firms under the S-O Act. The S-O Act made management certification of financial statements mandatory and uniform. Thus, the certification itself might have lost its information differential among companies, although examination of firms violating or delaying the certification is warranted.³

Prior research examining the value relevance of accounting disclosure points to a void of investigating the effects of voluntarily issued RMRs on security prices. Furthermore, research examining the stock price effects of CEOs and CFOs certification under the SEC's Order of June 27, 2002 reveals inconsistent and inconclusive results, although using the same sample of firms (Chang et al. 2006, and Bhattacharya et al. 2003). For instance, Bhattacharya et al. (2003) use the traditional market return model and report no market reaction to the management certification. Chang et al. (2006) use both price market reaction and the changes in bid-ask spread

³ However, this task is still premature because of lack of actual data on firms not complying with the act or asked for exemptions.

to test for the market implications of firms certifying with the SEC. Their results indicate positive market reaction during the test period, and a reduction in the bid ask spread in post certification period. Both studies, however, do not differentiate in their test design between firms that had voluntarily issued RMRs prior to the mandatory certification and those who did not. One would anticipate the information effect of certifying under the SEC's order is significantly preempted in the voluntarily issued RMRs prior to the SEC's order.. The current study controls for this possibility.

This study contributes to current literature in two dimensions: i) it provides empirical evidence on the valuation effects of management certification to financial statements in both the voluntary and the mandatory environments, and ii) extends the research on the value relevance to corporate voluntary disclosures bearing on the quality of accounting information. Although the literature on the value relevance of accounting information is immense (Beaver 2002), little has examined corporate disclosures that bear on the quality of financial reporting.

For examining the value relevance of voluntarily issued reports on management's responsibilities for financial statements, our base sample includes all firms listed in the Accounting Trends and Techniques (ATT) published by the American Institute of Certified Public Accountants (AICPA) in the period 1996 to 2001. ATT classifies its population firms into RMR and non-RMR issuing firms. This is an essential factor in facilitating this research. Details of sample screening and eliminations are provided later in the research design section.

In testing the valuation effects of the one time management certification under the SEC's administration order of June 27, 2002, we use the sample of firms identified by the SEC on that date (947 firms). In this test, we divide the sample between firms complying with the SEC's order but were issuing RMRs in prior years and those that were not. This is a necessary research-design control since much of the information included in the certification report was preempted in the voluntarily issued RMRs prior to the SEC's order.

Our empirical results show significantly positive association between the voluntary certification and security prices, after controlling for other value relevant accounting-metrics such as earnings and the book value. Further analysis among voluntarily reporting firms reveal differential valuation effects to the number and type of management assertions such as the effectiveness of internal controls, audit committee, and the signing of the report by top executives of the firm. The market tests demonstrate a positive reaction to the CEOs and CFOs certification under the SEC's order of June 27, 2002, with higher reactions to certifiers who did not voluntarily report in the years prior to the order. Taken together, the results demonstrate that corporate reporting on management responsibilities for financial statements and disclosures is value relevant and, thus, lending support to the mandatory certification under the S-O Act.

The remainder of this paper is organized as follows. Section two provides background of the research problem. Section three draws the methodology. Section four analyzes the results, while section five provides conclusions and some recommendations for future research.

II. BACKGROUND

The Voluntary Reporting on Management's Responsibilities

The demand for corporate explicit reporting on management's responsibilities for financial statements and disclosures had been under debate over the last three decades. There had been many recommendations for explicit acknowledgement of management's responsibilities for financial statements but actual reporting remained voluntary (e.g., COSO 1992). The prevailing thought was that financial markets would consider the reporting of management's responsibilities for financial statements and disclosures (or lack of it) in valuing security prices. This view continued until the unexpected failure of financial markets in the period 2000 to 2002, where shareholders lost significant part of their wealth, which many regulators attribute to the market failure in prudent financial reporting and disclosures.

The Mandatory Certification of Financial Statements

The beginning of the 21st century witnessed the sudden collapse of many seemingly successful large firms in the US market such as Enron, Tyco, and WorldCom. Examination of these firms' environment revealed several illegal corporate activities such as fraudulent accounting practices and executives' self-dealing transactions (Ramano 2005). Market participants lost confidence in public firms' financial statements and the external auditors who attest to their reliability.

To regain investors' confidence in corporate financial reporting and management's stewardship, the SEC and the Congress imposed several mandates. First, the SEC issued the administrative order of June 27, 2002 requiring firms with revenues of \$1.2 billion dollars to certify under oath to the veracity and credibility of the most recently filed Form

10-K as well as to any subsequent periodic reports and proxy statements. Second, the Congress passed the S-O Act of 2002 imposing a broader but rigorous framework aiming at improving corporate governance and credibility of financial reporting. The S-O Act requires, among other mandates, CEOs and CFOs to certify annually to the veracity and completeness of their respective firms' financial statements and disclosures.

The underlying governance goals of the above mandates are: i) changing management's responsibility for financial reporting from the implicit assumption to the explicit duty, which increases management's legal liability in cases of fraudulent reporting, and ii) increasing management's awareness of the effectiveness of the firm's internal and disclosure controls, and legitimacy of accounting practices to reduce exposure to the expanded legal liability. The anticipated overall impact of the S-O Act is to increase reliability of financial statements and the information they include and, thus, reducing investors' risk in reliance of reported accounting information. Assuming the merits of this conception, one would anticipate that management's certification of financial statements has value relevance in the pricing of corporate securities.

Certification and the Quality of Accounting Information

The above analysis suggests that management's certification of financial statements increased the CEO's and CFO's legal liability which, in turn, should heighten their awareness and efforts to the accuracy and completeness of the information they certify. These awareness and accuracy efforts improve the quality and transparency of reported financial information and, therefore, should reduce information asymmetry between management and the company's investors (Chang et al. 2006).

Relevant Research

Prior research examining the value relevance of accounting information and disclosures has been focusing on the relationship between accounting metrics and security prices or market returns (Beaver 2002; Negakis 2005) with little (or none) devoted to examining the voluntary reporting on management's responsibilities for financial statements and disclosures. Several studies have argued (and found) that greater voluntary disclosure leads to lower cost of capital. For instance, Botosan (1997) develops a voluntary disclosure index and demonstrates that an increase of one unit of disclosure leads to a decline of 28 basis points in the cost of capital. Easley and O'Hara (2004) report that investors holding stocks with greater private information expect higher return on their investments. Francis et al. (2003) find that earnings quality (a surrogate of information risk) is an explanatory variable of market anomalies such as post earnings announcements returns drift and value-glamour stocks.

This study extends the value relevance research to the voluntary disclosures that bear on the quality of accounting information and reporting such as the reporting on management's responsibilities for financial statements. Recently, three studies have examined the effects of the mandatory CEOs and CFOs certification under the SEC's administrative order of June 27, 2002, but report inconsistent and inconclusive results, drawing doubt on the relevance and benefits of the mandated certification. Bhattacharya et al. (2003) report no valuation effects for timely (or late) certifiers under the SEC's order. On the other hand, Chang et al. (2006) find positive market reaction for firms whose management certified their financials by the deadline, August 14, 2002. In addition, Hirtle (2003) reports positive market reaction to timely certifiers for a sample of

bank holding companies. These results draw a mixed sign on the benefits of firms' certification of financial statements.

It should be noted that the above studies do not examine whether their sample firms were voluntarily issuing RMRs prior to the mandated certification. The information content of the certification, by firms that used to issue an RMR prior to the SEC's order, was preempted in the voluntary reporting stage. In this research, we differentiate between firms who certify in compliance with the SEC's requirement but had not voluntarily issued RMRs and those who voluntarily reported RMRs in prior years.

Hypotheses

Based on the above discussions, we test the following hypotheses:

H01: Corporate voluntary reporting on management's responsibilities for financial statements is an intended signal of high quality and transparent financial statements that should stimulate positive appreciation by the company's investors. This implies a positive association between a firm's issuance of RMR and its security price.

H02: The impact of voluntarily issuing an RMR on the firm's security price is positively influenced by the type and level of assertions that management discloses in the RMR.

H03: CEOs and CFOs mandatory certification of financial statements reduces investors' risk arising from information asymmetry and, thus, filing of certified financial statements should produce a positive market reaction. This implies a positive market reaction to the filing of certified statements.

III. RESEARCH DESIGN

This research examines the valuation effects of corporate reporting on management's responsibilities for financial statements and disclosures in both environments: the voluntary reporting (pre S-O Act) and the mandatory reporting under the SEC's order of 2002. Accordingly, two separate market tests are conducted.

Phase I: Voluntarily Issued Reports

Sample

Identifying firms voluntarily reported management responsibilities on financial statements prior to S-O Act is a very time consuming task. Fortunately, the Accounting Trends and Techniques (ATT) published by the AICPA provide information on firms voluntarily reported on management's responsibilities for financial statements prior to the S-O Act. We use the entire population of firms included in ATT analysis for the period 1996 to 2001, a total of 3,600 firm-years. Based on the ATT classification of firms into RMR and non-RMR firms during the pre-S-O Act test period, we then read and analyzed the contents of the RMRs for the reporting firms. Firms were then screened for: a) data availability on the COMPUSTAT and CRSP tapes and b) confounding events such as mergers and acquisitions, dividend announcements, or bankruptcy around the filing date of the financial statements with the SEC. Panel A of Table 1 provides description of the sample and the elimination process.

[Insert Table 1 here]

Model

This section of the paper examines the valuation effects of firms' voluntarily reported on management's responsibilities for financial statements, RMRs. These RMRs are attached to the issuing firm's financial statements and filed with the SEC as part of the firm's annual (or quarterly) report. Voluntarily issuing an RMR is an intended disclosure policy that bears on the quality of reported accounting information.⁴ Lev (1989) argues that accounting earnings summarize the firm's economic events that were executed during the reporting period, the effect of which is already impounded in the firm's market value during (and up to the end) of the same reporting period. Therefore,

⁴ Issuance of an RMR continuously as a disclosure policy does not represent an informational event, but rather a signal of higher quality accounting information.

the appropriate test of the value relevance of RMRs is the “level association test” between security prices at end of the reporting period and RMRs. Level tests may suffer from coefficient’s spurious inflation resulting from higher values of variables (Easton 1999). To reduce the effect of potential “spurious inflation”, we include other accounting metrics such as earnings and book value. The model takes the following form:

$$P_{jt} = A_0 + B_1 (EPS_{jt}) + B_2 (BV_{jt}) + e_{jt} \quad (1)$$

$$P_{jt} = A_0 + B_1 (EPS_{jt}) + B_2 (BV_{jt}) + B_3 (RMR_{jt}) + e_{jt} \quad (2)$$

Where:

P_{jt} : average market price of firm J’s stock during the reporting period from fiscal year end (t) to the end of the week of filing the firm’s annual report with the SEC;

EPS_{jt} : earnings per share of firm j for the fiscal year t;

BV_{jt} : the book value per share of firm j for fiscal year t;

RMR_{jt} : is a dummy variable surrogating for information quality, which takes the value of one if the firm issued RMR in year t and zero otherwise.

e_{jt} : a stochastic disturbance term.

A complementary examination procedure is the market return model with modification, where the informational effect of RMRs is captured through a dummy variable that takes the value of one for issuing firms and zero for non-issuing firms. This mode takes the form of:

$$R_{jt} = A_j + B_j (R_{mt}) + C_j (D_{jt}) + U_{jt} \quad (3)$$

$$R_{pt} = A_p + B_p (R_{mt}) + C_p (D_t) + U_t \quad (4)$$

Where:

R_{jt} = the market return of security j on day t;

R_{mt} = the equally (value) weighted return on the market portfolio on day t as compiled by CRSP;

D_{jt} = is an information variable taking the value of one during the test period and zero otherwise. The test period is the 5 day period (-2 to +2) around firm j’s certification date.

C_j = is the coefficient of the information variable capturing the effect of the certification on j’s security’s market return;

R_{pt} = is the portfolio (sample) equally weighted market return on day t;

A_j and B_j = intercept and slope parameter of firm j, respectively;

Management Assertions

The above models assume that RMRs reveal uniform information to the market. However, in voluntary corporate disclosures such as RMRs, firms exercise discretion in the type and level of information they release (Jones et al. 2000). In fact, the analysis of the RMRs issued by sample firms revealed that management is selective in the type of assertions they acknowledge in their reports. Thus, although two reporting firms are classified as RMR firms, each could be reporting different contents and levels of disclosures.

To examine the effect of management assertions in RMRs in the valuation of security price, we developed an assertions index that is based on 30 disclosure items classified into five categories based on the recommendations of the COSO (1992). Appendix A reports the assertions and the percentage of reporting firms for the test sample.

We test the following model(s).

$$P_{jt} = A_0 + B_1 (EPS_{jt}) + B_2 (GINDEX_{jt}) + e_{jt} \quad (5)$$

$$P_{jt} = A_0 + B_1 (EPS_{jt}) + B_2 (INDEX1_{jt}) + B_3 (INDEX2_{jt}) + B_4 (INDEX3_{jt}) + B_5 (INDEX4_{jt}) + B_6 (INDEX5_{jt}) + e_{jt} \quad (6)$$

$$C_{jt} = A_0 + B_1 (INDEX1_{jt}) + B_2 (INDEX2_{jt}) + B_3 (INDEX3_{jt}) + B_4 (INDEX4_{jt}) + B_5 (INDEX5_{jt}) + e_{jt} \quad (7)$$

Where:

$GINDEX_{jt}$: is the grand index, and equals the total of all the assertions in the five categories described above.

$INDEX1_{jt}$: is firm j 's score in the assertion category 1 (responsibilities of financial statements) reported for fiscal year end t ;

$INDEX2_{jt}$: is firm j 's score in the assertion category 2 (internal controls) reported in the RMR for fiscal year end t ;

$INDEX3_{jt}$: is firm j 's score in the assertion category 3 (corporate governance) reported in the RMR for fiscal year end t ;

$INDEX4_{jt}$: is firm j 's score in the assertion category 4 (external auditor) reported in the

- RMR for fiscal year end t;
INDEX5_{jt} : is firm j's score in the assertion category 5 (signing of the report) reported in the RMR for fiscal year end t;
C_{jt} : is the informational effect of issuing an RMR and is measured by the regression coefficient of equation (3).

Phase II: the Market Reaction to Firms' Certification under the SEC's Order

Sample

According to the SEC's criteria for certification, 940 firms were identified as required to certify their financial statements. Of these 940 firms, 687 firms were required to certify their financials, which were already filed with the SEC, by August 14, 2002. The remainder of 253 was required to certify within a later deadline with their filing of their financials on later dates. Of the 687 firms six firms missed the August 14, 2002 deadline. The balance of 681 firms was screened for data availability and confounding events during the filing period, which produced the final sample of 651 firms. Panel B of Table 1 presents this sample selection and elimination.

Model

We use the market model with a modification to capture the market reaction to firms' certification both at the firm level (equation 8) and the portfolio level (equation 9):

$$R_{jt} = A_j + B_j (R_{mt}) + C_j (D_{jt}) + U_{jt} \quad (8)$$

$$R_{pt} = A_p + B_p (R_{mt}) + C_p (D_t) + U_t \quad (9)$$

Where:

R_{jt} = the market return of security j on day t;

R_{mt} = the equally weighted return on the market portfolio on day t as compiled by CRSP;

D_{jt} = is an information variable taking the value of one during the test period and zero otherwise. The test period is the 5 day period (-2 to +2) around firm j's certification date.

C_j = is the coefficient of the information variable capturing the effect of the certification on j's security's market return;

R_{pt} = is the portfolio (sample) equally weighted market return on day t;

A_j and B_j = intercept and slope parameter of firm j, respectively;

U_{jt} = a disturbance term of firm j on day t, and is assumed to be NID (0,δ_j).

IV. RESULTS AND DISCUSSIONS

Financial Characteristics of Sample firms in the Voluntary Reporting Stage

Table 2 provides univariate statistics of major financial characteristics of the sample firms used for testing the valuation effects during the voluntary reporting period. The statistics show that firms voluntarily issued RMRs are larger in size and more profitable than the non-reporting firms. Table 2 shows also that RMR firms are more leveraged suggesting extended use of debt financing in comparison to non-RMR firms. The statistics also indicate that RMR firms have higher percentage of institutional investors and are followed by higher number of analysts, which suggest that RMR firms are subject to more external monitoring by institutional investors, and are more born for higher levels of voluntary disclosures to satisfy analysts demand for information.

The results in table 2 indicate that reporting firms share several characteristics with non-reporting firms such as the external auditor, number of operating segments, and stock exchanges. The two groups have similar proportionate of firms audited by one of the big-5 accounting firms. On average, 80% of the two samples are listed on the NYSE, suggesting that exchange listing is not the driving force for the reporting on RMR.

Valuation Relevance Results

Tests of Association between Stock Price and RMR

As stated earlier, we regard firms voluntary reporting on managements' responsibilities for financial reporting as an expanded disclosure policy by the firm to signal confidence in internal controls and transparency in financial reporting. Therefore, reporting RMRs by firms is a long term disclosure policy that distinguishes reporting firms from other firms in the market. Accordingly, one expects a positive association between issuance of an RMR an security prices.

Table 3 presents the coefficient estimates of regressing stock prices on RMRs along with other controlling accounting metrics such as earnings and book value per share. The results support the predominant strong relationship between a firm's stock price and its earnings and book value per share. Model 2 of Table 3 shows also that RMR has a positive and significant effect on the stock price after both earnings and book value per share. Furthermore, the inclusion of RMR in the price model increased the explanatory power of the model, with adjusted R-squared increased from 25.73 to 27.19 percent. This result suggests that the market appreciates management's direct acknowledgement of its responsibilities for financial statements. This interpretation is consistent with the arguments that management certification of financial statements reduces investors' risk resulting from information asymmetry (Chang et al. 2005).

Differential Effects of Management Assertions

In voluntary disclosure, management is selective in the type of assertions it makes to reduce litigation risk (Johns et al. 2000). Our coding of the RMRs issued by the test sample reveals significant differences among firms in terms of the type and nature of assertions included therein. Therefore, one anticipates a differential market effect of RMRs on the issuing firms' security prices. We test the relationship between the type and level of discourse details (GINDEX) and security prices.

Table 4 reports the coefficient estimates of regressing stock prices on the total items disclosed in RMRs (GINDEX) and the different types of assertions ($INDEX_{jk}$), where k goes from 1 to 5. The results shows a positive relationship between stock prices and the total number of assertions (GINDEX). The results also demonstrate that the market assesses the value of assertions differentially. For instance, assertions regarding internal controls (INDEX2) has a positive and significant effect on prices.

Similar results are also shown under the market return model. Column 4 of Table 4 presents coefficient estimates of regressing the market effect of the reporting of RMR on the firm's stock return (C_{jt}) on the type and level of assertions included in the report. The results show differential valuation effect where assertions on the internal controls (INDEX2) and audit committee (INDEX3) are positive and significantly related to C_{jt} .

Alternate Testing Procedure (the Market Return Test)

Prior literature cautious for spurious inflation in level-based market tests (Easton 1999). In the tests presented above, we controlled for the “spurious inflation” effect on the RMR coefficient by including other accounting metrics such as earnings and book value per share. To support the inferences of the valuation effects of RMRs drawn from the level-based tests, we also use the market return model with modification. We test the market model specifications in equation 4 above.

The results of the market return are presented in Table 3 under M3. The results show a positive effect of the RMR on the return of the sample firms during the test period (-2, 0, +2) where day 0 is the date of filing the annual report with the SEC. The coefficient of the RMRs market effect (C_p) is positive and statistically significant at .034 level. This finding confirms the results obtained using the level association tests and reinforces the inference that market participants appreciate firms' voluntary accompanying their financials with an RMR declaring their responsibilities for the reported financial statements and their contents.

Market Effects of CEOs and CFOs Certification under the SEC's Administrative Order of June 27, 2002.

The hypotheses section states that the certification of CEOs and CFOs to the veracity of their firms' the financial statements reduces investors' information asymmetry and, thus, the signing and filing of these reports with the SEC should be accompanied by positive market reaction. Table 5 presents regression estimates of the sample firms market return with a dummy variable capturing the certification informational effect around the filing date with the SEC.

From Table 5, the coefficient of the certification variable (C_p) for the whole certifying firms is positive and marginally significant, suggesting that the market viewed management's certification as credible evidence on the reliability of the information included in the firm's financials. As indicated earlier, many firms have been voluntarily reporting on management's responsibilities prior to the SEC's Order of June 27, 2002. Therefore, much of the information in the SEC's required certification was preempted in the voluntarily issued reports. We divided the total sample between certifiers with RMRs prior to the SEC's mandated one time certification and those with none. The results show that the market valuation effect of the certification is higher for the sample of certifiers with No-RMRs prior to the SEC's act. The coefficient of the certification effect (C_p) is .1088 ($P=< .0317$) for the sample of No-Prior RMRs compared to .046 ($P=<.094$) for certifiers with prior RMRs.

V. DISCUSSIONS AND CONCLUTIONS

The empirical results in this research suggests that: i) the market viewed the voluntarily issued RMRs as credible signal of reliable and transparent financial reporting and disclosures; ii) CEOs and CFOs certification under the SEC's Order was positively associated with the firms' market returns during the week of filing the certifications with the SEC within the deadline of August 14, 2002.

Based on these results, one would infer that the market takes into consideration management's certification (or the lack of it) in valuing corporate equity securities. If this inference is true, then from the governance policy point of view, government intervention was not necessarily warranted. In addition, there has been an increasing demand by many market participants and stock exchanges to alleviate the SOX requirements on small firms because of the unnecessary burden (Greifeld 2006). These observations call for returning back to corporate voluntary disclosure and governance based on the cost-benefit criterion.

The federal intervention and the SEC regulations of financial reporting and corporate governance in the SOX seem to be emotional responses by the congress to regain investors' confidence in US businesses and their financial reporting practices after the market failure and corporate scandals in the period of 2000 to 2002. Therefore, and under normal economic environment, the cost benefit criteria for corporate disclosures and governance seem to be the appropriate approach in a free and competitive market such as the US market.

Further research should be directed to examine the necessary conditions under which corporate governance and financial reporting should be left to the private sector within the cost-benefits criteria. Research into quantifying the benefits of the SOX and the its compliance costs would also be a further step in justifying the federal regulation of corporate governance.

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Table 1

Sample Selection and Elimination

Panel A: Voluntary Reporting

Category	RMR Firms	Non-RMR Firms	Total Sample (Firm-Year)
Initial Sample (Firm-Year 1996-2001)	1,872	1,728	3,600
Less:			
- Firms with incomplete RMR reports	114	000	114
- Firms with incomplete financial data on the COMPUSTAT tape	119	137	256
- Firms with no market data on the CRSP tape	138	126	264
- Firms with confounding events during the 10 trading days around the filing date	76	62	138
Final Sample	1,425	1,403	2,827

Panel B: Certification under the SEC Order (Deadline: August 14, 2002)

Category	Firms with August 14, 2002 Deadline	Firms with After August 14, 2002 Deadline	Total
Initial Sample	687	253	940*
Firms missed the filing deadline	6	11	17
Firms filed by deadline	681	242	923
Firms with incomplete data on the CRSP tape.....	13	09	22
Firms with incomplete data on the COMPUSTAT tape.....	11	07	18
Firms with other confounding events	06	04	10
Final Sample	651	242	893
Classification:			
- Firms Voluntarily Issued RMRs Prior to the Certification.....	342	119	461
- Firms Did not Voluntarily issue RMRs Prior to the Certification ..	309	123	432
Final Sample	651	242	893

* the initial SEC's list included 947 companies but later listings deleted seven companies for variety of reasons.

Table 2**Summary Statistics of Major Financial Characteristics of Sample Firms Used in Testing the Valuation Effects of the Voluntarily Issued RMRs**

Variable	RMR Firms			Non-RMR Firms			Group Difference P (Z-Value)
	Mean	Median	St. Div	Mean	Median	St. Div	
LogTA	8.87	8.95	2.01	7.24	8.11	2.16	0.001
ROA	0.079	0.071	0.043	0.062	0.081	0.051	0.001
LTDE	0.97	1.25	0.37	0.78	0.81	0.36	0.017
EARVAR	5.66	6.23	6.22	6.43	6.17	5.88	0.068
INSTIT%	0.69	0.79	0.38	0.54	0.59	0.42	0.089
ANALF	8.22	7.46	4.51	7.09	7.48	3.22	0.047
AUD-BIG5	0.91	1.00	0.11	0.90	1.00	0.10	0.720
SEGMENTS	8.62	10.00	5.44	8.31	11.00	6.02	0.268
STOCEXCH	0.82	1.00	0.53	0.79	1.00	0.59	0.185

Definitions:

LogTA= natural log of total assets of firm j on fiscal year end t;

ROA = return on total assets and is measured as net income plus interest expense over total assets of firm j at fiscal year end t;

LTDE = long term debt over total equity of firm j for fiscal year end t;

EARVAR = earnings variability and is measured by the variance of earnings per share over a period of 10 years or more ending the fiscal year end t;

INSTIT% = institutional ownership percentage at end of fiscal year t;

ANALF = number of analysts following the firm as of fiscal year end t;

AUD-BIG5 = a dummy variable taking the value of one if firm j was audited by a big Five accounting firm in year t, and zero otherwise;

SEGMENTS = number of operating segments as reported in the year t by firm j, and is taken from the COMPUSTAT tape industrial annual;

STOCEXCH = the stock exchange where the firm is listed. STOCEXCH takes the value of one for NYSE and zero all other.

Table 3

Parameters Estimates of Regressing Prices on Earnings, Book Value and RMRs for the Voluntary Reporting Firms (1996-2001)

$$P_{jt} = A_0 + B_1 (EPS_{jt}) + B_2 (BV_{jt}) + e_{jt} \quad (M1)$$

$$P_{jt} = A_0 + B_1 (EPS_{jt}) + B_2 (BV_{jt}) + B_3 (RMR_{jt}) + e_{jt} \quad (M2)$$

$$R_{pt} = A_p + B_p (R_{mt}) + C_p (D_t) + u_t \quad (M3)$$

Model Variables	M1 (Prob. Level in Parenthesis)	M2 (Prob. Level in Parenthesis)	M3
A0	20.78 (.0001)	18.74 (.0001)	A _p 0.006 (.001)
B1	4.92 (.0001)	4.41 (.0001)	B _p 0.97 (.000)
B2	7.25 (.0001)	6.89 (.0001)	C _p 0.004 (.038)
B3	NU*	3.69 (.0023)	NA
Adjusted R-Squared	0.2573	0.2719	0.0802

*NU: Variable not used in this model; NA: not applicable.

Definitions:

P_{jt} = average market price of firm J's stock from the end of the fiscal year t to the end of the week of filing of the firm's annual report with the SEC ;

EPS_{jt} = earnings per share of firm j for the fiscal year t;

BV_{jt} = the book value per share of firm j for fiscal year t;

RMR_{jt} = is a dummy variable surrogating for information quality, which takes the value of one if the firm issued RMR in year t and zero otherwise.

e_{jt} = a stochastic disturbance term;

R_{pt} = is the portfolio (sample) equally weighted market return on day t;

R_{mt} = the equally (value) weighted return on the market portfolio on day t as compiled by CRSP;

D_{pt} = is an information variable taking the value of one during the test period and zero otherwise. The test period is the 5 day period (-2 to +2) around firm j's certification date.

C_p = is the coefficient of the information variable capturing the effect of the certification on j's security's market return;

R_{pt} = is the portfolio (sample) equally weighted market return on day t;

u_t = a stochastic disturbance term.

Table 4

Parameter Estimates of the Differential Market Effects of Management Assertions in the RMRs (level of significance in parenthesis)

$$P_{jt} = A_0 + B_1 (EPS_{jt}) + B_2 (BV_{jt}) + B_3 (GINDEX_{jt}) + e_{jt} \quad (4)$$

$$P_{jt} = A_0 + B_1 (EPS_{jt}) + B_2 (BV_{jt}) + B_4 (INDEX1_{jt}) + B_5 (INDEX2_{jt}) + B_6 (INDEX3_{jt}) + B_7 (INDEX4_{jt}) + B_8 (INDEX5_{jt}) + e_{jt} \quad (5)$$

$$C_{jt} = A_0 + B_4 (INDEX1_{jt}) + B_5 (INDEX2_{jt}) + B_6 (INDEX3_{jt}) + B_7 (INDEX4_{jt}) + B_8 (INDEX5_{jt}) + e_{jt} \quad (6)$$

Model Variables	M4	M5	M6
A0	19.90 (.0001)	22.36 (.0001)	.003 (.0000)
B1	4.94 (.0001)	4.95 (.0001)	NU
B2	5.51 (.0001)	5.09 (.0001)	NU
B3	7.99 (.0559)	NU	NU
B4		-24.45 (.1031)	-.005 (.251)
B5	NU	16.37 (.0107)	.003 (.025)
B6	NU	18.41 (.2573)	.0002 (.063)
B7	NU	15.83 (.2417)	.0006 (.311)
B8	NU	-25.19 (.1841)	-.0005 (.1374)
Adjusted R-Squared	0.2245	0.2291	0.1416

Definitions:

$GINDEX_{jt}$: is the grand index, and equals the total of all the assertions in the five categories described above.

$INDEX1_{jt}$: is firm j's score in the assertion category 1 (responsibilities of financial statements) reported for fiscal year end t;

$INDEX2_{jt}$: is firm j's score in the assertion category 2 (internal controls) reported in the RMR for fiscal year end t;

$INDEX3_{jt}$: is firm j's score in the assertion category 3 (corporate governance) reported in the RMR for fiscal year end t;

$INDEX4_{jt}$: is firm j's score in the assertion category 4 (external auditor) reported in the RMR for fiscal year end t;

$INDEX5_{jt}$: is firm j's score in the assertion category 5 (signing of the report) reported in the RMR for fiscal year end t;

C_{jt} : is the informational effect of issuing an RMR and is measured by the regression coefficient of the market model: $R_{jt} = A_j + B_j (R_{mt}) + C_j (D_{jt}) + U_{jt}$.

Table 5

**Market Valuation Effects of CEOs and CFOs Certification of their Financials
Under the SEC's Order of June 24, 2002.**

$$R_{pt} = A_p + B_p(R_{mt}) + C_p(D_t) + u_t$$

Varioable	All Certifiers N=651	Certifiers with RMRs in Prior Years N=342	Certifiers with No- RMRs in Prior Years N=309
A_p	.068 (.000)	.0573 (.000)	.0724 (.000)
B_p	1.05 (.000)	.98 (.000)	1.15 (.000)
C_p	.0089 (.066)	.0046 (.094)	.1088 (.0317)
Adjusted R-Squared	.0315	.0289	.0381

Definitons

R_{mt} = the equally (value) weighted return on the market portfolio on day t as compiled by CRSP;

D_t = is an information variable taking the value of one during the test period and zero otherwise. The test period is the 5 day period (-2 to +2) around firm j's certification date.

C_p = is the coefficient of the information variable capturing the effect of the certification on j's security's market return;

R_{pt} = is the portfolio (sample) equally weighted market return on day t;

A_p and B_p = intercept and slope parameter of firm j, respectively;

u = a disturbance term of firm j on day t, and is assumed to be NID $(0, \delta_j)$.