DETERMINANTS OF PRICE RESPONSE TO CANADIAN BOUGHT DEALS AND MARKETED UNDERWRITTEN EQUITY OFFERS:-EVIDENCE BEFORE AND AFTER THE CANADIAN SOX

Arturo Rubalcava, University of Regina

ABSTRACT

This paper examines determinants of price response to announcing Canadian bought deals and marketed underwritten equity offers. It includes periods before and after the passage of Canadian SOX. This is a critical government law equivalent to the U.S. Sarbanes-Oxley Act. Both laws have had important effect on changes in governance and compliance for public companies. Bought deals and marketed underwritten offers are two standard methods of issuing equity by publicly traded firms. Did the Canadian law influence the determinants of price response for both underwriting methods? From fifteen different determinants, this study shows trading shares volume is the only common determinant for bought deals for the pre- and post-Canadian SOX periods. Mostly, for shares listed on the Toronto Stock exchange (and not cross-listed in the U.S.). Marketed underwritten offers do not show consistent determinants for the pre- and post-Canadian SOX periods. Also, none of the expected determinants are significant during the post-Canadian SOX period for marketed underwritten offers. In essence, the Canadian law had a different effect on expected determinants for bought deals and marketed underwritten offers, respectively.

JEL: G24, G32

KEYWORDS: Price Response, Bought Deals, Marketed Underwritten Offers, Canadian SOX, Sarbanes-Oxley, Seasoned Equity Offerings, Cross-Listed

INTRODUCTION

This study explores the effect of Canadian SOX (CSOX) on expected determinants of shares price response to seasoned equity offering announcements for bought deals and marketed underwritten offers. Announcing shares of common stock has a significant impact on the share price of common stock. The price response is an important signal of market value for company issuers. The empirical evidence shows the market reaction to common stock offers is on the range of minus two percent to minus three percent of shares value (Lee and Masulis, 2009). The drop in share price represents a high indirect cost for issuers. Many studies identify relevant determinants that explain the market reaction to stock offer announcements. However, there is no consensus. This paper identifies the determinants of the market reaction to seasoned stock offerings of bought deals and marketed underwriting offers before and after CSOX. Bought deals and marketed underwritten offers are typical underwriting methods for issuing shares in the stock market by Canadian exchange-traded companies. Both methods need to comply with different demands by securities regulators and have different characteristics (Pandes, 2010; Gunay and Ursel, 2015). The Canadian legislation provides an unusual experiment to analyze determinants of the price response to stock offerings. Canadian SOX is a law similar to the U.S. Sarbanes-Oxley Act of 2002. After the passage of Sarbanes-Oxley, Canada, and other countries passed similar legislation (Rubalcava, 2012a). The objectives of these laws are improving corporate governance and better disclosure of publicly traded companies. Correct disclosure of events such as announcing seasoned stock offerings must comply with rules by both legislations. Seasoned equity offerings (SEOs) are common stock offers that occur after an initial public offering or IPO. This manuscript builds on Rubalcava's (2015) study on the effects of

Sarbanes-Oxley on expected determinants of seasoned equity offerings by Canadian cross-listed firms. Also, on Rubalcava's (2018) study on the impact of the Canadian SOX for bought deals and marketed underwritten offers. Rubalcava (2015) analyzes the market reaction to bough deals and firm commitment (or underwritten offers) by Canadian cross-listed issuers only. On the other hand, Rubalcava (2018) examines the price response for bought deals and marketed underwritten offers for all Canadian issuers (cross-listed and non-cross-listed). However, both studies do not examine specific determinants of price response for bought deals and firm commitment, respectively. Thus, it is worth exploring the price response and determinants of each underwriting method under Canadian SOX. Main contributions of this study are as follows. First, it extends above studies by examining relevant determinants of price response for each underwriting method and whether they hold after the passage of Canadian SOX. Second, the findings will offer guidance to Canadian firms when deciding which underwriting method is more suitable. This will mitigate the negative price response at the offer announcing date. Sample includes overall stock offers, including cross-listed and non-cross-listed, respectively. Cross -listed offers are those simultaneously issued on the Toronto Stock exchange and U.S. major exchanges (NYSE, NASDAQ, and AMEX). Offers listed only on the Toronto Stock Exchange are non-cross-listed.

This study finds trading shares volume is the only common determinant of price response for bought deals for the pre- and post-Canadian SOX periods, respectively. However, this finding is for shares listed on the Toronto Stock exchange only. On the other hand, it does not find consistent determinants for the pre- and post-Canadian SOX periods for marketed underwritten offers. For these offers, the expected determinants that are relevant are for the post-Canadian SOX period only. In short, the findings show the Canadian law had a different effect on expected determinants for bought deals and marketed underwritten offers, respectively. The rest of the paper is as follows. Next section presents a review of literature. The following section presents the data and methods. Next section presents and discusses the results. The last section reports the conclusions.

LITERATURE REVIEW

Canadian SOX (CSOX) is a legislation passed in October 2002 and became effective in December 2005. CSOX is similar to the Sarbanes-Oxley Act passed by U.S. Congress in July 2002. Their motive is restoring confidence in capital markets eroded by well documented corporate wrongdoing (for example, Enron, Tyco, Global Crossing, Nortel, and Bre-X). However, CSOX is less strict than Sarbanes-Oxley on disclosure of financial information, including seasoned stock offerings. Reason is that CSOX rules focus on much smaller Canadian companies, so including the same rules as Sarbanes-Oxley would be costly and cumbersome (Ben-Isai, 2008). Eckbo, Masulis, and Norly (2007) consider worth exploring the effects of regulatory changes such as Sarbanes-Oxley on seasoned equity offerings (SEOs). As an extension of Eckbo et al. suggestion, this paper examines the effects of Canadian SOX on expected determinants of price response to stock offers for Canadian bought deals and marketed underwritten offers.

Bought deals and marketed underwritten offers are two important methods for underwriting seasoned equity offerings. The main differences between both underwriting methods based on Pandes (2010) and Gunay and Ursel (2015) are as follows. Bought deals (accelerated offers or overnight offers) have fewer registration needs compared with marketed underwritten offers. (In the U.S. bought deals are similar to *shelf offers* and marketed underwritten offers known as firm commitment or *non-shelf offers.)* For bought deals, the issue date is the same as announcement date. For marketed underwritten offers, the issue date is several days after the announcement. Bought deals do not have a *market-out* clause; unlike marketed underwritten offers, which they do. *Market-out* clause means that if stock price declines, the investment bank cannot cancel the issue for bought deals, unlike marketed underwritten offers, which it can. Bought deals do not have *road shows;* unlike marketed underwritten offers, which they do. *Road shows* is the procedure followed by investment banks and issuers to market common stock to investors. Their objective is estimating the proper offer price and potential demand for common stock offers.

A negative market reaction usually occurs when a company announces a seasoned stock offering. The price response to seasoned equity offerings is, on average, around minus two percent in the U.S. (Eckbo, Masulis, and Norli, 2007). It is around minus 1.86 percent for Canadian firms (Pandes, 2010). The literature on the determinants of price response to seasoned stock offerings is vast. Eckbo et al. (2007) present a detailed review on stock offer determinants. A favored explanation for the negative market reaction to offer announcements is the adverse selection theory by Myers and Majluf (1984). It assumes managers have superior information than outside investors. So, when a company announces a stock offering, investors presume an overvaluation of the stock. Therefore, they adjust the price downward resulting in a negative price response. Studies supporting this theory are, for example, Eckbo and Masulis (1995), Johnson, Serrano, and Thompson (1996), Lee and Masulis (2009), and Akhibe and Whyte (2015). However, other theories that may explain the market reaction to stock offers include ideas such as price pressure, agency costs, intended use of offering revenues, and risk, among others. Relevant studies are as as follows. Price pressure (Scholes, 1972; Asquith and Mullins, 1986; Masulis and Korward, 1986; Korajczyk, Lucas, and McDonald, 1990; Loderer, Cooney, and Van Drunnen, 1991; Slovin, Sushka, and Bendeck, 1994). Agency costs (Jensen and Meckling, 1976; Leland and Pyle, 1977; Fields and Mais, 1994; Jung, Kim, and Stulz, 1996, Kim and Purnanandam, 2006; 2014). Intended use of offer revenues (Masulis and Korwar, 1986; Walker and Yost, 2008; Hull, Kwak, and Walker, 2009). Risk (Lin, You, and Lin, 2008). Most determinants in this study are from above research. The methods section presents details of these determinants. The objectives of this study are to answer the following research questions. Are determinants of price response for Canadian bought deals (and marketed underwritten offers) announcements the same before and after Canadian SOX? What are the determinants for each underwriting method -before and after Canadian SOX- for cross-listed and non-cross-listed offers? Findings will help Canadian firms when deciding the underwriting method for stock offers, and mitigate the negative price response after their announcement.

DATA AND METHODOLOGY

The sample consists of 851 seasoned equity offerings (SEOs) by Canadian firms –cross-listed on the NYSE, AMEX and NASDAQ and those listed on the Toronto Stock Exchange (TSX) only (non-cross-listed). The overall period is from 1999 to 2011, which includes two similar periods: the pre-CSOX period from 1999 to 2005 and the post-CSOX period from 2006 to 2011. Bought deals are 690 (183 in the pre-CSOX period and 507 in the post-CSOX period). Pre-CSOX bought deals include 63 cross-listed and 120 non-cross-listed. Post-CSOX bought deals include 57 cross-listed and 450 non-cross-listed. Marketed underwritten offers are 161 (109 in pre-CSOX period and 52 in post-CSOX period). Pre-CSOX marketed underwritten offers include 54 cross-listed and 55 non-cross-listed. Post-CSOX marketed underwritten offers include 21 cross-listed and 31 non-cross-listed. Having similar pre- and post-CSOX periods provide reliable results on whether the offer price response determinants are common before and after Canadian SOX. Period 2 includes years of the financial crisis (2007, 2008, and 2009). (The impact that each of these years had on price response is examined in the section of empirical results). FP Advisor and the System for Electronic Documents Analysis and Retrieval (SEDAR Canada) are sources of data for seasoned equity offerings. (FP Advisor is data service provider of "information about Canadian public and private companies, company directors, archival financial information, special analytical tool, and lead list generator," https://fpadvisor.financialpost.com). These data include the offer announcement and issue dates, offer size, issue purpose, underwriting type (marketed underwritten offer, bought deal), overallotment option, lead underwriters, cross and non-cross-listed offers, and offering location (domestic, global). The Canadian Financial Markets Research Centre (CFMRC) is the source of market data. These include daily stock prices, volumes, number of trades, S&P/TSX value-weighted index, and monthly number of shares outstanding. Statistics Canada provides the Canadian monthly T-bill rate (a proxy for the risk-free rate). The Center for Research in Security Prices (CRSP) is the source for the U.S. value weighted index and U.S. monthly T-bill rate (risk-free rate). The sample does not include data with errors or missing values.

Abnormal Returns Model

An International Asset Pricing Model examines the price response - abnormal return - around announcing date of stock offerings. The model controls for domestic and U.S. market risk premium (mostly for cross-listed issues) –similar to Foerster and Karoly's (1999).
The model is as follows.

$$R_{it} = a_i + b_i R_{mt}^{TSX} + c_i R_{mt}^{US} + d_i R_{mt}^{TSX} * Dum1 + e_i R_{mt}^{US} * Dum1$$
$$+ \xi_{1i} DumPreCAR_t + \xi_{2i} DumAD_t + \varepsilon_{it} \tag{1}$$

Where R_{it} is excess return for trades completed on the Canadian Stock Market for issuer i. R_{mt}^{TSX} and R_{mt}^{US} are stock market proxies for the Canadian and U.S. stock market, respectively. The model uses dummy variables to capture abnormal returns for event windows before (*DumPreCAR*) and during the announcement (*DumAD*). Estimates of abnormal returns uses 200 trading days before the announcing date and ending 75 trading days after the announcing. Dummy variable *Dum1* accounts for possibility the systematic risk (beta) could change by the SEO announcement. It is equal to one for each day in the period from two to 26 days after announcing day (AD). *DumPreCAR*$_t$ is a dummy variable that occurs in the pre-announcing window period. It is equal to one for days -26 through -2 before announcing day of the stock offer, i.e., [AD-26, AD-2], and is zero otherwise. This dummy variable controls for abnormal performance before the announcing date. *DumAD*$_t$ measures price response or abnormal return around offer announcing date. It is equal to one on the three-day announcing date [AD-1, AD+1], and is zero otherwise. The three-day period captures price response on offer announcing date. The $3\xi_{2i}$ is a three-day cumulative abnormal return or *CAR* for firm i for the SEO announcing date, [AD-1, AD+1], and used for marketed underwritten offers only. Bought deals uses an adjusted *CAR* (*CAR*$_{adj}$) as in Pandes (2010). The formula is $CAR_{adj} = \left(\frac{1}{1-a}\right) CAR + \frac{a}{(1-a)}\left(\frac{P_c - P_0}{P_c}\right)$ where a is number of shares issued divided by number of shares outstanding after the issue; P_c is closing stock price prior the offer announcement; and P_o is offering price. This formula removes the price discount effect on *CAR* for bought deals -estimated around the stock offer announcement-, unlike marketed underwritten offers -estimated before closing day of the issue. Price discount occurs when offer price is lower than closing price on the day before the issue. This is also an important issuance cost for companies (not examined here).

Determinants of Price Response for Bought Deals and Marketed Underwritten Offers

The cross-sectional model that examines relation between price response or abnormal return to offer announcements (*CAR)* and expected determinants is as follows:

$$CAR_i = a_0 + (a_1 + \delta_{Beta} DumPer2)Beta_i + (a_2 + \delta_{Runup} DumPer2)Runup_i + (a_3 +$$
$$\delta_{OfferSize} DumPer2)OfferSize_i + (a_4 + \delta_{LeadUnderwriter} DumPer2)LeadUnderwriter_i +$$
$$... + a_t DYearCrisis_{2007} + \cdots + a_{t+n} DYearCrisis_{2009} + \varepsilon_i \tag{2}$$

Equation (2) captures the effect of each determinant on *CAR* simultaneously for the pre- and post-CSOX periods, respectively. Coefficient estimates a_0, $a_1...a_{t+n}$ show the extent at which the price responds to stock offerings. These coefficients are for *all* bought deals (or marketed underwritten offers) and for *cross-listed* and *non-cross-listed* issues, respectively. Determinants in equation (2) are from the literature review section and other studies on price response of seasoned equity offerings. It does not include determinants from all major studies because of data constraints. However, it uses proxy measures for relevant determinants. Their identifiers and descriptions are as follows. *DumPer2* is a dummy variable that equals one during the post-CSOX period and zero for the pre-CSOX period (*DumPer1*).

DumPer2: interacts with expected determinants to capture the distinct effect of each determinant on price response for the pre- and post-CSOX periods, respectively. *Beta* is a proxy for systematic risk (Lin, You, and Lin, 2008). It is coefficient b_i of the Canadian market risk premium from equation (1). A positive coefficient estimate means a favorable price response to the offer announcement.

Runup : is the abnormal return for stock offer pre-offer announcing window [AD-26, AD-2] from equation (1). It represents stock performance (price run-up) before the announcing date, and measures information asymmetry. A positive coefficient estimate implies reduced information asymmetry (Myers and Majluf, 1984; Asquith and Mullins, 1986; Bayless and Chaplinky, 1996).

OfferSize: is the ratio of offer size to total number of shares outstanding before announcing date. It measures price pressure (Scholes, 1972; Asquith and Mullins, 1986; Masulis and Korward, 1986; Korajczk, Lucas, and McDonald (1990); Loderer, Cooney, and Van Drunnen, 1991; Slovin, Sushka, and Bendeck, 1994). A negative coefficient sign would show an inelastic price demand for the stock offer.

LeadUnderwriter: is the number of times an investment bank appears as a lead underwriter in a stock offer and measures underwriter prestige. A positive coefficient estimate would show lead underwriters have a favorable impact on offer price response. It is because of their higher efficiency in assigning the stock offering (Jeon and Ligon, 2011)

DumGlo: is a dummy variable equals one for a shares issued concurrently in the U.S. and Canada and zero if issued in Canada only. This dummy applies for cross-listed offers only. A negative coefficient estimate means equity offers placed outside Canada would have a negative effect on offer price response compared to domestic issues (Rubalcava, 2012b)

DumOAO: is a dummy variable equals one if the shares offering has an overallotment option and zero otherwise. A positive coefficient estimate would show no overpricing of the stock offering (Ritter, 1998).

VolTO : is the shares trading volume turnover. It is equal to daily annualized shares trading volume divided by total number of shares outstanding pre-offer announcing. It is a proxy for non-information related trading -low information asymmetry- (Easley et al., 1996). A positive coefficient estimate would imply a favorable price response because of reduced (unfavorable) private information associated with the offer announcement.

ChTrades: is the change in average number of trades between period [AD-120, AD-61] and period [AD-60, AD-2], where AD is the announcing date of stock offer. It proxies for information-related volatility (Jiang and Kryzanowski, 1998). A negative coefficient estimate means the offer announcement represents unfavorable information content, resulting in negative price response.

RSecondary: is the ratio of number of shares sold by existent shareholders to total number of shares offered, as in Lee and Masulis (2009). Secondary equity offerings do not increase the capital of the firm, unlike primary offers, which they do. Secondary offerings produce agency problems between inside owners and outside investors. Empirical evidence shows that when insiders sell stock in their own company (secondary offers), the market response is more harmful than primary offers (Fields and Mais, 1994**;** Kim and Purnanandam, 2006, 2014).

RetVolatility: is the standard deviation of daily stock returns for shares of issuer *i* during three months before the offer announcing date. The return volatility is a measure of price uncertainty (Lee and Masulis, 2009).

D0 to *D4:* are dummy variables that classify the purpose of the stock offer as follows: *D0* (unknown), *D1* (working capital), *D2* (capital investment), *D3* (general corporate) and *D4* (debt decrease). The five categories are from FP Advisor's database. Studies showing that intended use of funds is relevant in explaining the price response to equity offerings are Walker and Yost (2008) and Hull, Kwak, and Walker (2009). Other studies using similar proxies as controls are Masulis and Korwar (1986), Hull and Moellenberndt (1994). A positive (negative) coefficient estimate on the dummies means a positive (negative) offer price response.

DYearCrisis$_{\tau:}$ are dummy controls for annual economic conditions before and during the financial crisis period (2006-2009). Coefficient estimates on years of the financial crisis period (2007- 2009) show the impact each year had on price response to stock offer announcements. ε_I is the error term and assumed to be independently and normally distributed; i.e., $\varepsilon_I \sim N(0,\sigma^2)$

RESULTS

Descriptive Statistics

Table 1 reports the mean (median) Cumulative Average Abnormal Returns (CAAR) at the three-day announcement date of seasoned equity offerings (SEOs) for bought deals (Panel A) and marketed underwritten offers (Panel B), using equation 1. The CAAR reported are for *all* SEOs, including *cross-listed* and *non-cross-listed* for the pre- and post-CSOX periods, respectively. Based on Panel A, the weighted mean CAAR for *all* bought deals is -1.83 percent (-2.88 percent for *cross-listed* and -1.61 for *non-cross-listed*). On the other hand, from Panel B, the weighted mean CAAR for *all* marketed underwritten offers is -3.49 percent (-2.92 percent for *cross-listed* and -4.0 percent for *non-cross-listed*). Last column reports p-values for the difference in mean (median) CAAR between the pre- and post-CSOX periods. Number of SEOs is in brackets – the asterisk (*) shows significance at ten percent level.

Panel A, of Table 1, shows the p-values for the difference in mean (median) CAAR are not significant for *all* bought deals (mean p-value of 0.5187), including *cross-listed* (mean p-value of 0.3605) and *non-cross-listed* (mean p-value of 0.4271), respectively. On the other hand, Panel B shows the p-value for the difference in mean (median) CAAR is significant at ten percent level for *all* marketed underwritten offers only (mean p-value of 0.0902). These preliminary results suggest Canadian SOX had a small impact on price response to offer announcements for the entire sample of marketed underwritten offers only. On the other hand, number of total SEOs for bought deals during the pre- and post-CSOX period is 183 and 507, respectively, which represents an increase of 177 percent (unreported). In contrast, number of total SEOs for marketed underwritten offers during the pre- and post-CSOX period is 109 and 52, respectively. This is a drop of fifty two percent (unreported). These results show number of marketed underwritten offers has decreased significantly in last years compared with bought deals, which is consistent with Gunay and Ursel (2015) findings.

Table 1: CAAR of SEOs for Bought Deals and Marketed Underwritten Offers

Panel A: Bought Deals			
	Pre-CSOX	**Post-CSOX**	**P-value Diff. Mean (Median)**
All SEOs	[183]	[507]	
Mean	-2.16%	-1.71%	0.5187
(Median)	(-2.57%)	(-2.42%)	(0.8766)
Cross-Listed	[63]	[57]	
	-2.22%	-3.60%	0.3605
	(-2.49%)	(-2.87%)	(0.780)
Non-Cross-Listed	[120]	[450]	
	-2.13%	-1.47%	0.4271
	(-2.59%)	(-2.37%)	(0.8259)
Panel B: Marketed Underwritten Offers			
	Pre-CSOX	**Post-CSOX**	**P-value diff. Mean (Median)**
All SEOs	[109]	[52]	
Mean	-2.76%	-5.04%	0.0902*
(Median)	(-3.39%)	(-5.34%)	(0.0721)*
Cross-Listed	[54]	[21]	
	-2.38%	-4.30%	0.4271
	(-2.72%)	(-4.23%)	(0.2089)
Non-Cross-Listed	[55]	[31]	
	-3.13%	-5.55%	0.1040
	(-3.70%)	(-5.86%)	(0.2212)

Panel A reports the mean and median CAAR (Cumulative Average Abnormal Return) for all seasoned equity offerings (SEOs) of bought deals, including cross-listed and non-cross-listed for the pre-CSOX and post-CSOX periods, respectively. The CAAR formula for bought deals is $CAR_{adj} = \left(\frac{1}{1-a}\right) CAR + \frac{a}{(1-a)}\left(\frac{P_c - P_0}{P_c}\right)$. CAR is the three-day cumulative abnormal return or CAR for firm i for offer announcing date, [AD-1, AD+1], or $3\xi_{2i}$ in equation 1. It applies for marketed underwritten offers only. Letter 'a' is the number of shares issued divided by number of shares outstanding after the issue; P_c is the closing stock price prior offer announcement; and P_0 is offering price. Similarly, Panel B reports the mean and median CAAR for marketed underwritten offers. Number of SEOs is in brackets. Asterisk (*) show significance at 10 percent level using t-test for the mean and Wilcoxon/Mann-Whitney for the median (in parenthesis). Number of seasoned equity offerings (SEOs) is in brackets.

Regression Results

This section presents regressions results of price response or abnormal returns (CAAR) on expected determinants for bought deals and marketed underwritten offers, respectively, using equation 2. Table 2 reports regressions of mean CAAR on expected determinants for bought deals for *overall* SEO sample (620), including *cross-listed* (120) and *non-cross-listed* (570). Specifically, it reports coefficient estimates of expected determinants for the pre-CSOX and post-CSOX periods for *overall* SEOs, *cross-listed* and *non-cross-listed*, respectively. Coefficient estimates of determinants for *overall* SEO sample capture the full effect on price response to offer announcement, regardless of whether the issuer is cross-listed or non-cross-listed. By dividing the *overall* sample into *cross-listed* and, *non-cross-listed* offers allows knowing the importance of price response captured by each of these categories. The asterisks *, ** and *** in the table stand for significance at ten, five and one percent levels, respectively. (Note: This section describes statistical significance of coefficient estimates as follows: slightly significant (*), significant (**), and highly significant (***). Also, coefficient estimates presented in Tables 2 and 3 consider the interaction effect of dummy *DumPer2* (i.e., post-CSOX period) or dummy *DumPer1* (i.e., pre-CSOX period) on CAAR for each determinant. This section does not report coefficients of these interacting dummies to save valuable space. Table 2 presents only the coefficient estimates reflecting net effects on CAAR for the pre- and post-CSOX periods. For illustration purposes, the section presents the effect of *DumPer2* only for *Beta.*) Explanation of the coefficient estimates is as follows. The coefficient estimate of *Beta* is the average coefficient b_i of Canadian market risk premium (R_{mt}^{TSX}) from equation (1). *Beta* coefficient for *overall* SEOs is significant at five percent level (0.0226) for the pre-CSOX period only (regression 1). The coefficient estimate of the interaction between *Beta and DumPer2 (Beta*DumPer2)* is negative and slightly significant (-0.0231 unreported). The coefficient estimate for the post-CSOX period is -0.0005 (which is

equal to 0.0226-0.0231) and is not significant (regression 2). It represents net effect of *Beta* on CAAR for the post-CSOX period. Similarly, the coefficient estimate of *Beta* for *non-cross-listed* SEOs is highly significant for the pre-CSOX period only (0.0377, regression 5). The coefficient of *Beta*DumPer2* is negative and significant (-0.0388 unreported). Thus, the coefficient estimate for the post-CSOX period is -0.0011 (which is equal to 0.0377-0.0388) and is not significant (regression 6). This shows *Beta* has positive effect on price response of the stock offering at announcing date for bought deals. In other words, the higher the systematic risk of the stock, the higher the market reaction. (The average coefficient estimate c_i or *beta* of U.S. market risk premium R_{mt}^{US} is not significant in all regressions and not reported here).

The coefficient estimate of *Runup* is positive and highly significant for *overall* SEOs during the post-CSOX period only (0.0565, regression 2). In the same vein, the coefficient estimate of same determinant is highly significant for *non-cross-listed* issues (0.0605, regression 6). These results show price run-up has positive effect on offer price response because of reduced information asymmetry, which is consistent with low information asymmetry, as in Myers and Majluf (1984).

The coefficient estimate of the dummy variable *DumGlo* is negative and significant for *overall* SEOs during the pre-CSOX period only (-0.0757, regression 1). Similar significance occurs for *DumGlo* for *cross-listed* offers in the pre-CSOX period only (-0.0835, regression 3). It shows that stock offers placed outside Canada get an adverse market reaction compared with those placed on Canada only. (These results apply to *cross-listed* issuers only). The coefficient estimate of *DumOAO* is positive and slightly significant for *overall* SEOs during the pre-CSOX period (0.0283, regression 1) and highly significant during the post-CSOX period (0.0248, regression 2). For *cross-listed* SEOs, the coefficient estimate is significant during the pre-CSOX period only (0.0540, regression 3). However, for non-cross-listed SEOs, the coefficient is highly significant for the post-CSOX period only (0.0234, regression 6). These results show the significance of *DumOAO* is not uniform between cross-listed and non-cross-listed for the pre- and post-CSOX period. A positive coefficient estimate for *DumOAO* shows a stock offer with an overallotment has a positive response by investors, implying not overpricing (Ritter, 1998).

The coefficient estimates of *VolTO* are positive and significant for *overall* SEOs and *non-cross-listed* offers during the pre- and post-CSOX periods, respectively (regressions 1, 2, 5 and 6). However, it is not significant for *cross-listed* offers (regressions 3 and 4). The results show trading volume turnover for the former stock offering reflects low information related volatility. In other words, the equity offerings will be more easily placed at more favorable prices (Dichev, Huang, and Zhou, 2014). The coefficient estimate of *ChTrades* is significant for *overall* SEOs in the post-CSOX period only (-0.0737, regression 2). A negative coefficient estimate shows that changes in number of trades have an unfavorable effect on offer price response. These results suggest the offer represents harmful information content (Jiang and Kryzanowksi, 1998). The coefficient estimate of *RSecondary* is negative and highly significant for *overall* offers (-1.4200, regression 2) and for *non-cross-listed* offers (-3.6700, regression 6), during the post-CSOX period only. This reveals investors unwelcome stock issues sold by existing shareholders (which are not capital raising). Also, it may reflect agency problems between insider shareholders and new (outside) shareholders (Field and Mais, 1994; Kim and Purnanandam, 2006). The coefficient estimate of *RetVolatility* is positive and slightly significant for *non-cross-listed* offers and the pre-CSOX period only (1.1255, regression 5). This result shows return volatility has a positive but marginal effect on price response of stock offerings. Which it is counterintuitive because return volatility reflects price uncertainty (Lee and Masulis, 2009).

About variables for intended use of the shares offering, the only significant determinant is *D1* (working capital). The coefficient estimate of *D1* is negative and significant for *overall* (-0.0564, regression 2) and negative and highly significant for *non-cross-listed* offers (-0.0647, regression 6); both for the post-CSOX period only. These findings reveal the market does not react favorably when the intended use of funds is financing working capital (operating costs). No other variables for intended use of funds are significant in

all regressions. About year dummy variables related to the financial crisis (2007-2009), the signed coefficient estimates (unreported) that are at least slightly significant are as follows. For *overall* offers, the coefficient estimate is positive and significant for 2007 (0.0231) and positive and slightly significant for 2008 (0.0246). For *cross-listed* offers, the coefficient estimate is negative and slightly significant for 2009 (-0.0694) only. For *non-cross-listed* offers, the coefficient estimates are positive and significant for 2007 (0.0224) and 2008 (0.0282). These results show the financial crisis period had different effect on *cross-listed* and *non-cross-listed* offers, respectively.

Table 2: Regressions of CAAR on Expected Determinants for Bought Deals: Pre- and Post-CSOX Periods

	Overall SEOs		Cross-Listed		Non-Cross-Listed	
	(1)	(2)	(3)	(4)	(5)	(6)
Variables	Pre-CSOX	Post-CSOX	Pre-CSOX	Post-CSOX	Pre-CSOX	(Post-CSOX
Constant	-0.0127	-0.0127	-0.0378	-0.0378	-0.0025	-0.0025
Beta	0.0226**	-0.0005	-0.0072	-0.0092	0.0377***	-0.0011
Runup	0.0231	0.0565***	-0.0822	-0.0571	0.0547	0.0605***
OfferSize	-0.0878	0.0051	0.1149	-0.0520	-0.0881	0.0074
LeadUnderwriter	-0.0085	-0.0044	-0.0034	0.0071	-0.0091	-0.0049
DumGlo	-0.0757**	-0.0276	-0.0835**	0.0133	--	--
DumOAO	0.0283*	0.0248***	0.0540**	0.0417	0.0066	0.0234***
VolTO	0.254**	0.0062**	0.2210	-0.1710	0.2250**	0.0693***
ChTrades	103.9263	-0.0737**	43.8000	-0.0512	127.3300	-3.6700
RSecondary	-0.4000	-1.4200***	-0.8200	0.03700	-1.2500	-2.0900***
RetVolatility	-0.2807	0.1640	1.1133	-0.4840	1.1255*	0.2062
D1	-0.0197	-0.0564**	-0.0265	-0.0252	-0.0255	-0.0647***
D2	-0.0050	-0.0243	-0.0592	0.0371	0.0103	-0.0361
D3	-0.0043	-0.0229	-0.0532	0.0484	0.0198	-0.0376
D4	-0.0056	-0.0027	0.0034	0.0744	-0.0083	-0.0187
R-square	0.136	0.136	0.349	0.349	0.151	0.151
Adjusted R-square	0.089	0.089	0.096	0.096	0.102	0.102
Number of SEOs	183	507	63	57	120	450

This table reports coefficient estimates from regressions of Cumulative Average Abnormal Returns (CAAR) for bought deals on expected determinants. It includes overall SEOs for the pre-CSOX period (regression 1) and post-SOX period (regression 2) by Canadian issuers. Similarly, regressions (3) and (4) show coefficient estimates for the pre-and-post CSOX periods for cross-listed issuers; and regressions (5) and (6) for non-cross-listed issuers. The model of CAAR on expected determinants is $CAR_i = a_0 + (a_1 + \delta_{Beta}DumPer2)Beta_i + (a_2 + \delta_{Runup}DumPer2)Runup_i + (a_3 + \delta_{OfferSize}DumPer2)OfferSize_i + (a_4 + \delta_{LeadUnderwriter}DumPer2)LeadUnderwriter_i + ... + a_tDYearCrisis_{\tau=2007} + ... + a_{t+n}DYearCrisi_{\tau=2009} + \varepsilon_i$. The section Determinants of Price Response for Bought Deals and Marketed Underwritten Offers defines CAR and expected determinants; also, it examines coefficient estimates. ***, ** and * stand for significance at the 1, 5 and 10 percent levels

Table 3 reports regressions of abnormal returns (CAAR) on expected determinants for marketed underwritten offers for *overall* SEOs (161), including *cross-listed* (75) and *non-cross-listed* (86), using equation 2. Coefficient estimates with significance are for the pre-CSOX period only, and only for *overall* and *cross-listed* SEOs. Explanation of coefficients is as follows. The coefficient estimate of *Runup* is positive and significant for *overall* SEOs (0.0843, regression 1) and *cross-listed* offers (0.1485, regression 3) for the pre-CSOX period only. These results show cumulative returns pre-announcement have a positive effect on shares price by lowering the offer information asymmetry, which is consistent with Myers and Majluf (1984). On the other hand, the coefficient estimate of *OfferSize* is negative and highly significant for *cross-listed* offers and the pre-CSOX period only (-0.4349, regression 3). This result says the higher offer size, the more negative market price response. This finding aligns with the price pressure hypothesis (Scholes, 1972; Asquith and Mullins, 1986; Masulis and Korward, 1986; and Loderer, Kooney, and Van Drunnen, 1991). The coefficient estimate of *LeadUnderwriter* is negative and significant for *overall* SEOs and for the pre-CSOX period only (-0.0142, regression 1). This suggests the market does not welcome offerings led by reputable underwriters, which is counterintuitive. The coefficient estimate of *DumOAO* is positive and highly significant for *cross-listed* offers and the pre-CSOX period only (0.0849, regression 3). This result shows investors welcome the stock offer because does not reflect overpricing (Ritter, 1998). The coefficient estimate of *ChTrades* is negative and slightly significant for *cross-listed offers* and the pre-

CSOX period only (-0.1570, regression 3). This result means trading volume has a slightly negative effect on the shares price. This is consistent with the assumption that changes in number of trades suggest unfavorable information content (Jiang and Kryzanowski, 1998). The coefficient estimate of *RetVolatility* is positive and slightly significant for *cross-listed* offers and the pre-CSOX period only (1.7864, regression 3). This result suggests markets welcome return volatility, which is counterintuitive. This result is similar to bought deals before. Other determinants, including the dummies for intended use of the offering, are not significant across different SEO categories. The signed coefficient estimates (unreported) of year dummies for marketed underwritten offers during the financial crisis years (2007 – 2009), that are at least slightly significant, are as follows. For *overall* offers, the coefficient estimate is negative and significant for 2009 (-0.1070) only. For *cross-listed* offers, the coefficient estimates are not significant for 2007, 2008 and 2009. For *non-cross-listed* offers, the coefficient estimate is slightly significant for 2009 (-0.0880) only. These results shows the financial crisis period also had a different effect on price response for *all* offers, including *cross-listed* and *non-cross-listed*, respectively.

Table 3: Regressions of CAAR on Expected Determinants for Marketed Underwritten Offers: Pre and Post-CSOX periods

	Overall SEOs		Cross-Listed		Non-Cross-Listed	
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Variables	**Pre-CSOX**	**Post-CSOX**	**Pre-CSOX**	**Post-CSOX**	**Pre-CSOX**	**Post-CSOX**
Constant	-0.0349	-0.0349	-0.0607	-0.0607	-0.0186	-0.0186
Beta	0.0195	-0.0131	0.0234	0.0347	0.0049	-0.0304
Runup	0.0843**	0.0795	0.1485**	0.0546	0.0376	0.0412
OfferSize	-0.0646	0.0387	-0.4349***	0.0645	0.0111	0.0308
LeadUnderwriter	-0.0142**	-0.0087	0.0070	-0.0323	-0.0051	-0.0014
DumGlo	-0.0121	-0.0379	-0.0003	-0.1140	--	--
DumOAO	0.0114	-0.0216	0.0849***	0.0207	-0.0342	-0.0223
VolTO	-0.2450	-0.0038	-0.2400	-1.1570	-0.1650	0.0470
ChTrades	-0.0170	0.0130	-0.1590*	0.0270	0.0235	-0.0345
RSecondary	-1.9900	0.8890	0.6470	20.9000	-3.2700	1.7800
RetVolatility	-0.0095	0.1506	1.7864*	1.0789	-0.3938	1.1941
D1	0.0365	-0.0006	0.0133	0.0336	0.0555	-0.0750
D2	0.0235	-0.0125	0.0320	0.0806	0.0274	-0.0325
D3	-0.0403	-0.0358	-0.0499	0.0570	-0.0020	-0.0575
D4	0.0281	-0.0335	0.0469	0.0658	0.0231	-0.0857
R-square	0.274	0.274	0.519	0.519	0.378	0.378
Adjusted R-square	0.066	0.066	0.145	0.145	0.014	0.014
Number of SEOs	109	52	54	21	55	31

This table reports coefficient estimates from regressions of Cumulative Average Abnormal Returns (CAAR) for marketed underwritten offers on expected determinants. It includes overall SEOs for the pre-CSOX period (regression 1) and post-SOX period (regression 2) by Canadian issuers. Similarly, regressions (3) and (4) show coefficient estimates for the pre-and-post CSOX periods for Cross-listed issuers; and regressions (5) and (6) for non-cross-listed issuers. The model of CAAR on expected determinants is $CAR_i = a_0 + (a_1 + \delta_{Beta}DumPer2)Beta_i + (a_2 + \delta_{Runup}DumPer2)Runup_i + (a_3 + \delta_{OfferSize}DumPer2)OfferSize_i + (a_4 + \delta_{LeadUnderwriter}DumPer2)LeadUnderwriter_i + ... + a_t DYearCrisis_{\tau=2007} + ... + a_{t+n}DYearCrisi_{\tau=2009} + \varepsilon_i$. The section Determinants of the Price Response for Bought Deals and Marketed Underwritten Offers defines CAR and expected determinants; also, it examines coefficient estimates. ***, ** and * stand for significance at the 1, 5 and 10 percent levels.

A summary of regression results from Tables 2 and 3 is as follows. Based on results from Table 2, this study finds most determinants of bought deals are *not* the same for the pre- and post-CSOX periods. It occurs even when considering three SEO categories: *overall*, *cross-listed,* and *non-cross-listed*. The only determinant that is significant for the pre- and post-CSOX periods is trading volume (*VolTO*), mostly for *non-cross-listed* offers. This result shows trading volume relates with favorable price response by investors. This is because of reduced private information content of the offer (that is, less information asymmetry). On the other hand, from Table 3, determinants of marketed underwritten offers that show significance are for the pre-CSOX period and *overall* SEOs and *cross-listed* offers only. In short, no common determinants exist for bought deals and marketed underwritten offers when considering *all* SEOs, including *cross-listed*

and *non-cross-listed*, for the pre- and post-CSOX periods. These results reveal that determinants for bought deals and marketed underwritten offers changed after CSOX across all SEO categories.

CONCLUDING COMMENTS

This research explores the effects Canadian SOX had on expected determinants of price response to equity offering announcements of Canadian bought deals and marketed underwritten offers. Canadian SOX is an essential piece of legislation equivalent to the U.S. Sarbanes-Oxley of 2002. Both laws have resulted in large changes in corporate governance, improved disclosure, and compliance costs by public corporations. From these laws companies need also to provide proper financial information to investors when announcing stock offerings. Bought deals and marketed underwritten offers are two methods of choice that Canadian publicly traded companies use when announcing equity offerings in stock markets. When a company announces a stock offering, a negative price response usually occurs immediately after. Many theories (for example, price pressure, information asymmetry, agency cost) try to explain the reasons for the adverse market reaction, which on average, is minus two percent.

The objectives of this paper are to answer the following questions. Are determinants of market reaction to announcing bought deals (and marketed underwritten offers) the same before and after Canadian SOX? What determinants are significant for each underwriting method -before and after CSOX? This study include fifteen determinants from previous research on seasoned equity offerings to answer these questions. It finds determinants for bought deals that are important differ for the pre- and CSOX periods and across different SEO categories (for example, *all* bought deals, *cross-listed*, and *non-cross-listed.* On the other hand, marketed underwritten offers do not show consistent determinants for the pre- and post-CSOX periods. Also, none of the determinants are significant during the post-CSOX period for all stock offer categories. These results show Canadian SOX had a different effect on expected determinants for bought deals and marketed underwritten offers, respectively. The key point of this study is as follows. Public companies and scholars should be aware that relevant determinants of price response to offer announcements in a period of time may not be in following periods. Mostly, when important regulatory changes -such as the Canadian SOX- occur. This is regardless of the underwriting method chosen for stock offerings examined here. Limits of this study. It does not include data on stock offerings beyond 2011 because of data constraints. For the same reason, it omits determinants that are significant from previous research studies. Future research is extending the sample of stock offerings beyond 2011. Also, finding new determinants from different data sources to get results more robust. This should provide more useful information to Canadian companies when deciding the underwriting method for stock offerings. It will mitigate the negative price response on shares price around the time of announcing the offer.

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BIOGRAPHY

Arturo Rubalcava is an associate professor of finance in the Faculty of Business Administration at the University of Regina, Regina, Canada. The author has publications in peer-reviewed book chapters and journals such as the *Journal of Financial Intermediation*, *Journal of Multinational Financial Management*, *The International Journal of Business and Finance Research* and others. He can be reached at University of Regina, 3737 Wascana Parkway, Regina, Saskatchewan, Canada S4S 0A2.