

**THE EFFECTS OF THE SARBANES-OXLEY ACT AND CANADIAN
EQUIVALENT, BILL 198/CSA RULES, ON CANADIAN CROSS-LISTED
STOCKS**

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Abstract

Following the Sarbanes-Oxley Act of 2002 (SOX), Canada subsequently implemented similar SOX-type rules on Canadian firms by enacting Ontario Bill 198 and the enforcing several of the Canadian Securities Administrators' (CSA) rules. This paper tests the impact of the Canadian equivalent, Bill 198/CSA rules, on Canadian firms listed on the Toronto Stock Exchange. First, we examine the effects of SOX on cross-listed Canadian firms and second, we test the impact of Bill 198/CSA rules on Toronto Stock Exchange (TSX) stocks. Using a matched sample approach, the results indicate that after controlling for some relevant cross-sectional factors, SOX had negative valuation effects on cross-listed firms compared to TSX-listed firms. This implies that SOX compliance costs significantly exceed the benefits of the corporate governance improvements introduced by SOX. Tests of the valuation effects of the Canadian regulatory reform equivalent, Bill 198/CSA rules, which were passed two years after SOX, showed that investors anticipated Bill 198/CSA rules and adjusted their valuation of Canadian firms relative to cross-listed firms. Subsequently, the passage of Bill 198/CSA rules did not have differential valuation effects on both the cross-listed and TSX listed-stocks before and after Bill 198/CSA rules.

JEL Classification: G28, G34, G38, K22

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1. Introduction

The Sarbanes-Oxley Act (SOX) has been called the most far reaching legislation since the Securities Exchange Act of 1934. SOX was introduced and subsequently signed into law on July 30, 2002 following massive accounting fraud, misappropriation of company funds by management, loss of investors' confidence in financial reports and misconduct by the accounting firm, Arthur Andersen.¹ SOX intended to restore investor confidence in financial reports by requiring CEOs and CFOs to personally certify that reports were free of errors and manipulation. As a result of SOX, officers and directors are held liable for accounting misreporting and malfeasance in both criminal and civil courts.

Additionally, SOX addresses the issue of agency problems. Prior to SOX, managers of several firms deliberately acted in their own interest at the expense of shareholders who lost a lot of money in firms like Enron, WorldCom, Tyco, and Global Crossing. Several provisions of SOX were designed to address the agency problems that resulted in massive fraud, misuse and expropriation of company funds. These provisions aimed at improving auditor independence and accuracy of financial reports as well as addressing analyst conflicts of interest.

Integration of the Canadian and U.S. capital markets along with the pressure to reform corporate governance and increase investor confidence in financial reports resulted in similar regulatory reforms in Canada. Amendments to the Ontario Securities Act (OSA) resulted in regulation and rules similar to those of SOX. The Ontario Legislator matched several provisions of SOX through amendments to the Ontario Securities Act via the Ontario Budget Measures Act (Bill 198). In addition, Canadian public firms are regulated by the 13 provincial and territorial authorities. Rules and regulations concerning all provinces and jurisdictions of

¹ As the Enron saga developed, Arthur Andersen's worsening reputation affected its clients. Rauterkus and Song (1999) found that the market reacted negatively to seasoned equity offering announcements for firms audited by Andersen. This may be indicative of investors' loss of confidence in Andersen's certifying and monitoring role as an auditor.

Canada are made through the Canadian Securities Administrators (CSA) which is comprised of members from all 13 provinces and territories in Canada. For example, provisions such as CEO and CFO certification of financial statements (Multinational Instrument 57-109) were subsequently instituted by the CSA in March, 2004.

The objective of this research is twofold. We first test the valuation effects of SOX on Canadian cross-listed firms and, second we test the effects of Bill 198/CSA rules on Canadian cross-listed firms and a group of matching Toronto Stock Exchange (TSX) listed firms. Since there is a lag between when the U.S. legislation (SOX) and the Canadian version (Bill 198 and CSA rules) were enacted and became effective, there is an opportunity to test the valuation effects of SOX on Canadian cross-listed firms by comparing them to non cross-listed Canadian firms before and after each legislation was passed. In addition, we test the effectiveness of the amendments to the Ontario and Canadian securities regulation which were designed to create parity between the U.S. and Canadian regulatory environments in terms of accuracy of financial reports, corporate governance reform, aligning shareholders' and managers' interests and the restoration of investors' confidence and its impact on cross-listed firms.

We focus on Canadian firms as opposed to all cross-listed firms for the following reasons: (1) Canada has subsequently instituted similar regulation to SOX through Bill 198 and a series of Multinational and National Instruments by the CSA; (2) A large sample of Canadian firms is cross-listed in the U.S. As of March, 2008, 12.1% of Toronto Stock Exchange listed firms were interlisted in the U.S.; (3) Canadian firms are unique due to the Multi-Jurisdictional Disclosure System (MJDS); (4) Canadian firms are allowed to list their common shares directly on U.S. exchanges whereas most other firms utilize ADRs, (5) the Canadian securities regulatory environment is very similar to the U.S. and (6) Canadian firms account for the largest number of cross-listed firms from a single country(Reese and Weisbach, 2002). For these reasons, we feel that Canadian cross-listed firms provide a unique sample for evaluating

the effects of SOX and Bill 198/CSA rules on listed stocks. In contrast, U.S. based studies have a problem of disentangling the effects of SOX from others factors because all firms are equally affected.

The empirical results indicate that post-SOX valuation declined for cross-listed Canadian firms compared to a group of matched non-cross-listed firms after controlling for several firm specific characteristics. This implies that investors believe that SOX compliance costs are greater than the perceived benefits of SOX. The test of the effects of Bill 198/CSA rules indicates there was no valuation differential between cross-listed and Canadian-listed firms before and after the Bill 198/CSA rules period. This implies that investors had anticipated similar regulations in Canada and hence, adjusted their valuation prior to the implementation of Bill 198/CSA rules.

This research contributes to the literature and ongoing debate on the costs and benefits of SOX by providing direct empirical evidence that SOX compliance costs outweigh the perceived benefits. This is the first paper to examine the Canadian equivalent of SOX (Bill 198/CSA rules) and its impact on Canadian firms both cross-listed and non-cross-listed. Also, we provide a detailed comparison between SOX and the Canadian equivalent, Bill 198/CSA rules. The rest of the paper is structured as follows. Section 2 provides a more detailed discussion on the Sarbanes-Oxley Act of 2002, Ontario's Bill 198 and the Canadian Securities Administrators' rules. Section 3 describes the sample, the data sources and methodology. Section 4 presents the results of the regressions and robustness checks and Section 5 concludes the paper.

2. Literature Review

2.1 The Sarbanes-Oxley Act of 2002

There is a “sudden acute regulatory syndrome” that usually follows a market panic such as the Bubble Act following the South Sea Bubble of 1720 and the U.S. Federal Securities Act of 1934 which followed the 1929 crash (Ribstein, 2005). The Sarbanes-Oxley Act is no different. It was designed to enhance the accountability of corporate officers, improve corporate disclosure, introduce new audit committee standards and responsibilities, improve audit committee oversight and limit conflicts of interest, strengthen accountability for wrongdoing and address analyst conflict of interest (Gray, 2005).² Furthermore SOX, through its various provisions, can align shareholders’ and managers’ interests while minimizing monitoring costs incurred by shareholders in order to ensure managers are acting in the interest of shareholders. For a summary of the major sections of the Sarbanes-Oxley Act see Appendix 1. However critics have argued that SOX has resulted in a dramatic increase in the costs to public companies trying to comply with SOX particularly section 404.³

2.2. Recent academic studies on the costs and benefits of SOX

Several academic studies have argued that the costs greatly outweigh the benefits of SOX measured by the wealth effects and market reaction [Litvak (2007a) and Zhang (2007)]. However, other studies such as Li, Pincus and Rego (2008) concluded that there were significantly positive abnormal stock returns associated with SOX events as well as a positive relation between SOX event stock returns and extent of earnings management. In contrast, Zhang (2007) found that the cumulative abnormal returns around the legislative events of SOX were significantly negative. Litvak (2007b) provide similar evidence for cross-listed firms.

Chhaochharia and Grinstein (2007) examined the effects of SOX and NASDAQ and NYSE corporate governance regulation on firm value. They found that firms that were less

² Section 501 made several amendments to The Securities Exchange Act of 1934 relating to the issue of analyst conflict of interest.

³ The SEC on May 27, 2003 adopted rules requiring management to report on internal controls and auditor attestation of a company’s internal controls over financial reporting. This section is aimed at improving disclosure and financial reporting.

compliant earned positive abnormal returns during the time of the announcement of the SOX and NYSE and NASDAQ exchange rules. Also, large firms that were less compliant earned positive abnormal returns whereas small firms that were less compliant earned negative abnormal returns. Hence, SOX and U.S. exchange rules were detrimental to small firms.

Also, accounting studies have argued that SOX may lead to conservative accounting practices resulting in under-reporting of earnings (Lobo and Zhou, 2006) which will therefore affect valuation and capital gains available to investors. The passage of SOX resulted in an increase in audit and accounting costs. Eldridge and Kealey (2005) examined the costs of the new internal control audit requirement of SOX and provide evidence that on average audit fees increased from 2003 to 2004 by \$2.3 million. Other studies have also argued that SOX has resulted in an increase in the frequency of firms going dark or private (Engel, et al., 2007 and Marsoi and Massoud, 2007) and a decrease in cross-listing (Zhu and Small, 2007).

There are other costs related to SOX such as an increase in insurance for directors and officers and legal fees. Most of these costs can be quantified with a bit of effort. What is often more difficult to estimate is the benefits associated with SOX. Benefits may take a longer time to materialize whereas compliance costs may be short-term and immediate. Some of the potential benefits include a lower risk of losses from fraud and theft, more reliable financial reports, greater transparency and lower costs of capital (Coates IV, 2007). In a recent study by Ashbaugh-Skaife et al., (2007), they found that firms with internal control deficiencies have a significantly higher idiosyncratic risk, systematic risk and cost of equity. They argued that auditor-confirmed changes in internal control effectiveness resulted in a 50 to 150 basis points change in cost of equity.

2.3. Survey evidence on the costs of Sarbanes-Oxley Act

In a 2004 survey by Financial Executive International (FEI) of 224 public companies, it was found that estimated SOX compliance costs are significant.⁴ For firms with average revenue of \$2.5 billion, the total costs are estimated at \$3.14 million. Companies in the survey are expected to pay auditors \$ 823,200 in fees for attestation of internal control, in addition to annual audit fees. Companies are expected to pay an additional \$1.037 million for software and information technology consulting. In a similar survey by PricewaterhouseCoopers (PwC), executives believe that 76% of SOX costs will stem from additions to internal resources, including documentation, legal requirements, policy development, self-assessment, staff training and new tools and technology.⁵

2.4 Amendments to Ontario and Canadian securities regulation via Budget Measure Act (Bill 198) and Canadian Securities Administrators (CSA) rules

Amendments to the Ontario Securities Act and Canadian Securities regulation which were established through Bill 198 became effective as of December, 2005. These amendments are similar to the Sarbanes-Oxley Act and were designed to improve corporate disclosure and increase investors' confidence in the financial reports of Canadian public companies. On March 30, 2004, the Canadian Securities Administrators (CSA), which represents the securities regulators of the provinces and territories of Canada, implemented several rules relating to CEO/CFO certification, audit committee requirements, accounting oversight, auditor independence through a series of multinational (MI) and national instruments (NI). Also, Bill 198 includes amendments relating to statutory civil liability for secondary market disclosures. Public companies, investment funds and their directors, certain officers and influential persons

⁴ In a 2005 survey by FEI, the total average Section 404 compliance costs for an accelerated filer was \$3.8 million during fiscal year 2005, a decline of 16.5% from 2004. The reason for the decline includes reduction of internal staff time (11.8%), external costs (22.5%) including software and consultants, but excluding primary audit fees and audit attestation fees (13%).

⁵ There are several other surveys that provide similar findings. Surveys by American Electronic Association, A.R.C. Morgan (provider of consultant and advisory services) and CRA International (a global consulting firm) provides similar evidence. In addition, CRA provides evidence that compliance costs are declining in the second year of compliance and are expected to continue to decline. This is due to the learning curve effect as well as first-year documentation efforts which did not need to be repeated in year two. Survey evidence has to be interpreted with caution since most of the evidence is based on a small number of respondents.

who are not officers or directors can be held liable for misrepresentation and failure to make timely disclosures. See Table I for a comparison between SOX provisions and Bill 198/CSA rules (Also, see Appendix 1 for a summary of the major provisions of the Sarbanes-Oxley Act).

The major difference between the Sarbanes-Oxley Act and the Canadian equivalent relates to auditor attestation of internal control. In March, 2006, the Canadian Securities Administrators (CSA) released its final decision on internal control (Notice 52-313). In Canada it will *not be mandatory for auditors to attest to an issuer's internal control* whereas it is mandatory under section 404 of the Sarbanes-Oxley Act. The Canadian Securities Administrators decided not to pursue *reporting on internal control over financial reporting* (Proposed MI 52-111). This does not mean that firms are not required to evaluate the effectiveness of internal control. The Canadian Securities Administrators will expand MI 52-109 (CEO/CFO certification requirement) to include internal control evaluation. CEOs and CFOs will be required to evaluate and certify the effectiveness of the issuer's internal control at the end of the financial year and disclose in the management discussion and analysis section (MD&A), their conclusion about the effectiveness of the internal control.

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Insert Table I
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Canadian cross-listed firms that are in compliance with SOX will not have to expend additional resources to meet the regulatory requirements set forth by Bill 198/CSA rules. This is because the requirements of SOX and Bill198/CSA rules are very similar and require similar disclosures, audit committee requirements and auditor independence (Table I). Therefore, the new regulations in Canada are not expected to have an impact on cross-listed Canadian firms that are already in compliance with SOX.

2.5 Canadian Regulatory Environment and Cross-listing

Canadian securities regulatory system is somewhat different from the United States. In Canada, there are thirteen securities regulators representing the thirteen provinces and territories of Canada whereas in the U.S., the SEC is the only regulatory authority. The unique nature of the regulatory system in Canada resulted in the creation of the Canadian Securities Administrators (CSA). The CSA is made up of members of the various provincial regulators and makes rules and regulations as a body which is applicable to all Canadian public companies. The CSA coordinates and harmonizes regulations of the Canadian capital market. By collaborating on rules and regulations, the CSA helps to avoid duplications and streamline regulation processes. The CSA strategic objective is to protect Canadian investors from unfair, improper or fraudulent practices and foster fair and efficient capital markets. The CSA works closely with the Ontario Securities Commission (OSC) to regulate and enforce the securities law of the province of Ontario and rest of Canada.

Cross-listed foreign firms are subject to the same requirements as U.S. domestic firms under SOX. They are required to file financial statements according to U.S. GAAP and meet continuous disclosure requirements. Therefore, it is expected that SOX will affect these firms in the same way it affects U.S. domestic firms, in terms of compliance costs and benefits. However, the Canadian case is somewhat different from other foreign issuers. Typically when listing in the U.S., Canadian firms have the following options: firstly, they may register and report as a domestic U.S. issuer. Secondly, firms can choose to cross-list through ADRs. However, this means of cross-listing is not utilized very often by Canadian firms. Finally, Canadian firms can issue securities under the Multi-Jurisdictional Disclosure System (MJDS).⁶ MJDS came into effect in 1991 and as a result, Canadian firms account for the largest group of

⁶ With MJDS, Canadian firms with twelve months reporting history in Canada can list on any U.S. Exchanges but they are subject to Canadian regulations. It is important to point out that SOX makes no exemption for Canadian firms under MJDS with regard to compliance to this new regulation. Therefore, it is safe to say that Canadian firms with common shares listed directly in the U.S. are subject to SOX.

firms from a particular country to cross-list on U.S. stock exchanges (Reese and Weisbach, 2002).⁷

Prior to SOX, under the MJDS, Canadian firms that had a one year history of reporting in Canada were allowed to list in the U.S. as Canadian issuers following Canadian securities regulation and complying with Ontario Securities Commission disclosure requirements. Hence, Canadian cross-listed firms were not subject to the same requirements as other foreign issuers utilizing ADRs. Canadian firms are not required to file two sets of documents and meet two sets of regulations. Canadian firms listed in the U.S., under the MJDS, are deemed to have complied with SEC requirements by simply filing Canadian documents with the SEC. As a result, Canadian firms did not have to incur additional costs to meet SEC requirements unlike other foreign firms that list through ADRs. Furthermore, MDJS represent a major move towards further integration of the Canadian and U.S. market.

Following the passage of SOX, cross-listed Canadian firms were not treated any different than U.S. firms with regards to SOX compliance even if they were listed under the MJDS agreement. Although Canadian firms follow Canadian disclosure using MJDS, they are still required to comply with SOX such as, CEO/CFO certification requirements and auditor attestation to issuer's internal control procedures (Puri and Sen, 2003). This means that the cost of compliance increased significantly for cross-listed Canadian companies (Beck, 2004). Therefore, regardless of the forms of listing utilized by Canadian firms, SOX will continue to have an impact on Canadian firms, since the Securities and Exchange Commission (SEC) did not exempt Canadian firms cross-listed under the MJDS agreement. These firms are expected to comply with requirements of SOX and are expected to bear the costs of such compliance similar to their U.S. counterpart. Therefore, if the benefits of SOX compliance are less than the

⁷ This comparison is made to foreign firms listed using level II and III ADRs.

costs, cross-listed firms will be negatively affected when compared to a group of matching TSX listed firms not subjected to SOX compliance costs and benefits.

3. Previous Studies, Hypothesis, Methodology and Data

3.1 Previous related studies

There are a few studies that examine the effects of the Sarbanes-Oxley Act on cross-listed firms; thus far the evidence is mixed. Zingales (2007), in a univariate setting, compared the average market-to-book ratio between 1997-2001 and 2003-2005 and found that this ratio declined following the passage of SOX. He argued that one possible reason for this decline is that the costs associated with SOX compliance outweigh the benefits provided by this legislation and that the changes in U.S. regulatory environment, post-SOX, decreased the benefits of cross-listing, especially for countries that have good governance standards. However, Doidge et al., (2007) found that SOX had no effect on cross-listing premium for U.S. exchange listings even after accounting for different levels of legal protection during the period of 1990 to 2005. The authors pointed out that their results are an “average effect” and that the results may differ from country to country.

In another study, the effect of SOX on cross-listing premium was assessed by Litvak (2007a). Using a sample period from 2001 to 2002, the author found that cross-listing premium declined following SOX. This decline was greater for firms with good governance or high disclosure standards. Litvak (2007a) argued that the benefits and costs associated with SOX depend on the individual firm’s pre-SOX governance and on the firm’s characteristics. In another research, Litvak (2007b) found that stock prices of foreign firms subject to SOX declined significantly, compared to cross-listed firms not subject to SOX and non-cross listed firms, during key announcements. High disclosing firms from countries with high disclosure standards experienced the strongest decline.

Our study differs from the above studies in that it considers the impact of Bill 198 and CSA rules on both cross-listed and non-cross-listed Canadian firms. None of the above studies consider the Canadian regulation. In addition, the focus of this study is on the effect of SOX on firms from a single country; hence this study is not subject to an “average effect”. For instance, Litvak (2007b) examined the effects of SOX using abnormal returns for all cross-listed firms in the U.S. However, her country analysis shows that the coefficients from her regression analysis are only significant for Canada (85 firms) and a few other countries with a very small number of firms. Therefore, we feel that her results are driven by Canadian firms which make up a large proportion of her sample. By focusing on a single country, we are able to examine the effects of SOX on cross-listed firms given the institutional differences and similarities of the regulatory environment between Canada and the U.S.

3.2 Hypotheses

Using Canadian cross-listed firms, we have a unique opportunity to test the impact of SOX on public firms. By comparing a sample of Canadian firms that are cross-listed under the MJDS with a sample of matching firms by industry that are not cross-listed in the U.S., it is possible to isolate the impact of SOX on Canadian cross-listed firms. After controlling for firm specific characteristics, we expect the value of cross-listed firms to decline following the passage and enforcement of SOX measured by the change in Tobin’s Q compared to non-cross-listed firms. The reason for this expectation is that prior to SOX, Canadian firms that cross-listed under the MJDS were required to comply with Canadian regulations and disclosures even if they were listed in the U.S. They did not have to file two sets of documents (SEC and OSC) and hence, did not have to incur additional costs of reporting to two different regulators, unlike cross-listed firms from other countries. However, following the enactment of SOX, this was no longer the case. Canadian cross-listed firms must expend the resources

necessary to comply with SOX including an increase in auditor fees, setting up and monitoring internal controls, officers and directors' insurance costs and opportunity costs of management time. Therefore, SOX will have a negative impact on Canadian cross-listed firms if the compliance costs are greater than the perceived benefits of SOX compliance.

H1: *The value of cross-listed firms is expected to decline following the passage of the Sarbanes-Oxley Act relative to non-cross-listed firms after controlling for relevant cross-sectional factors.*

In an effort to reform the corporate governance practices and to improve investors' confidence in Canada, the Ontario regulators, through Bill 198, made several changes to the Ontario Securities Act which became effective in December, 2005. In addition, the Canadian Securities Administrators in 2004, together with the Ontario Securities Commission, made several rules aimed at improving corporate governance and investors' confidence in financial reports of Canadian companies. These changes mirror several sections of SOX as discussed in Table I above. If SOX is perceived to be costly, Bill 198/CSA rules should also have similar effects on Canadian-listed firms. This is expected because SOX and Bill 198/CSA rules are very similar as shown in Table 1. With the exception of a few minor differences, Bill 198/CSA rules mirror several provisions of SOX such as CEO and CFO certification of financial statements.

Alternatively, unlike SOX which was an exogenous regulatory shock, Bill 198/CSA may have been expected by investors since it was promulgated in response to SOX. Investors may have expected Bill 198 and the CSA rules due to the pressure to reform corporate governance practices in Canada, the integration of the Canadian and U.S. capital markets, MJDS agreement between Canada and the U.S. and the large percentage of Canadian firms cross-listed (12%, as of March 2008). We do not expect to observe any valuation differential between cross-listed and Canadian-listed firms subjected to the Canadian equivalent of SOX,

Bill 198/CSA rules, because investors may have anticipated the Canadian response and formulated their expectation accordingly.

H2: *If investors anticipated a similar regulatory response in Canada to SOX before the passage of Bill 198/CSA rules in 2005, after controlling for cross-sectional factors, we should not observe any differences in the change in valuation between cross-listed and non-cross listed Canadian firms.*

3.3 Methodology

The regression equation (1) tests the effect of SOX on cross-listed firms using a binary variable, CL, to isolate the valuation effects on cross-listed firms. This model is used to test hypothesis one, H1.

$$\Delta Q_{SOX} = \alpha_0 + \alpha_1 CL + \alpha_2 Growth + \alpha_3 (\Delta D/E) + \alpha_4 (\Delta Profitability) + \alpha_5 Ownership + \alpha_6 (\Delta Size) + \alpha_7 Beta + \varepsilon \quad (1)$$

The variables used in the regression analysis are defined as follows:

- Tobin's Q ratio = (market value of equity + book value of debt) / book value of assets
- CL is a binary variable equal to 1 for cross-listed firms and 0 for matched Canadian firms.
- Growth = arithmetic mean of sales growth during the period of 1998-2000.
- Debt / Equity = book value of total debt / total equity
- Profitability = return on assets (income before extraordinary items / total assets).
- Ownership = percentage of votes held by most significant shareholder.
- Size = logarithm of total assets
- Beta = estimated by monthly returns on the S&P/TSX Composite index returns over the period of 1996-2000.

The coefficient on the cross-listed dummy variable (α_1) is expected to be negative if SOX compliance costs of cross-listed firms outweigh any incremental benefits of SOX.

Since the Canadian equivalent regulatory reforms were introduced in 2004-2005 through Bill 198/CSA rules, we test for the valuation effects on the two samples. Equation (2) is used to test the effect of Bill 198/CSA rules on firms' value measured by the change in Q

ratio. The expectation is that α_1 is not statistically different for zero after controlling for growth, leverage, profitability, size, ownership and beta. This model tests the second hypothesis, H2.

$$\Delta Q_{\text{Bill198/CSA rules}} = \alpha_0 + \alpha_1 CL + \alpha_2 Growth + \alpha_3 (\Delta D/E) + \alpha_4 (\Delta Profitability) + \alpha_5 Ownership + \alpha_6 (\Delta Size) + \alpha_7 Beta + \varepsilon \quad (2)$$

In both regression equations the expectation for the controls are as follows: growth is expected to have a positive effect on a firm's value therefore, α_2 should be positive. By cross-listing, firms are able to raise the necessary capital to exploit growth opportunities that these firms may not have otherwise been able to exploit [Doidge et al. (2004)]. The change in leverage can have a positive as well as a negative effect on the change in Q ratio. It can be positive in the sense that interest tax shield generated through debt can increase a firm's value. The change in leverage can have a negative effect on valuation if the firm is "over leveraged" and has a greater probability of bankruptcy. The change in profitability is used as a control variable and it is expected to be positively related to Q ratio. In addition, the size variable is expected to be negative because, in the case of Canadian firms, as size increases Tobin's Q ratio tends to decrease (see Appendix 2)

Ownership is expected to negatively affect valuation due to the concentration of ownership in Canada and the possible management entrenchment. Morck, Shleifer and Vishny (1988), in a study of U.S. firms, found that ownership and valuation are not linearly related. They argue that very low (0-5%) and very high levels (greater than 25%) of ownership are positively related to a firm's value. On the other hand, ownership of 5%-25% is negatively related to firms' valuation. The convergence of interest theory may help to explain the positive relationship at very high levels of ownership whereas the management entrenchment theory can explain the negative relationship. The average ownership of voting rights in the sample is approximately 25% to 35% and hence, it is expected to negatively affect value due to possible management entrenchment.

3.4 Data

In constructing the sample, a search of the CRSP database for all firms that are trading in the United States but incorporated outside the U.S. during the period 2001-2003 for the SOX sample and 2003-2005 for the Bill 198/CSA sample period. By using share code 12 for common shares and code 30 and 31 for companies that cross-list on U.S. exchanges through ADRs, a sample of cross-listed firms were identified. The CRSP list was matched with a Thompson DataStream list of all Canadian firms. The list of Canadian firms was checked to ensure that these firms were listed on the Toronto Stock Exchange or the Vancouver Venture Exchange. Firms that were incorporated in Canada but only trade in the U.S. were excluded from the sample. For example, Leading Brands was incorporated in Canada but trades only on the NASDAQ Exchange.

In the final sample of cross-listed firms, financial services and insurance companies were excluded following the approach of previous academic studies. In addition, firms with negative debt-to-equity ratio (using book value of equity) as well as those with negative beta were excluded from the sample. As a result, the final SOX sample is made up of 112 cross-listed firms and 118 firms for the Bill 198/CSA period. The cross-listed firms are matched with non-cross-listed Canadian firms using four-digit SIC industry code. If no suitable match was found, we then matched by three-digit industry code and in a few cases (less than 10%), two-digit industry code. We did not match by other characteristics such as size or growth opportunities because of the sample size restriction. Matching by industry and one or two other firm characteristics, which is the prefer method of matching, would dramatically reduce our sample size. As a result, in our regression analysis we explicitly controlled for size, profitability, leverage and other firm characteristics.

The Tobin's Q ratio was calculated using stock prices and common shares outstanding which were taken from the Thompson DataStream database.⁸ The accounting data needed to calculate the Q ratio and several control variables were taken from the Compustat database. In addition, data on ownership of voting rights was hand-collected from proxy circular posted on the sedar.com website. Both SEC and OSC require firms to report any individual ownership of ten percent or greater of shares of the corporation. The mean percentage ownership of voting rights for cross-listed firms is 26.28 % whereas it is 33.91 % of matching firms for the SOX sample (Panel A, Table II). Approximately 83 % of the matching firms had a single shareholder controlling more than 10 % of the voting rights whereas 59 % of the cross-listed firms had a single shareholder with more than 10% of the voting rights for the period of 2001-2003. Also, for the Bill 198/CSA rules period, the percentage of ownership of voting rights is similar to that of the SOX period.

The effects of SOX on cross-listed firms' valuation was estimated using the change in Q ratio over the period of 2001 to 2003 (Post-SOX₂₀₀₃ minus Pre-SOX₂₀₀₁). This time period is necessary to identify the effect of SOX on valuation since congress started debating this legislation in December, 2001 and passed in 2002 though several provisions did not become effective until mid 2003. The second sample period (2003-2005) is used to analyze the effect of Bill 198/CSA rules on cross-listed as well as non-cross-listed Canadian firms. The Ontario Bill was passed in 2003. However, the amendments to the Securities Act were not enforced until December, 2005. Additionally, the Canadian Securities Administrators made several rules relating to the issues addressed in this paper which became effective on March 30, 2004.

Beta is estimated using monthly return data gathered from Datastream database and in some cases from the Canadian Financial Markets Research Centre database. In the case of

⁸ Following Nenova (2003) for companies with multiple classes of common/ordinary shares, the common shares used in the calculation of the Q ratio represent a combined total of all classes.

firms with dual classes of shares, the most liquid class of shares is used in estimating beta. Often these shares are either subordinate voting or non-voting shares. In estimating beta, monthly return data is regressed on S&P/TSX Composite return. The mean beta for cross-listed firms during the SOX period is 0.84 compared to 0.83 for the Bill 198/CSA period and 0.79 and 0.77 for the matching firms for the SOX and the Bill 198/CSA rules period, respectively.

The test for the difference in means indicates that the beta tends to be equal for cross-listed and matching firms for both the SOX and the Bill 198/CSA period. For a complete break down of all the variables by cross-listed and matched firms as well as by sample period, see Panels A and B of Table II.

Inset Table II

Other control variables include size, measured by total assets, and growth. The mean size of cross-listed firms during the SOX period was \$2.6 billion whereas the mean size for matched firms was \$1.05 billion. In addition, growth which is a proxy for investment opportunities is estimated as the arithmetic mean of sales growth during the period of 1999-2001 for the SOX sample. The average growth for cross-listed firms and their matching pair is 39.51% and 33.2% respectively for the SOX period and 17.54% and 15.51% respectively for the Bill 198/CSA period.

Also, tests for differences in means for the Q ratio (post-SOX and pre-SOX level) showed that for the cross-listed firms, the mean Q ratio post-SOX is not statistically different from the mean pre-SOX. However for the sample matching firms, the mean Q ratio for post-SOX period (2003) is statistically different at the 10% level from the pre-SOX period (2001). Additionally, the test for the difference in means for the change in Q ratio (Δ Q ratio cross-listed minus Δ Q ratio matched sample) is statistically significant at the 10% level. However, tests for the difference in means for the Bill 198/CSA rules (for example, post-Q ratio for the

TSX sample and pre Q ratio for the TSX sample)⁹ are not statistically different from zero for both cross-listed and TSX listed. In addition, the test for the difference in means for the change in Q ratio is not statistically significant (Δ Q ratio cross listed minus Δ Q ratio matched sample).

4. Empirical Results

4.1 Regression analysis

The results of the regression model specified in equation 1 are reported in Table III. After controlling for firm specific characteristics, the results show that the coefficient for the cross-listed dummy variable is negative and statistically significant at the 5% level (Column 1, Table III). This provides direct support for the first hypothesis that the compliance costs of SOX are greater than the benefits this regulation provides when compared to a group of matched non-cross-listed Canadian firms. This is reflective of the fact that prior to SOX, Canadian cross-listed firms under the MJDS complied with Canadian disclosure requirements. The passage of SOX and the subsequent SEC ruling, not to exempt cross-listed firms from SOX compliance, resulted in SOX having a negative impact on cross-listed firms' valuation. The results presented in Table III support the results of other studies which argue that SOX, in fact, negatively affected cross-listed firms (Litvak, 2007a & 2007b and Zingales, 2007) resulting in a decline in valuation following the enactment of SOX.

The change in size coefficient is negative and significant at the 5% level. This means that as firm size increases the change in Q ratio decreases. This result is due to the inverse relationship between Q ratio and firm size. This may be a feature of Canadian firms and not firms in general. In a simple univariate test (Appendix 2) as firm size increases, the Q ratio declines for both cross-listed and matched sample firms. Therefore, the negative coefficient in

⁹ The change in Q ratio for cross-listed firms as well as matched firms is defined as post-SOX (Bill 198/CSA rules) Q ratio minus pre-SOX (Bill 198/CSA rules) Q ratio.

the regression confirms our univariate results which show an inverse relationship between Q ratio and size.

Additionally, growth and profitability, as predicted, have a positive effect on the change in Tobin's Q ratio (Column 1, Table III). Therefore, an increase in profitability will cause an increase in Q ratio. Also, as expected, ownership of voting rights is negative but not statistically significant. As a robustness check, ownership of voting rights squared was used to account for the non-linearity between valuation and ownership of votes (Column 2, Table II).¹⁰ The results reported in Tables III, column 2, indicate that the ownership squared variable was not significant.

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Insert Table III
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Table IV reports the results for the test of the second hypothesis of this paper. If investors anticipated the passage of Bill 198/CSA rules which created regulatory parity between the U.S. and Canada, in terms of increased investor confidence in financial reports, increased accountability, and improved corporate governance, then we should not observe any valuation differential between cross-listed and Canadian-listed firms during the Bill 198/CSA rules period. Our results are consistent with the hypothesis that investors anticipated similar regulatory reforms in Canada prior to Bill 198/CSA rules and adjusted their expectations, accordingly. Prior to Bill 198/CSA rules, investors have expected a similar response in Canada because of the large sample of Canadian firms cross-listed, the similarities between Canada and the U.S. in terms of their corporate governance systems and regulatory environments. Thus, it can be argued that Bill 198/CSA rules were redundant in establishing regulatory parity between Canada and the U.S. The results in table IV confirm our univariate findings of no valuation

¹⁰ In the estimating equations 1 and 2 with ownership squared to account for nonlinearities we did not include ownership of voting rights because of the multicollinearity issues. The correlation between ownership and ownership squared is 0.95.

differential for the change in Tobin's Q ratio (After minus before) for Bill 198/CSA rules period for both cross-listed and TSX listed samples.

In addition, similar to the results in the first regression, the size control variable is negative and significant indicating an inverse relationship between firm size and Q ratio in Canada. Also, financial leverage measured by debt-to-equity (book value) ratio is negatively related to the change in Q ratio because a higher financial risk reduces market valuation.

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Insert Table IV
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4.2. Robustness Check

Some studies in the corporate governance field tend to use market value of equity in calculating debt-to-equity ratio. As a result, equations 1 and 2 were re-estimated using the change in debt-to-market value of equity (column 3, Tables III and IV). The results remain the same after including this variable instead of debt-to-equity ratio (book value). Also, the debt-to-equity ratio (market value) is statistically significant at the 5% level. This indicates that firms with increased leverage resulted in lower valuation measured by the change in Tobin's Q. In addition, instead of using the change in debt-to-equity ratio, a change in debt ratio (debt/total assets) was used as an alternative variable and the results were qualitatively similar.¹¹

In addition to ownership of voting rights, a dummy variable was used to identify firms with multiple classes of common shares and to analyze any potential impact of dual class equity on valuation. Doidge (2004) found that private benefits of control declined following cross-listing for firm with dual-class share structure. Therefore, as a robustness check, the

¹¹ Liquidity can also affect the results presented in Tables 3 and 4. As a result, a liquidity ratio was calculated and equations one and two were re-estimated. The results are similar to those reported in Tables 3 and 4. The coefficient for the liquidity ratio is negative but not statistically significant for the SOX period. However, it is positive but not statistically significant for the Bill 198/CSA period at conventional levels. Liquidity ratio was calculated following Doidge et al., (2004) as the volume of shares traded in 2001 divided by the total number of shares outstanding. In addition to the above robustness check, both equations were re-estimated using robust standard errors correcting for heteroskedasticity and the results were similar to those reported in Tables 3 and 4.

regression for equations one and two was re-estimated by including a dummy variable for firms with multiple classes of common shares (column 4, Tables III and IV). The inclusion of the dual class variable did not change the results in the original model.

The final robustness check for the control variables involved the growth proxy. Following Berger and Ofek (1995), the ratio of capital expenditure to sales was used as a proxy for growth opportunities. The results were similar to those presented in Tables III and IV (Column 1).

4.3 Median Regression

All of the variables were analyzed and winsorized at the 1% and 99% levels to eliminate the potential influence of outliers on the results presented in Tables III and IV. In addition, median regression for equations 1 and 2 were estimated and the results are presented in Table V. The results are similar to those presented in Tables III and IV. For the Bill 198/CSA rules period, the results from the median regression (Columns 2, Table V) are identical to those of the OLS regression reported in Table IV.

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Insert Table V
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5. Conclusions

The Sarbanes-Oxley Act of 2002 is in fact, a comprehensive corporate governance legislation which affects not only U.S. domestic firms but also foreign firms cross-listed in the U.S. This study provides evidence that SOX negatively affected Canadian cross-listed firms when compared to a group of matched non-cross-listed firms listed on the TSX and, hence, are not subject to SOX. Since SOX and the SEC did not exempt Canadian firms cross-listed under the MJDS from compliance, these firms now face compliance costs. First, the empirical results indicate that SOX had a negative effect on the values of cross-listed Canadian stocks. It can,

therefore, be argued that corporate governance benefits of SOX are less than the compliance costs imposed on the cross-listed companies.

Second, we test the effects of the Canadian equivalent, Bill 198/CSA rules, on cross-listed and Canadian-listed firms. Our empirical findings indicate that Bill 198 and the various CSA rules did not result in any differential valuation in Canadian non-cross listed stocks before and after the passage of Bill 198/CSA rules. Therefore, we can argue that investors anticipated the Canadian response to SOX and adjusted their valuation of Canadian firms, accordingly. This result was expected due to the remarkable similarities between the Sarbanes-Oxley Act and the Canadian equivalent, Bill 198/CSA rules and the large number of Canadian stock inter-listed on U.S. exchanges. Further tests indicate that the empirical results are robust to several specifications and estimation methods, including a median regression.

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Table I**Comparison between the Sarbanes-Oxley Act (SOX) and Ontario Bill 198/CSA rules**

	SOX	Bill 198/CSA
Independent audit attestation - internal control over financial reporting	Yes	No*
CEO/CFO certification	Yes	Yes
Audit committee requirements including auditor independence and financial expertise	Yes	Yes
Civil liability for secondary market disclosures	Yes	Yes [‡]
Accounting Oversight	Yes	Yes
Increased penalties	Yes	Yes
Responsibility to disclose significant and material weakness in internal control procedures	Yes	Yes
Formal definitions of “internal controls” and “disclosure controls”	Yes	No*
Independent board of directors – Majority	No	Yes [†]

Note: “Yes” indicates similarities between several provisions of SOX and Bill198/CSA rules

* The only real difference between Canada and the U.S relating to internal control is the mandatory auditor attestation of issuer’s internal control. In Canada, this attestation is not mandatory whereas in the U.S., the Sarbanes-Oxley Act made it mandatory. Also, SOX provides a formal definition of internal control and disclosure controls whereas Canada does not.

[‡] There was an increase in fines and imprisonment in both Canada and the U.S. However, fines and imprisonment are greater in the U. S.

[†] Although SOX does not require a majority independent board of directors, it does require that the audit, nomination and compensation committees consist entirely of independent directors (Wintoki, 2007). Additionally, on November 4, 2003 the SEC approved a proposal by the NYSE and NASDAQ exchanges which require majority independent directors on the board. In Canada, the board of directors must have a majority of independent directors (CSA National Policy 58-201, effective June, 2005).

Table II
Descriptive statistics of cross-listed firms and matched non-cross-listed firms using SIC industry code. The sample comprised of 112 cross-listed and 112 TSX-listed matched firms.

Panel A: SOX Period								
	ΔQ Ratio	Ownership (voting rights) %	Growth %	Beta	$\Delta D/E$ %	ΔROA %	Δ Size	Total Assets \$ mil
Cross-listed firms								
Mean	-0.03*	26.28**	39.51	0.84	-9.17*	1.70	0.17	2,603.30***
Median	-0.01	12.85	23.85	0.78	-1.45	0.66	0.13	390.05
Standard Dev.	1.22	32.56	49.71	0.51	77.28	19.17	0.10	5,874.00
Min	-4.76	0.00	-77.64	0.03	-362.04	-55.64	-0.35	6.94
Max	3.70	100.00	183.23	2.29	148.44	121.81	3.02	42,227.00
Matched Non-cross-listed firms								
Mean	0.22*	33.91**	33.82	0.79	9.50*	-2.11	0.03	1,049.32***
Median	0.12	25.50	21.78	0.67	-0.71	0.10	0.02	147.73
Standard Dev.	1.25	27.20	49.63	0.61	113.29	31.94	0.24	2,786.91
Min	-2.32	0.00	-82.90	0.03	-362.24	-267.90	-0.74	1.071
Max	10.26	100.00	197.16	3.55	378.11	92.18	1.99	20,404.30

ΔQ ratio, $\Delta D/E$, Δ size and ΔROA were calculated as the post-SOX (2003) less the pre-SOX (2001). Ownership is defined as the percentage of votes held by the most significant shareholder. Also, growth was calculated as the annual arithmetic average over the period 1999-2001 and beta was estimated using monthly returns over the period of 1996-2000.

Asterisks indicate significance level (*10%, ** 5% or *** 1%) for t-test for the difference in means. In the case of the Q ratio, D/E, ROA and Size, the test was done for the first difference. Variables such as growth, $\Delta D/E$ and ΔROA were *winsorized* at the 1% and 99% level to eliminate any potential outliers.

Panel B: Bill 198/CSA rules period. The sample comprised of 118 cross-listed and 118 TSX-listed matched firms.								
	ΔQ ratio	Ownership (voting rights) %	Growth %	Beta	$\Delta D/E$ %	ΔROA %	Δ Size	Total Assets \$ mil
Cross-listed firms								
Mean	-0.20	21.34*	17.54*	0.83	5.85	-1.07	0.12	2,796.72***
Median	0.06	9.50	8.17	0.77	5.92	-0.19	0.09	563.15
Standard Dev.	1.41	29.31	43.96	0.50	58.17	15.99	0.61	5,959.84
Min	-5.94	0.00	-81.92	0.03	-347.65	-63.82	-0.76	6.94
Max	3.63	100.00	193.66	2.29	194.48	50.35	0.96	42,227
Matched Non-cross-listed firms								
Mean	-0.15	29.68*	15.51*	0.77	-4.71	3.40	0.17	1,063.99***
Median	0.04	18.50	7.90	0.65	0.69	0.54	0.14	211.89
Standard Dev.	1.57	27.64	34.29	0.58	102.20	28.05	0.42	2,537.71
Min	-11.75	0.00	-78.57	0.03	-347.65	-40.83	-0.78	2.872
Max	5.03	100.00	157.22	3.12	347.06	253.25	0.96	20,404.30

ΔQ ratio, $\Delta D/E$, Δ size and ΔROA were calculated as the post-Bill198/CSA (2005) less the pre-Bill198/CSA (2003). Ownership is defined as the percentage of votes held by the most significant shareholder. Also, growth was calculated as the annual arithmetic average over the period 2001-2003 and beta was estimated using monthly returns over the period of 1996-2000. Asterisks indicate significance level (*10%, ** 5% or *** 1%) for t-test for the difference in means. In the case of the Q ratio, D/E, ROA and Size, the test was done for the first difference.

Table III**OLS regression for the SOX period**

Table III reports the regression tests of the effects of SOX on cross-listed firms' valuation measured by the change in Tobin's Q. The following variables are computed as the change in the values for the post-SOX period (2003) less pre-SOX(2001): change in Q ratio, where the Tobin's Q is defined as {(market value of equities + book value of debt)/book value of assets}, change in debt-to-equity (D/E = total debt/total book value of equity), change in profitability (return on assets = income before extraordinary items / total assets), change in size variable is the logarithm of total assets (total assets 2003/total assets 2001) for each firm. Ownership (% of voting rights owned by a single shareholder) and beta is estimated by regressing monthly returns over the period of 1996-2000 on the S&P/TSX Composite return. The proxy for growth was estimated as the arithmetic mean of sales growth during the period of 1998-2000. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) levels and t-statistics are reported in parentheses.

Independent Variables	Dependent variable: Δ Tobin's Q			
	(1)	(2)	(3)	(4)
Intercept	0.399 (1.84*)	0.333 (1.69*)	0.242 (1.15)	0.339 (1.83*)
Cross-listed dummy	-0.337 (-2.06**)	-0.321 (-1.98**)	-0.381 (-2.39**)	-0.336 (-2.02**)
Growth	0.003 (1.96**)	0.003 (1.97**)	0.004 (2.57**)	0.003 (1.96**)
Δ Debt-to-Equity Ratio (book value)	-0.002 (-1.88*)	-0.002 (-1.85*)	--	-0.002 (-1.86*)
Δ Debt-to-Equity Ratio (Market value of equity)	--	--	-0.532 (-4.12***)	--
Δ ROA	0.006 (1.72 *)	0.006 (1.72*)	0.005 (1.75*)	0.005 (1.71*)
Ownership	-0.004 (-1.25)	--	-0.003 (-1.31)	-0.003 (-0.97)
Ownership Squared	--	-0.004 (-1.04)	--	--
Dual class	--	--	--	-0.015 (-0.06)
Δ Size	-0.304 (-2.29**)	-0.297 (-2.24**)	-0.256 (-1.98**)	-0.304 (-2.28**)
Beta	-0.119 (-0.79)	-0.107 (-0.71)	-0.112 (-0.76)	-0.121 (-0.79)
Adjusted R-Squared	4.7%	4.5%	10.5%	4.3%
Number of observations	224			

Table IV
OLS regression for the Bill 198/CSA period

Table IV reports the regression tests of the effects of Bill 198 and the subsequent CSA rules on cross-listed firms' valuation measured by the change in Tobin's Q. Variables are defined in Table III above. The proxy for growth was estimated using 2000-2002 sales. Size is the logarithm of total assets (total assets 2005/ total assets 2003). Asterisks denote statistical significance at the 1% (***) , 5% (**), or 10% (*) levels and t-statistics are reported in parentheses.

Independent variables	Dependent variable: Δ Tobin's Q			
	(1)	(2)	(3)	(4)
Intercept	-0.115 (-0.52)	-0.077 (-0.37)	-0.21 (-0.97)	-0.116 (-0.52)
Cross-listed dummy	-0.055 (-0.30)	-0.048 (-0.26)	-0.069 (-0.37)	-0.035 (-0.19)
Growth	-0.003 (-1.27)	-0.002 (-1.19)	-0.001 (-0.46)	-0.003 (-1.17)
Δ Debt-to-Equity Ratio (book value)	-0.002 (-2.94***)	-0.002 (-2.99***)	--	-0.002 (-2.99***)
Δ D/E Ratio(market value of equity)	--	--	-0.584 (-2.75***)	--
Δ ROA	-0.006 (-1.45)	-0.006 (-1.52)	-0.006 (-1.56)	-0.006 (-1.52)
Ownership	0.002 (0.73)	--	0.002 (0.75)	0.003 (0.66)
Ownership squared	--	0.0003 (0.72)	--	--
Dual class	--	--	--	0.008 (0.03)
Δ Size	-0.927 (-3.94***)	-0.635 (-3.66***)	-0.760 (-4.52***)	-0.630 (-3.61***)
Beta	0.032 (0.19)	0.047 (0.27)	0.171 (0.99)	0.047 (0.27)
Adjusted R-Squared	8.3%	11.7%	11.2%	11.4%
Number of observations	236			

Table V:**Median Regression for SOX Period and Bill 198/CSA Period**

Table V below reports the median regression tests of the effects of SOX and Bill 198 and the subsequent CSA rules on cross-listed firms' valuation measured by the change in Tobin's Q, where Tobin's Q is defined as $\{(\text{market value of equities} + \text{book value of debt}) / \text{book value of assets}\}$, change in debt-to-equity ($D/E = \text{total debt} / \text{total book value of equity}$), change in profitability ($\text{return on assets} = \text{income before extraordinary items} / \text{total assets}$), change in size variable is the logarithm of total assets (2003/2001 for the SOX period and 2005/2003 for the Bill198/CSA period). Ownership (% of voting rights owned by a single largest shareholder) and beta is estimated by regressing monthly returns over the period 1996-2000 on the TSX Composite return. The proxy for growth was estimated as the arithmetic mean of sales growth during the period 1998-2000 for the SOX effect and 2000-2002 for the Bill 198/CSA effect. Asterisks denote statistical significance at the 1% (***) , 5% (**), or 10% (*) levels and t-statistics are reported in parentheses.

Dependent Variable: Δ Tobin's Q		
Independent variables	SOX Period	Bill 198/CSA Period
	(1)	(2)
Intercept	0.316 (4.95***)	0.056 (0.39)
Cross-listed dummy	-0.108 (-2.22**)	0.033 (0.27)
Growth	-0.001 (-1.45)	0.0004 (0.25)
Δ Debt-to-Equity Ratio (book value)	-0.0006 (-2.80***)	-0.001 (-2.54**)
Δ ROA	0.004 (4.27***)	-0.001 (-0.30)
Ownership	-0.002 (-2.88***)	0.001 (0.46)
Δ Size	-0.253 (-6.41***)	-0.346 (-2.87***)
Beta	-0.098 (-2.27**)	-0.089 (-0.78)
Adjusted R-Squared	4.7%	1.4 %
Number of observations	224	236

Appendix 1

Major Titles of the Sarbanes-Oxley Act

<p><i>Title I- Public Company Accounting Oversight Board (PCAOB)</i></p>	<p>The PCAOB was created to monitor, investigate and discipline public accounting firms for misconduct and breach of the provisions of SOX.</p>
<p><i>Title II-Auditor Independence</i></p>	<p>In light of Enron and WorldCom, auditor independence and possible conflict of interest is addressed in this title. Auditors are not allowed to audit a firm’s financial reports and consult on issues relating to book-keeping or accounting records, financial information system design and implementation, actuarial services, internal audit outsourcing services, management functions, human resources or any other services the PCAOB determines by regulation as unacceptable. Auditor independence and conflict of interest were major concerns in the Enron debacle. Arthur Andersen acted as Enron’s external auditor, internal auditor as well as financial advisor (Culpan and Trussel, 2005). In addition to auditor independence, SOX requires auditor rotations every 5 years and auditors must report to the audit committee, rather than to the CFO of the firm.</p>
<p><i>Title III- Corporate Responsibility</i></p>	<p>Sections 301, 302, 303 and 304 are the most important provisions under this title. Firstly, section 301 addresses the issue of the audit committee of public firms. Audit committee members must be independent directors and at least one member must be a financial expert. In addition, the audit committee is responsible for the appointment, compensation and oversight of external auditors. Secondly, section 302 deals with corporate responsibility for financial reports. CEOs and CFOs must sign and certify that they have reviewed the annual and quarterly reports and have deemed them to be accurate. In addition, CEOs and CFOs are responsible for designing and monitoring the internal control over financial reporting, evaluating its effectiveness and disclosing to auditors and the audit committee any deficiencies in the firm’s internal control. Thirdly, with the aim of protecting the interests of the public and the investors, section 303 prohibits directors or officers from influencing, manipulating or misleading the financial auditing process. Finally, section 304 requires CEOs and CFOs to return any bonuses, incentive-based compensation or profit realized from the sale of securities of the issuer during a 12 month period if there is a restatement of reports due to material non-compliance.</p>
<p><i>Title IV- Enhanced Financial Disclosures</i></p>	<p>Under this title, in order to avoid conflict of interest, personal loans to officers and directors are not permitted and a code of ethics for financial officers is to be adopted, agreed to and abided by. A medium for dissemination of relevant information is also to be provided, in addition to the annual and quarterly reports. This title contains the most debated provision of SOX, section 404-management assessment of internal controls. Much of the debate relating to SOX is centered around the costs and benefits of compliance with this particular section. Section 404 requires the management of a firm to develop and maintain an adequate internal control structure for financial reporting. Also, management must attest to the effectiveness of the internal control at the end of the issuer’s fiscal year. The aim of this section is to restore investors’ confidence in the financial information reported by firms.</p>
<p><i>Title V – Analyst Conflict of Interest</i></p>	<p>This title addresses issues relating to research analysts, brokerage firms and the investment banking relationship with the issuer. The remaining titles deal with issues relating to corporate and criminal fraud accountability. For example, section 906 increases CEO and CFO fines and imprisonment time if there are any errors or omissions in financial reports. These titles deal with issues relating to “whistleblower protection” for employees, penalties for altering documents, white collar crimes, etc.</p>

Source: The Sarbanes-Oxley Act of 2002, One Hundred Seventh Congress of the United States of America, Second Session.

Appendix 2

Relationship between size measured by total assets and Q ratio

Panel A: SOX Period

Quintile	Cross-listed		Non-Cross-listed	
	Total Asset \$ Mil	Tobin's Q ratio (2001)	Total Asset \$ Mil	Tobin's Q ratio (2001)
1(Smallest)	63.53	2.52**	29.85	1.93**
2	286.21	2.71	90.67	1.42
3	984.48	2.12	221.76	1.35
4	3,941.01	1.55	663.92	1.35
5(Largest)	16,224.75	1.40**	4,929.69	1.19**

Note: Asterisks indicate significance level (** 5% or *** 1%) for t-test for the difference in means between the largest and smallest quintile.

Panel B: Bill 198/CSA Rules Period

Quintile	Cross-listed		Non-Cross-listed	
	Total Asset \$ Mil	Tobin's Q ratio (2003)	Total Asset \$ Mil	Tobin's Q ratio (2003)
1(Smallest)	65.09	3.42***	24.14	3.67***
2	284.59	2.69	88.95	1.73
3	915.73	2.64	197.66	1.80
4	3,438.05	1.25	761.01	1.54
5 (Largest)	17,563.60	1.42***	5,236.09	1.29***

Note: Asterisks indicate significance level (** 5% or *** 1%) for t-test for the difference in means between the largest and smallest quintile.