

THE EFFECTS OF CANADIAN SOX ON THE PRICE DISCOUNT OF CANADIAN EQUITY OFFERINGS

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ABSTRACT

This study studies the effects of Canadian SOX on the price discount of seasoned equity offerings of Canadian issuers. Canadian SOX is legislation similar to the U.S. Sarbanes-Oxley of 2002. It passed in October 2002 and became effective December 2005. It finds Canadian SOX did not have a significant effect on the offer price discount of all Canadian issuers. These include those listed on the Toronto Stock Exchange only and those simultaneously listed on the Toronto Stock Exchange and major U.S. exchanges (cross-listed). On the other hand, when distinguishing offers by underwriting method, the price discount is not different between bought deals and marketed underwritten offers after the passage of Canadian SOX. These findings are consistent with the general hypothesis the Canadian law should not have a significant effect in the price discount of equity offers. This is because the 3-year period allowed regulators, issuers, investors, and investment banks enough time to adapt to the new law with minimum effects. Unlike Sarbanes-Oxley, where many difficulties have occurred in its implementation.

JEL: G24, G32

KEYWORDS: Canadian Sox, Seasoned Equity Offerings, Price Discount, Sarbanes-Oxley Act, Cross-Listed, Bought Deals, Marketed Underwritten Offers

INTRODUCTION

The purpose of this study is to explore the effects of the Canadian SOX on the price discount of seasoned equity offerings by Canadian issuers. The Canadian SOX is legislation comparable to the U.S. Sarbanes-Oxley Act -a far-reaching law passed by the U.S. Congress in July 2002. The main objective of the U.S. legislation is to protect investors and restore confidence in capital markets damaged by corporate financial fraud. Afterwards, many other countries passed similar legislation including Canada, UK, Australia, the European Union, Japan, China, and the Philippines (Rubalcava, 2012). The Canadian government passed the legislation in October 2002 and became effective three years later; unlike the U.S. legislation, which immediately became effective. This paper builds on the study by Rubalcava (2016) about the impact of Sarbanes-Oxley on the price discount or underpricing of seasoned equity offerings by Canadian cross-listed firms in major U.S. exchanges (NYSE, NASDAQ, and AMEX). Both studies come from the study by Eckbo, Masulis, and Norly (2007). They suggest that laws such as Sarbanes-Oxley (and by extension Canadian SOX) are worth exploring their impact on issuance costs of seasoned equity offerings. A seasoned equity offering (SEO) or follow-on is an equity offering following an initial public offering. The price discount of seasoned equity offerings is an important issuance cost for firms. The discount usually occurs when the offer price is lower than the closing price on the day before the issue date. For example, the average price discount and the gross offer revenue for Canadian issuers during 1999-2011 were 4 percent and \$118 million (Canadian), respectively. This means issuers forego revenue of \$4.72 million by pricing the issue below market value.

Unlike Rubalcava (2016) study, the current paper examines the effects of the price discount of Canadian SOX on all offer issuers, including those listed in the Toronto Stock Exchange only and those cross-listed

in U.S. exchanges. By comparison purposes, I include offers of Canadian cross-listed issuers (which are subject to Sarbanes-Oxley) and offers of Canadian issuers (non-cross-listed). I find the Canadian SOX (CSOX) does not show any impact on the price discount of all equity offerings, including cross-listed and non-cross-listed after conditioning for offer and firm controls. Similar finding occurs when comparing cross-listed versus non-cross-listed offers during the pre-CSOX period (January 1999-2005) and post-CSOX period (January 2006-2011), respectively. On the other hand, when comparing offers by underwriting method –bought deals versus marketed underwritten-, the price discount is higher (at the ten percent level) for bought deals versus marketed underwritten offers during the pre-CSOX period only. These findings are consistent with the general hypothesis that CSOX should not have a meaningful effect in offer price discount. This is because the three-year period (2003-2005) allowed regulators, issuers, investors, and investment banks enough time to adapt to the new legislation by reducing market uncertainty. Unlike the USSOX, where many obstacles prevented its proper implementation (Gray, 2005). In other words, Canadian regulators made the correct decision by following a gradual approach to complete CSOX. The paper is organized as follows. Next section presents the related literature and testable hypotheses. The following section presents the data and methodology. Next section reports and discusses the empirical results. The last section shows the conclusion.

RELATED LITERATURE AND HYPOTHESES

This section starts with commonalities and differences between the Sarbanes-Oxley (USSOX) and the Canadian SOX (CSOX). Next, it describes two underwriting methods for seasoned equity offerings (SEOs) – Canadian bought deals and marketed underwritten offers - and defines price discount. Also, it reports relevant research on offer price discount. Finally, it presents the research hypotheses.

The Canadian SOX (also known as Bill 198) is a law equivalent to the U.S. Sarbanes-Oxley of 2002. The main goals of both legislations are to improve corporate governance, better financial disclosure, and to strengthen corporate internal controls. These address restoring confidence in financial markets harmed by corporate fraud in the U.S. and Canada. However, CSOX does not exactly mirror USSOX. For example, USSOX is stricter in disclosure of internal controls over financial reporting, criminal penalties and civil liability on secondary market disclosures (such as equity offerings) (Ben-Ishai, 2008). Essentially, CSOX adapts to the needs of much smaller Canadian firms, compared with those in the United States. Thus, copying the same USSOX rules would be inconvenient and costly. Despite their differences, the main objective of both legislations is protecting investors from deceptive corporate financial practices.

Two common methods for underwriting seasoned equity offerings are Canadian bought deals –similar to overnight offers or extremely accelerated offers in the U.S. (Gustafson, 2018) -, and marketed underwritten offers (non-accelerated or book-built offers). In both types of underwritings, an investment bank or bank syndicate (led by a book-runner) commits to buy the equity offer from the issuer and sell it mostly to institutional investors. (Most research studies call marketed underwritten offers as firm commitment offers. However, bought deals and marketed underwritten offers are both on a firm commitment basis). They charge an underwriting fee called gross spread or investment banking fee, which is a percent of gross offer revenues. The main differences between bought deals (overnight offers in the U.S.) and marketed underwritten offers as reviewed by Bortolotti, Megginson, and Smart (2008) and Pandes (2010) are as follows. In a bought deal the issue date is the same as the announcement date, unlike a marketed offering which occurs several days after the announcement. There is no *market-out* clause in bought deals, which means that if the share price declines before the issue date the investment bank cannot cancel the bought deal, unlike a marketed underwritten offer. Bought deals do not include *road shows*. This is the procedure followed in marketed underwritten offers to gauge the demand for the equity offering among potential investors. According to Calomiris and Tsoutsoura (2010), “the most important differences between fully marketed SEOs and accelerated SEOs is the amount of marketing effort expended and the speed with which the offering is brought to market.” Thus, the advantages of a bought deal are less marketing effort and faster

completion at the expense of price risk. The advantage in a marketed underwritten offer is low price risk at the expense of more marketing effort and longer completion.

The price discount on a seasoned equity offering usually occurs by pricing the offer below the closing market price the day before the issue. It is an important issue cost for exchange-traded companies. For example, it is around 2.4 percent for U.S. firms (Autore, 2011), 4.58 percent for global offers (Bortolotti et al. (2008), 5.34 percent for Canadian firms (Pandes, 2010), and 4.08 percent for Canadian cross-listed firms (Rubalcava, 2016). The price discount is an incentive investment banks offer to selected investors (mostly institutional investors) for providing information about the potential demand of the equity offering before the issue date (Benveniste and Spindt, 1989; Chemmanur, 1993; Booth and Chua, 1996). Eckbo, Masulis, and Norly (2007) and Papaioannou and Karagozolu (2017) provide an excellent review of theoretical and empirical studies on price discount of equity offerings. Most research studies include determinants associated with information asymmetry (between issuers and underwriters, among investors -informed and uninformed-, between issuers and investors, and between underwriters and investors). Other factors include risk (total, firm-specific, systematic), price pressure, underwriter prestige and certification, liquidity risk, exchange trade venue (e.g., NASDAQ, NYSE), offer placement (domestic, global), underwriting method (bought deal, marketed underwritten offer), inside ownership, institutional investment, and offering purpose among others. (The Data and Methodology section reviews the references for the expected determinants on this study.) The research evidence on whether bought deals or marketed underwritten offers incur in lower price discount is not clear. For instance, Bortolotti, Megginson, and Smart (2008), Pandes (2010) and Gustafson (2018) find the offer price discount is higher for Marketed underwritten offers than bought deals. Pandes (2010) argues Canadian marketed underwritten offers report higher price discounts because are not certified by underwriters, unlike bought deals which are. Rubalcava (2016) finds the price discount is higher only for global issues of market underwritten offers of Canadian cross-listed firms after the passage of USSOX. Gustafson (2018) asserts U.S. overnight offers (bought deals) have lower price discounts because they avoid the negative price pressure pre-issue date of market-underwritten offers, resulting in a higher market price on the issue day. On the other hand, Autore (2011) finds U.S. overnight offers show a higher price discount compared with non-accelerated or marketed underwritten offers. The objective of this paper is to answer the following research questions: What has been the effect of CSOX on the price discount of seasoned equity offerings by Canadian issuers? What has been the effect on the price discount of bought deals versus marketed underwritten offers? To answer these questions, I examine the effects of CSOX by comparing the period from January 1999 to December 2005 (pre-CSOX) with the period from January 2006 to December 2011 (post-CSOX) and confirm whether significant differences occur between these periods.

Research Hypotheses

The price discount of Canadian seasoned equity offering consists of two sets of hypotheses. Set number one includes five auxiliary hypotheses as follows.

H1^a: The offer price discount is the same for the pre- and post-CSOX periods for:

- (i) all Canadian issuers
- (ii) cross-listed issuers
- (iii) non-cross-listed issuers

H1^b: The offer price discount of cross-listed vs. non-cross-listed issuers is the same for:

- (i) the pre-CSOX period
- (ii) the post-CSOX period

Set number two consists of three auxiliary hypotheses as follows.

H2: The offer price discount of bought deals vs. marketed underwritten are the same for the pre – and post-CSOX periods, respectively, for:

- (i) all Canadian issuers
- (ii) cross-listed issuers
- (iii) non-cross-listed issuers

All hypotheses control for firm, trade and offer variables such as firm size, return volatility, share price, gross proceeds, offer size, and others, which are described later. The justification for the first auxiliary hypotheses is as follows. After the USSOX, Canadian regulators considered prudent taking a moderate and gradual approach in implementing the Canadian legislation. This avoids the errors occurred on the USSOX implementation (Gray, 2005). CSOX, passed in October 2002, became effective three years later, on December 2005. Thus, the 3-year period allowed Canadian regulators to make changes as they fit. Also, for Canadian firms, investors and investment banks with a plenty time to adapt to the new law. Therefore, no changes in the price discount of seasoned equity offerings are expected for the overall, and pre- and post-CSOX periods for all issuers. These include cross-listed (which are subject of USSOX since 2002) and non-cross-listed. Are similar findings expected for the second auxiliary hypotheses between bought deals versus marketed underwritten offers? The empirical result section reports the results of the hypotheses.

DATA AND METHODOLOGY

Sample and Data

The sample includes 629 seasoned equity offerings (SEOs) of Canadian firms from 1999 to 2011. The pre-CSOX period (January 1999 - December 2005) includes 187 offers (79 cross-listed, 108 non-cross-listed); the post-CSOX period (January 2006 - December 2011) includes 442 offers (83 cross-listed and 359 non-cross-listed). Of the 629 offers, 519 are bought deals (122 pre-CSOX and 397 post-CSOX) and 110 are marketed underwritten offers (65 pre-CSOX and 45 post-CSOX). For comparison purposes matching samples of cross- and –non-cross-listed issuers are from the 4-digit SIC industry code. FP Advisor and the System for Electronic Documents Analysis and Retrieval (SEDAR) are the sources on seasoned equity offerings including announcement and issue dates, cross- and non-cross-listed offers, offer type (marketed underwritten offer, bought deal), offer location for cross-listed issues (domestic, global). Also, for expected determinants such as gross proceeds, firm size, offer size, overallotment option, and book runners (lead underwriters). The Canadian Financial Markets Research Centre (CFMRC) is the source of market data including common stock prices, stock market index, bid-ask spreads, and the monthly number of shares outstanding. The sample does not include equity offers with missing data or errors.

Hypotheses Testing Model

The OLS cross-sectional model used for testing hypotheses sets 1 and 2 is as follows.

$$\begin{aligned} PrDisc_i = & a_0 + a_1 DumPost CSOX + (a_2 + \lambda_{DumCross} DumCSOX) DumCross_i \\ & + (a_3 + \lambda_{DB} DumCSOX) DumBD_i + (a_4 + \lambda_{StdRet} DumCSOX) StdRet_i + \dots \\ & + a_n DumYEAR_{t=2000} + \dots + a_{n+12} DumYEAR_{t=2011} + e_i \end{aligned} \quad (1)$$

This model examines the relation between offer price discount (*PrDisc*) and the expected determinants simultaneously for the pre- and post-CSOX periods, for the overall sample of firms –including cross-listed and non-cross-listed. Specifically, the model tests whether the offer price discount (*PrDisc*) is the same for the pre- and post-CSOX periods after controlling for offer, trade and firm determinants (hypotheses set 1).

Also it tests whether the price discount is the same for bought deals and marketed underwritten offers (hypotheses set 2).

Variables Description

This section describes the variables on equation (1) as follows. The independent variable, $PrDisc_i$ is the price discount of the seasoned equity offering in percent and equals $(P_c - P_o / P_c) \times 100$, where P_c is the equity offering closing share price at the end of previous trading day and P_o is the offer price. The subscript i indicates issuer firm for issue i . The price discount occurs when the offer price is lower than the closing market price on the day before the issue day. This measure is for marketed underwritten offers only. I use an adapted discount measure for bought deals as in Narayann, Rangan, and Rangan (2004) and Autore (2011). This adapted measure is the discount of the offer price from the closing price on the *offer (issue) day*. That is, $PrDisc_i$ equals $(P_{o^*} - P_o / P_{o^*}) \times 100$, where P_{o^*} is the closing share price on the offer (issue) day and P_o is the offering price. The adapted price discount (or underpricing) is net of the offer announcement effect. At the offer announcement date, a negative market reaction usually occurs, which for bought deals include also the price discount. The offer price in bought deals takes place at the announcement date of the offering (Pandes, 2010). Thus, the resulting decrease in price on the announcement date includes the information effect (market reaction) and discount effect. The adapted discount adjusts for the information effect. Marketed underwritten offers do not need this adjustment because the offer price is several days after the announcement date. The price discount data includes daily prices around the issue dates.

The relevant explanatory variables for testing hypotheses sets 1 and 2 are dummy variables that account for the CSOX period (pre-CSOX, post-CSOX), listing type (cross, non-cross-listed) and offer underwriting method (marketed underwritten, bought deal). They are described next. $DumPostCSOX$ is a dummy variable equal to one during the period after CSOX. On the other hand, $DumCSOX$ is a dummy variable equal to one during the period before CSOX ($DumPreCSOX$) and zero otherwise ($DumPostCSOX$). The dummy variable $DumCSOX$ interacts with the expected determinants to capture the differential effect of each determinant on $PrDisc$ for the pre- and post CSOX time periods, respectively. (The section of empirical results examines in detail the coefficient estimates of the dummies and control variables.) $DumCross$ is a dummy variable that equals one if the Canadian issuer is cross-listed on the NYSE, AMEX or NASDAQ and zero if listed on the Toronto Stock Exchange (TSX) only. $DumBD$ is a dummy variable that equals one if the offer is bought deal (BD) and zero if it is marketed underwritten ($DumMUO$).

The following control variables (in italics) are from research studies on price discount of seasoned equity offerings and data availability. $StdRet$ is the standard deviation of daily annualized stock returns during the three months before the offer announcement. Proxy for stock volatility or price uncertainty (Corwin, 2003; Altinkilic and Hansen, 2003; Kim and Shin, 2004; Pandes, 2010; Autore, 2011; Huang and Zhang, 2011; Kim & Masulis, 2012). $GProceeds$ is the offer gross revenue scaled by the firm's market capitalization before the offer announcement (Pandes, 2010; Dempere, 2012). $Reloffer$ is the ratio of the offer size to the total number of shares outstanding pre-announcement. It measures price pressure (Corwin, 2003; Altinkilic and Hansen, 2003; Autore, 2011; Huang and Zhang, 2011; Kim and Masulis, 2012). $LnME$ is the natural log of the issuer's market equity. Proxies for firm size (Corwin, 2003; Huang and Zhang, 2011). $Price$ is the share price 2 days before the offer announcement day (Corwin, 2003; Mola and Loughran, 2004; Huang and Zhang, 2011). Proxy for offer distribution risk. $Runup$ is the price run-up or cumulative abnormal return 25 days prior to the offer announcement. The estimated cumulative abnormal return is from a market model regression between the daily excess return of a Canadian issuer and the Canadian market risk premium around the announcement date of the equity offer (Corwin, 2003; Pandes, 2010; Rubalcava, 2016). $Brunners$ is the number of added SEOs an investment bank acts as a book-runner from the previous year. It measures underwriter reputation (Safieddine and Wilhelm, 1996; Kim and Shin, 2004; Mola and Loughran, 2004; Kim, Palia and Saunders, 2010; Kim and Masulis, 2012). $DumOAO$ is a dummy variable equal to one if the offer has an overallotment option and zero otherwise (Hansen, Fuller, Janjigian, 1987).

$StdTsx$ is the standard deviation of daily annualized returns on the Toronto Stock Exchange index during the three months before the offer announcement. Proxy for stock market volatility (Bhagat, Marr and Thompson, 1985). $Spread$ is the quoted bid-ask spread divided by the quote mid-point. It measures information asymmetry between issuers and investors (Corwin, 2003). $DumGLO$ is a dummy variable that equals one if the offer is concurrently issued in the U.S. and Canada, and zero if issued in Canada only (Rubalcava, 2016). $DumYEAR$ are dummy variables to control for annual fixed effects (market conditions) from 1999 to 2011. e_i is the error term, which is assumed to be independently and normally distributed; i.e., $e_i \sim N(0, \sigma^2)$

Descriptive Statistics: Preliminary Results

Table 1 displays the mean and median offer price discounts for all Canadian issuers, including cross-listed and non-cross-listed for the pre-CSOX period (column 1) and the post-CSOX period (column 2). (The medians in parentheses.) Column (3) reports the two-tailed p-values for the difference in mean (median) price discount. The number of seasoned equity offerings (SEOs) is in brackets. The second row of column (1) shows the mean offer price discount for *all* SEOs is 3.68% and the median (in parenthesis) is 2.63% for the pre-CSOX period. The p-values of the difference in mean (0.4197) and median (0.1160) between both periods are not statistically significant (column 3). Similarly, the next row reports the mean offer price discount for *cross-listed* offers is 3.09% and the median (in parenthesis) is 1.88% for the pre-CSOX period. The p-values of the difference in mean (0.0753) and median (0.0053) are significantly at the 10, and 1 percent levels, respectively (column (3)). On the other hand, when comparing *cross-listed* versus *non-cross-listed* the mean offer price discount is slightly significant for cross-listed offers during the post-CSOX period only (p-value of 0.0542) (shown in the last row of column (2)). These preliminary results show CSOX had some effect on the offer price discount for the cross-listed offers only

Table 1: SEO Price Discount for the Pre- and Post-CSOX Periods

	(1) Pre-CSOX Period	(2) Post-CSOX Period	(3) P-value Diff. Mean (Median)
All SEOs	[187] 3.68% (2.63%)	[442] 4.11% (3.19%)	0.4197 (0.1160)
Cross-listed	[79] 3.09% (1.88%)	[83] 5.28% (4.94%)	0.0753* (0.0053)***
Non-cross-listed	[108] 4.12% (3.23%)	[359] 3.84% (2.96%)	0.6178 (0.9951)
P-value diff. Mean (Median) [Cross vs Non]	0.2154 (0.1920)	0.0542* (0.0128)**	

This table reports the mean and median price discounts of seasoned equity offerings (SEOs) for all Canadian issuers, including cross-listed and non-cross-listed for the pre-CSOX period (column 1) and the post-CSOX period (column 2). The SEOs include marketed underwritten offers (MUO) and bought deals (BD). The price discount formula in % for all marketed underwritten offers MUO is $PrDisc_i = (P_c - P_o / P_o) \times 100$, where P_c is the stock offer closing share price at the end of previous trading day and P_o is the offer price. The formula in % for BD is $(P_{o*} - P_o / P_{o*}) \times 100$, where P_{o*} is the closing share price on the offer (issue) day and P_o is the offering price as in Narayann et al. (2004). The number of SEOs is in brackets. ***, ** and * show significance at the 1, 5 and 10 percent levels. Tests for the difference in means and medians are t-tests and Wilcoxon/Mann-Whitney, respectively..

Table 2 reports the mean and median offer price discounts for the pre- and post-CSOX periods for bought deals (BD) and marketed underwritten offers (MUO), respectively. Panel A includes *all* 629 SEOs, and Panels B and C include 162 *cross-listed* and 467 *non-cross-listed* offers, respectively. Columns (3) and (6) report two-tailed p-values for the difference in mean (median) price discount. For example, column (1) of Panel A shows the mean price discount is 4% and a median of 3.9% (in parenthesis) for all SEOs and the

pre-CSOX period. The p-value of the difference in means between BD and MUO is not significant (0.2464) but significant for the median at the 5 percent level (0.0220), for the pre-CSOX period (column 3). Similarly, panels B and C report the mean and median values for cross-listed and non-cross-listed offers, respectively. Based on the p-values of Panels A, B, and C, no difference in mean offer price discount exists between bought deals and marketed underwritten offers for the pre- and post-CSOX periods, respectively. These preliminary results suggest CSOX did not have any effect on offer the price discount between bought deals versus marketed underwritten offers for all issuers, including cross-listed and non-cross-listed. The section of empirical results explores whether similar results occur using OLS regressions.

Table 2: SEO Price Discount - Bought Deals (BD) vs. Marketed Underwritten Offers (MUO)

Panel A: All SEOs						
	Pre-CSOX Period			Post-CSOX Period		
	(1)	(2)	(3)	(4)	(5)	(6)
	BD [122]	MUO [65]	P-value Diff. Mean (Median)	BD [397]	MUO [45]	P-value Diff. Mean (Median)
Price Disc. Mean (Median)	4.04% (3.19%)	3.03% (1.21%)	0.2464 (0.0220)**	4.00% (3.06%)	5.04% (4.75%)	0.2800 (0.0949)*
Panel B: Cross-Listed SEOs						
	Pre-CSOX Period			Post-CSOX Period		
	(1)	(2)	(3)	(4)	(5)	(6)
	BD [47]	MUO [32]	P-value Diff. Mean (Median)	BD [63]	MUO [20]	P-value Diff. Mean (Median)
Price Disc. Mean (Median)	3.28% (2.08%)	2.80% (1.49%)	0.6791 (0.4908)	5.25% (4.49%)	5.38% (5.31%)	0.9559 (0.9830)
Panel C: Non-Cross-Listed SEOs						
	Pre-CSOX Period			Post-CSOX Period		
	(1)	(2)	(3)	(4)	(5)	(6)
	BD [75]	MUO [33]	P-value Diff. Mean (Median)	BD [334]	MUO [25]	P-value Diff. Mean (Median)
Price Disc. Mean (Median)	4.51% (3.49%)	3.26% (0.92%)	0.3204 (0.0196)**	3.77% (2.85%)	4.77% (3.34%)	0.3264 (0.2291)

This table reports the mean and median price discounts of seasoned equity offerings (SEOs) by underwriting method: Bought deals (BD) and Marketed Underwritten Offers (MUO) for all SEOs (Panel A), Cross-listed SEOs (Panel B) and Non-Cross-listed SEOs (Panel C). The price discount formula in % for MUOs is $PrDisc_i = (P_c - P_o / P_o) \times 100$, where P_c is the equity offering closing share price at the end of previous trading day and P_o is the offer price. The formula for BD is $(P_{o^*} - P_o / P_{o^*}) \times 100$, where P_{o^*} is the closing share price on the offer (issue) day and P_o is the offering price as in Narayann et al. (2004). The number of SEOs is in brackets. ** and * show significance at the 5 and 10 percent levels. Tests for the difference in means are t-test and the Wilcoxon/Mann-Whitney for the difference in medians.

EMPIRICAL RESULTS

Tables 3A and 3B report regressions to test hypotheses sets 1 and 2 for all Canadian issues, including cross-listed and non-cross-listed. For the testing, the information reported in Tables 3A and 3B is used interchangeably, starting with Hypotheses Testing: Set 1 followed by Hypotheses Testing: Set 2.

Hypotheses Testing: Set 1

This section tests the first set of hypotheses, that is, the five H1 auxiliary hypotheses using adapted versions of the general regression model (1). Columns (1) to (3) of the Table 3A show regressions of the offer price discount ($PrDisc$) with the independent variables for all issues and the overall, pre- and post-CSOX periods,

respectively. The equation regression model (1a) is used to tests hypotheses H1^a(i), H1^a(ii) and H1^a(iii). Model (1a) is a reduced version of the general regression model (1) reviewed in the methodology section.

$$\text{PrDisc}_i = a_0 + a_1 \text{DumPostCSOX} + a_2 \text{DumCross} + a_3 \text{DumBD} + a_4 \text{StdRet}_i + \dots + a_n \text{DumYEAR}_{t=2000} + \dots + a_{n+12} \text{DumYEAR}_{t=2011} + e_i \quad (1a)$$

Regression (1) of Table 3A -which tests H1^a(i)-, reports the coefficient estimates of the determinants for *all* issues and for the overall period. *DumPostCSOX* is the variable of interest to test the first three auxiliary hypotheses. *DumPostCSOX* is a dummy variable equal to one during the period after CSOX and zero otherwise. The coefficient estimate a_1 (1.3658) of *DumPostCSOX* is not significant after controlling for offer and firm characteristics. This result shows *the price discount* is not significantly different between the pre- and post-CSOX periods for *all* offers. Thus, it does not reject hypothesis H1^a(i), which is consistent with the preliminary results reported in Table 1.

Similarly, regression (4) of Table 3B -which tests H1^a(ii)-, displays the coefficient estimates of the determinants for the *cross-listed* offers and for the overall period. The coefficient estimate a_1 (1.2697) of *DumPostCSOX* is not significant. This result shows the offer price discount is not significantly different between the pre- and post-CSOX periods for the *cross-listed* offers. Thus, it also does not reject hypothesis H1^a(ii). In the same vein, regression (7) -which test H1^a(iii)-, reports the coefficient estimates of the determinants for the *non-cross-listed* offers for the overall period. Here, the coefficient estimate a_1 (7.2724) of *DumPostCSOX* is also not significant. Thus, it also does not reject H1^a(iii). In other words, these results reveal the offer price discount is not significantly different between the pre- and post-CSOX periods for cross-listed *and* non-cross-listed offers, respectively, after conditioning on offer and firm determinants.

The equation regression models (1b) and (1c) tests hypotheses H1^b(i) and H1^b(ii). Models (1b) and (1c) are adapted versions of the general regression model (1).

$$\text{PrDisc}_i = a_0 + a_1 \text{DumPost CSOX} + (a_2 + \lambda_{\text{DumCross}} \text{DumPostCSOX}) \text{DumCross}_i + (a_3 + \lambda_{\text{DB}} \text{DumPostCSOX}) \text{DumBD}_i + (a_4 + \lambda_{\text{StdRet}} \text{DumPostCSOX}) \text{StdRet}_i + \dots + a_n \text{DumYEAR}_{t=2000} + \dots + a_{n+12} \text{DumYEAR}_{t=2011} + e_i \quad (1b)$$

$$\text{PrDisc}_i = a_0 + a_1 \text{DumPost CSOX} + (a_2 + \lambda_{\text{DumCross}} \text{DumPreCSOX}) \text{DumCross}_i + (a_3 + \lambda_{\text{DB}} \text{DumPreCSOX}) \text{DumBD}_i + (a_4 + \lambda_{\text{StdRet}} \text{DumPreCSOX}) \text{StdRet}_i + \dots + a_n \text{DumYEAR}_{t=2000} + \dots + a_{n+12} \text{DumYEAR}_{t=2011} + e_i \quad (1c)$$

The tests of auxiliary hypotheses H1^b(i) and H1^b(ii) is as follows. Regression (2) of Table 3A displays the estimated coefficients for the determinants of the offer price discount (*PrDisc*) from equation model (1b). Here the coefficient estimate of *DumPostCSOX* determines the marginal impact CSOX has on the determinants. Similarly, regression (3) displays the estimated coefficients for the determinants of the offer price discount (*PrDisc*) from equation (1c). The coefficient estimates reported in regressions (2) and (3) allow identifying the differential impact (if any) that each determinant has on *PrDisc* for the pre- and post-CSOX periods, respectively. The coefficient estimates of each independent variable reported in regression (2) show the effect that each determinant has on *PrDisc* for the pre-CSOX period only. For instance, in regression (2) the negative and not significant coefficient estimate a_2 (-0.6903) of the cross-listing dummy *DumCross* shows cross-listed offers have no effect on *PrDisc* for the pre-CSOX period. This implies the offer price discount is *not* different between cross-listed and non-cross-listed offers for the pre-CSOX period. Thus, it does not reject hypothesis H1^b(i). In the same way, the marginal shift $\lambda_{\text{DumCross}}$ (1.3990) of *DumCross* for the post-CSOX period (i.e., *DumCross* x *DumPostCSOX*) is also not significant. From equation (1c), the coefficient estimate a_2 of *DumCross* for the post-CSOX period of 0.7086 (which is equal to -0.6903+1.3990 from regression 2, or $a_2 + \lambda_{\text{DumCross}}$ from equation 1b) is also not significant.

Table 3A: Determinants of Price Discount of All SEOs for the Overall, Pre and Post-CSOX Periods

Variables	All SEOs [629]		
	Regression		
	(1)	(2) <i>DumCSOX is DumPostCOX</i>	(3) <i>DumCSOX is DumPreCSOX</i>
Constant	-8.7301	-0.7076	-0.7076
DumCSOX	1.3658	-10.94	-10.94
DumCross	-0.3385	-0.6903	0.7086
DumCross* DumCSOX		1.3990	-1.3990
DumBD	0.4857	2.3730**	-0.7760
DumBD*DumCSOX		-3.1491**	3.1491
StdRet	0.3344**	0.4839*	0.1578
StdRet*DumCSOX		-0.3261	0.3261
GProceeds	-0.0669	0.0666	0.1365**
GProceeds*DumCSOX		-0.2032*	0.2032
Reloffer	0.0748	0.0003	0.1414**
Reloffer*DumCSOX		0.1411	-0.1411
LnME	0.5759*	-0.1532	0.9752***
LnME*DumCSOX		1.1284*	-1.1284
Price	-0.1239***	-0.0402	-0.1586***
Price*DumCSOX		-0.1183***	0.1183
Runup	2.2031*	3.3876	0.3353
Runup*DumCSOX		-3.0523	3.0523
Brunners	-0.0478*	-0.0705	-0.0505*
Brunners*DumCSOX		0.0199	-0.0199
DumOAO	0.9295*	0.9881	1.0128*
DumOAO*DumCSOX		0.0246	-0.0246
StdTSX	1.3279**	-0.0819	1.4947***
StdTSX*DumCSOX		1.5767	-1.5767
Spread	0.5219	0.9432	0.6715
Spread*DumCOX		-0.2716	0.2716
DumGLO	2.9558**	4.6342***	1.6050
DumGLO*DumCSOX		-3.0283	3.0283
Dummy Years	Yes	Yes	Yes
R ² Adj.	0.186	0.208	0.208

This table reports the coefficient estimates from regressions of price discount (*PrDisc*) of seasoned equity offerings (SEOs) and expected determinants of all offers. It includes the overall period (regression 1), the pre-CSOX period (regression 2) and the post-SOX period (regression 3) by Canadian issuers. Specifically, to test hypothesis $H1^a(i)$ and $H2(i)$, it uses equation (1a): $PrDisc_i = a_0 + a_1DumPostCSOX + a_2DumCross + a_3DumBD_i + a_4StdRet_i + \dots + a_nDumYEAR_{t=2000} + \dots + a_{n+12}DumYEAR_{t=2011} + e_i$ from regression (1). To test hypothesis $H1^b(i)$, it uses equation (1b): $PrDisc_i = a_0 + a_1DumPostCSOX + (a_2 + \lambda_{DumCross}DumPostCSOX)DumCross_i + (a_3 + \lambda_{DumBD}DumPostCSOX)DumBD_i + (a_4 + \lambda_{StdRet}DumPostCSOX)StdRet + \dots + a_nDumYEAR_{t=2000} + \dots + a_{n+12}DumYEAR_{t=2011} + e_i$ from regression (2). To test hypothesis $H1^b(ii)$, it uses Equation (1c): $PrDisc_i = a_0 + a_1DumPreCSOX + (a_2 + \lambda_{DumCross}DumPreCSOX)DumCross_i + (a_3 + \lambda_{DumBD}DumPreCSOX)DumBD_i + (a_4 + \lambda_{StdRet}DumPreCSOX)StdRet_i + \dots + a_nDumYEAR_{t=2000} + \dots + a_{n+12}DumYEAR_{t=2011} + e_i$ from regression (3). The dummy variables to test the hypotheses are *DumCSOX* (*PreCSOX* and *PostCSOX*), *DumCross* (*cross-listed offer*) and *DumNon* (*non-cross-listed*). The Data and Methodology section defines the dummy variables and controls; also, it examines the coefficient estimates. Coefficient estimates for *StdRet*, *GProceeds*, *Reloffer*, *StdTSX*, and *Spread* are multiplied by 10^2 . The first row shows the number of SEOs in brackets. ***, ** and * indicate significance at the 1, 5 and 10 percent levels.

This means the *PrDisc* is also *not* different between cross-listed and non-cross-listed offers for the post-CSOX after controlling for offer and firm characteristics. Thus, it also does not reject hypothesis H1b(ii).

On the other hand, the signs of the coefficient estimates for the control variables that are significant such as *StdRet* (return volatility), *GProceeds* (gross offer proceeds), *Reloffer* (offer size), *LnME* (firm size), *Price* (share price), *Brunners* (underwriter prestige), *StdTSX* (market return volatility), *DumGlo* (global offer), and *Spread* (bid-ask quote) are consistent with previous empirical studies. In short, it does not reject the set of hypotheses number one after controlling for firm and offer characteristics. This is also consistent with the preliminary results reported in Table 1.

Hypotheses Testing: Set 2

This section tests the second set of hypotheses. That is, for the three H2 auxiliary hypotheses related to bought deals versus marketed underwritten offers using also equation models (1a), (1b) and 1(c). Regression (1) of Table 3A shows the coefficient estimate a_3 of 0.4857 for bought deals (*DumBD*) is not significant for the full-time period 1999-2011 for *all* SEOs, from equation (1a). This means the price discount is not significantly different between bought deals and marketed underwritten offers for the full period.

On the other hand, from equation (1b), regression (2) shows the coefficient estimate a_3 of *DumBD* is positive (2.3730) and significant at 5 percent level. This means the price discount is higher for bought deals than marketed underwritten offers for the pre-CSOX period. However, from equation (1c), regression (3) shows the coefficient estimate a_3 of *DumBD* is negative and not significant (-0.7760). This means the price discount is not significantly different for bought deals and marketed underwritten offers for the post-CSOX period. Thus, it rejects hypothesis H2(i) for the pre-CSOX period only. Regressions (4) to (6) of Table 3B report coefficient estimates for the determinants of *cross-listed* offers for the entire, pre- and post-CSOX periods, respectively. Regression (4) shows the estimated coefficient of a_3 of *DumBD* is negative (-1.8596) but not significant for the overall period, from equation (1a). Similarly, the coefficient estimates of *DumBD* for the pre-CSOX period (Regression 5, from equation 1b) and post-CSOX period (regression 6, from equation 1c) are not significant. This means bought deals and marketed underwritten offers are not significantly different in both periods. Thus, it does not reject hypothesis H2(ii) for the *cross-listed* offers. Regressions (7) to (9) of Table 3B report regression results of *non-cross-listed* offers for the overall, pre- and post-CSOX periods, respectively. From equation (1b), regression (8) shows the coefficient estimate a_3 of *DumBD* is positive (2.2311) and slightly significant (at the 10 percent level) for the pre-CSOX period only. On the other hand, from equation (1c), the coefficient estimate a_3 of *DumBD* is negative (-0.1073), but not significant. This means the fixed portion of the offer price discount is weakly higher for bought deals than marketed underwritten offers for the pre-SOX period only. Thus, it slightly rejects hypothesis H2(iii) for the pre-CSOX period only.

On the other hand, regressions (4)-(9) of Table 3B show the signs of the coefficient estimates of the control variables that are significant such as *GProceeds*, *Reloffer*, *Price*, *Runup*, *Brunners*, *StdTSX* and *Spread*. This is consistent with previous research studies on equity offers.

Table 3B: Determinants of Price Discount of *Cross-Listed* and *Non-Cross-Listed* SEOs For the Overall, Pre- and Post-CSOX Periods

Variables	Cross-Listed SEOs [162]			Non-Cross-Listed SEOs [467]		
	Regression					
	(4)	(5) <i>DumCSOX Is DumPostCSOX</i> X	(6) <i>DumCSOX Is DumPreCSOX</i>	(7)	(8) <i>DumCSOX is DumPostCSOX</i> X	(9) <i>DumCSOX Is DumPreCSOX</i>
<i>Constant</i>	-1.7256	-0.2229	-0.2295	-7.9059	-2.6810	-2.6810
<i>DumCSOX</i>	1.2697	-0.4592	-0.4592	7.2724	0.8617	0.8617
<i>DumBD</i>	-1.8596	0.5152	-2.9556	0.8068	2.2311*	-0.1073
<i>DumBD*DumCSOX</i>		-3.4708	3.4708		-2.3384	2.3384
<i>StdRet</i>	0.1955	0.3079	0.0846	0.3361**	0.4456	0.1595
<i>StdRet*DumCSOX</i>		-0.2233	0.2233		-0.2860	0.2860
<i>GProceeds</i>	-0.1238	-0.2813	-0.1398	-0.0791	0.0967	-0.2161***
<i>GProceeds*DumCSOX</i>		0.1414	-0.1414		-0.3129***	0.3129***
<i>Reloffer</i>	0.1079	0.2363	0.1304	0.0861*	0.0060	0.2141***
<i>Reloffer*DumCSOX</i>		-0.1059	0.1059		0.02080**	-0.2080**
<i>LnME</i>	0.2704	-0.1914	0.4918	0.0707	-0.1869	0.1824
<i>LnME*DumCSOX</i>		0.6832	-0.6832		0.3694	-0.3694
<i>Price</i>	-0.1714***	-0.0777*	-0.2196***	-0.0310	-0.0257	-0.0260
<i>Price*DumCSOX</i>		-0.1418**	0.1418**		-0.0003	0.0003
<i>Runup</i>	4.6047	4.1642	-0.4140	1.4346	6.1559**	-0.5597
<i>Runup*DumCSOX</i>		-4.5783	4.5783		-6.7157**	6.7157**
<i>Brunners</i>	-0.0724	0.0603	-0.1195	-0.0274	-0.2950***	-0.0067
<i>Brunners*DumCSOX</i>		-0.1795	0.1799		0.2882***	-0.2882***
<i>DumOAO</i>	0.5012	1.5392	-0.3404	0.8155	-0.1969	1.1894**
<i>DumOAO*DumCSOX</i>		-1.8796	1.8796		1.3863	-1.3863
<i>StdTSX</i>	4.7005***	5.3447	4.7282***	0.4993	-3.0485	1.0216*
<i>StdTSX*DumCSOX</i>		-0.6164	0.6164		4.0702*	-4.0702*
<i>Spread</i>	-1.3606	-1.1873	-0.9730	0.8094**	1.1931	0.8719**
<i>Spread*DumCOX</i>		0.2142	-0.2142		-0.3212	0.3212
<i>DumGLO</i>	2.3876*	3.5224	1.1099	-	-	-
<i>DumGLO*DumCSOX</i>		-2.4124	2.4124		-	-
Dummy Years	Yes	Yes	Yes	Yes	Yes	Yes
R ² Adj.	0.433	0.439	0.439	0.110	0.171	0.171

This table reports the coefficient estimates from regressions of offer price discount (*PrDisc*) and expected determinants. It includes the overall period (regression 4), the pre-CSOX period (regression 5) and the post-SOX period (regression 6) for Canadian cross-listed issuers. Similarly, regressions (7), (8) and (9) report the coefficient estimates for non-cross-listed issuers. Specifically, to test hypotheses H1^a(ii) and H1^a(iii), it uses equation (1a): $PrDisc_i = a_0 + a_1DumPostCSOX + a_2DumCross + a_3DumBD_i + a_4StdRet_i + \dots + a_nDumYEAR_{t=2000} + \dots + a_{n+12}DumYEAR_{t=2011} + e_i$ from regressions (4)[cross-listed] and (7)[non-cross-listed], respectively. To test hypothesis H2(ii) for the pre-CSOX period, it uses equation (1b): $PrDisc_i = a_0 + a_1DumPostCSOX + (a_2 + \lambda_{DumCross}DumPostCSOX)DumCross_i + (a_3 + \lambda_{DumBD}DumPostCSOX)DumBD_i + (a_4 + \lambda_{StdRet}DumPostCSOX)StdRet + \dots + a_nDumYEAR_{t=2000} + \dots + a_{n+12}DumYEAR_{t=2011} + e_i$ from regression (5)[cross-listed] and regression (8)[non-cross-listed]. To test hypothesis H2(iii) for the post-CSOX period, it uses Equation (1c): $PrDisc_i = a_0 + a_1DumPreCSOX + (a_2 + \lambda_{DumCross}DumPreCSOX)DumCross_i + (a_3 + \lambda_{DumBD}DumPreCSOX)DumBD_i + (a_4 + \lambda_{StdRet}DumPreCSOX)StdRet + \dots + a_nDumYEAR_{t=2000} + \dots + a_{n+12}DumYEAR_{t=2011} + e_i$ from regression (6)[cross-listed] and regression (9)[non-cross-listed]. The dummy variables to test the hypotheses are *DumCSOX* (PreCSOX and PostCSOX), *DumBD* (bought deal) and *DumMUO* (marketed underwritten offer). The Data and Methodology section defines the dummy variables and controls; also, it examines the coefficient estimates. Coefficient estimates for *StdRet*, *GProceeds*, *Reloffer*, *StdTSX* and *Spread* are multiplied by 10². The first row reports the number of SEOs in brackets. ***, ** and * indicate significance at the 1, 5 and 10 percent levels.

CONCLUDING REMARKS

The purpose of this study is to find out whether the price discount of seasoned equity offerings for Canadian issuers changed after the Canadian SOX. This is a law similar to the U.S. Sarbanes-Oxley of 2002 (USSOX). The passage of CSOX was in 2002 and became effective three years later in 2005. The main purpose of both laws is improving governance and disclosure of publicly traded companies. This includes disclosure on seasoned equity offerings. A price discount of seasoned equity offerings is an important issuance cost, which in the period 1999-2011 averaged four percent. This study builds on Rubalcava (2016), which examines the impact of USSOX on the price discount of seasoned equity offerings of Canadian cross-listed issuers. These are offers simultaneously listed on major U.S. exchanges and the Toronto Stock Exchange. It extends the literature on the impact of similar legislation, such as CSOX, has had on the price discount of all Canadian seasoned equity offerings. These include cross-listed and non-cross-listed offers (that is, listed on the Toronto Stock Exchange only).

Using a sample of 629 seasoned equity offerings, this study finds no significant difference in offer price discount between the pre-CSOX period (1999-2005) and the post-CSOX period (2006-2011). These include all issues, cross-listed (162) and non-cross-listed (467), respectively. When distinguishing offers by underwriting method -bought deals (519) and marketed underwritten (110) -, the offer price discount between both alternatives is not significantly different after the passage of CSOX. These results are after controlling for the offer and firm characteristics from an OLS cross-sectional regression model. An important policy implication of these findings is the gradual approach to implement CSOX by Canadian regulators was a wise decision. It has allowed issuers, investment banks, and investors with plenty of time to adjust to the new legislation and reduce market uncertainty. Unlike USSOX, where many difficulties have occurred in its implementation (Gray, 2005). Some limitation of the study is that does not include data beyond 2011 due to data constraints. This may reduce the strength of the results of this study. Future research is to find out whether these results can be generalizable to other countries that passed legislation similar to the Canadian SOX.

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