The International Journal of Business and Finance Research
Vol. 10, No. 1, 2016, pp. 27-37
ISSN: 1931-0269 (print)
ISSN: 2157-0698 (online)

IBFR
www.theIBFR.com

UNDERPRICING OF SEASONED EQUITY OFFERINGS BY CANADIAN CROSS-LISTED FIRMS IN THE PRE- AND POST-SARBANES-OXLEY PERIODS

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ABSTRACT

This paper examines the impact of the Sarbanes-Oxley Act of 2002 on underpricing of seasoned equity offerings by Canadian cross-listed firms and its determinants. It finds underpricing is not significantly different between the pre- and post-Sarbanes-Oxley periods. When distinguishing underpricing by two methods of choice for underwriting seasoned equity offerings -bought deals vs. firm commitment-, underpricing is higher for firm commitment than for bought deals during the overall period 1995-2008 and the post-Sarbanes period, after controlling for offer and firm characteristics. In addition, underpricing of bought deals and firm commitment are subject to different determinants for the pre- and post-Sarbanes periods, respectively. The main reason underpricing is high on firm commitment, after the passage of the Act, is for global offers. This suggests issuing equity globally has been unfavorable for firm commitment after the passage of the Act.

JEL: G24, G32

KEYWORDS: Sarbanes-Oxley Act, Seasoned Equity Offerings, Cross-listed, Underpricing, Bought Deals, Firm Commitment

INTRODUCTION

In July 2002, the U.S. Congress passed the Sarbanes-Oxley Act (SOX) to renew investors' confidence in U.S. capital markets damaged by major corporate wrongdoing. The goals of the Act are increasing transparency, improving quality of financial statements and effective internal corporate controls of publicly traded companies in the U.S., including foreign companies. Eckbo, Masulis and Norly (2007) propose the importance of studying the effects of laws such as SOX on securities issuance costs.

As suggested by Eckbo, Masulis and Norly (2007), this research study examines the impact of SOX on underpricing seasoned equity offerings by Canadian firms cross-listed on the NYSE, AMEX and NASDAQ. Seasoned equity offerings are firm's public equity offers after an initial public offering. Firms issue equity shares usually helped by investment banks (underwriters). Underpricing occurs when the offer price of the equity issue sold to investors is lower than the market value of firm's shares. It is an important issuance cost for firms and is not trivial. For example, the average gross proceeds of offers by Canadian cross-listed firms during the period 1995-2008 is $163.3 million. During that period the average underpricing was 4.08%, this results in $6.67 million issuers forgo by pricing the offer below the market price. By distinguishing two methods of equity underwriting - bought deals versus firm commitment -, this paper finds underpricing is higher for firm commitment than bought deals for the post-SOX period only (2.39% vs. 9.67%). The main reason underpricing is higher for firm commitment is for seasoned equity offerings issued globally -mostly in the U.S. This reveals underwriting global equity offerings through firm commitment has been unfavorable after the passage of the Act.

The reminder of the paper is organised as follows. Next section provides background and review of the literature. The following section examines the data and methods. Next section reports the empirical results. The last section reports the conclusions.

LITERATURE REVIEW

This section includes a review of bought deals and firm commitment as methods of choice for underwriting seasoned security offerings, including advantages and disadvantages. It also discusses relevant research studies on underpricing. Finally, it documents the literature on the effects of the Sarbanes-Oxley Act on publicly traded firms subject to the Act in the U.S.; including its impact on issuance costs for Canadian firms cross-listed on the NYSE, AMEX and NASDAQ.

Bought deals (similar to accelerated offers in the U.S.) and firm commitment (called marketed offers) are underwriting methods for seasoned equity offerings. The choice method in an equity offer may be negotiated between the issuer firm and the underwriter (usually an investment bank). In both cases, the underwriter buys the shares of common stock from the issuing company and resells them to investors at a predetermined offer price. The underwriting fee - which is a percent of the offer gross revenues - compensates the investment bank for helping the company in the equity offering. Other important services of underwriters to issuers include analyst coverage, information production, marketing and certification (Corwin and Schultz, 2005) and price stabilization after the issue (Cotter, Chen and Kao, 2004). Some significant differences between bought deals and firm commitment underwriting as documented by Pandes (2010) and Bortolotti, Megginson and Smart (2008) are as follows. The registration requisites with regulators and exchanges are fewer for bought deals than for firm commitment. The underwriting agreement, issue price, and offers size is determined around the announcement date in bought deals unlike firm commitment which is several days after the announcement. The issue date is usually the same as the announcement date for bought deals and several days after the announcement in firm commitment. In bought deals, the underwriter can cancel the offer if market conditions decline (no *market-out* clause) unlike firm commitment, which cannot. Firm commitment includes *road shows* and bought deals do not. *Road shows* refer to the procedure to gauge the demand for the equity offering among potential clients, mostly institutional investors. It also includes information to help decide the proper offer size and price. Gunay and Ursel (2015) report bought deals are the major underwriting method by seasoned equity offerings in the U.S. Europe, and Canada - 80% of all SEOs in 2013.

Bought deals and firm commitment offerings have advantages and disadvantages. The main advantage for bought deals is faster completion and reduced distribution costs. The disadvantage is that bought deals involve higher price risk, that is, the underwriting absorbs the price decline if market conditions are unfavorable. On the other hand, firm commitment underwriting involves lower price risk. That is, the underwriter can cancel the equity offer if market conditions are adverse. The major disadvantage in firm commitment offers involves longer completion and higher distribution costs.

There is vast amount of research on underpricing of seasoned equity offerings. Eckbo, Masulis and Norly (2007) provide an excellent review on the theoretical and empirical studies on issuance costs of seasoned equity offerings including underpricing. The influential study on underpricing of seasoned equity offerings by Smith (1977) originated new research on the determinants of underpricing. Most underpricing includes determinants that account for uncertainty on firm value due information asymmetry between issuers and investors (Smith, 1986). To compensate for the information disadvantage facing uninformed investors about the value of the firm, investment banks offer a share price below the market value (Rock, 1986; Altinkilic and Hansen, 2003). The following is a non-exhaustive list of reasons that may affect underpricing. It includes measures of firm-specific risk and systematic risk, price pressure, underwriter reputation, exchange listing location (for example, NYSE, NASDAQ), industry, offer size, gross proceeds, underwriting fees, liquidity risk (bid-ask spreads), underwriting method, firm size, underwriter certification,

order imbalance, institutional demand, insider ownership, and purpose of seasoned equity offering. (See for example, Bhagat, Marr and Thomson, 1985; Safieddine and Wilhelm, 1996; Corwin, 2003; Altinkilic and Hansen, 2003; Kim and Shin, 2004; Mola and Loughran, 2004; Bortolotti, Megginson and Smart, 2008; Kim, Palia and Saunders, 2010; Gao and Ritter, 2010; Intintoli and Kahle, 2010, 2014; Pandes, 2010; Autore, 2011; Kim and Masulis, 2012; Dempere, 2012; and Gustafson, 2014).

The evidence on which of the two underwriting methods for seasoned equity offerings -bought deals and firm commitment- show lower underpricing is inconclusive. For example, Bortolotti, Megginson and Smart (2008) report lower underpricing for bought deals in a sample that includes seasoned offers of firms from different countries. Gustafson (2014) argues that accelerated U.S. offers reduce the negative returns immediately before issuance that may occur in firm commitment offers, resulting in a higher market price on the issue day. In other words, firm commitment offers have higher underpricing because of negative price pressure pre-issue date, resulting in a lower market price on the issue day unlike accelerated offers. On the other hand, Autore (2011) report that overnight offers (similar to bought deals) by U.S. companies show higher underpricing compared with firm commitment offers. Huang and Zhang (2011) show underwriters' marketing efforts on firm commitment offerings can decrease underpricing by shifting up the demand curve to make it less inelastic, similar to the findings of Gao and Ritter (2010).

An important amount of literature also explores the effects of the Sarbanes-Oxley Act on publicly traded firm in the U.S. stock markets. The evidence shows the net benefits from firms subject to the Act from developed capital markets are unfavorable (Amaoko-Adu and Baulkaran, 2008; Bris, Cantale and Nishiotis, 2007; Li, 2011, 2014; Litvak, 2007, 2008). On the other hand, research on the impact of the Act on issuance costs of equity offerings by publicly traded firm in the U.S. is scarce. To my knowledge, the only study that documents the impact of SOX on the underpicing of equity offerings is by Kaserer, Mettler and Obernberger (2011) and relates to initial public offerings of U.S. companies. They find the cost of going public and underpricing increases and decreases, respectively, after the passage of the Act.

Eckbo, Masulis and Norly (2007) suggest that it would be relevant to explore the effects on issuing costs of important regulatory changes such as SOX. In agreement with Eckbo, Masulis and Norly (2007), Rubalcava (2012a, 2013) examines the impact of SOX on the market reaction and underwriting fees of seasoned equity offerings by Canadian firms cross-listed on major U.S. exchanges. Similarly, Rubalcava (2015) explores the effect on the market reaction and underwriting fees by distinguishing two underwriting methods: bought deals and firm commitments. Rubalcava (2012a) shows the market reaction to overall SEO announcements is more negative in the post-SOX period only. On the other hand, Rubalcava (2013) finds the SEO underwriting fees are non-significantly different for the pre- and post-SOX periods. When distinguished by the underwriting method of choice between bought deals vs. firm commitment, Rubalcava (2015) finds the market reaction and underwriting fees for bought deals are favorable for the pre-SOX period only. The three studies condition for firm and offer characteristics.

This paper complements other studies on the impact of the Act on seasoned equity offerings of Canadian cross-listed firms. Specifically, by examining the effects of the Act on the underpricing on seasoned equity offerings by Canadian cross-listed firms under two underwriting methods: bought deals and firm commitment.

DATA AND METHODOLOGY

The sample consists of 220 seasoned equity offerings (SEOs) by Canadian cross-listed firms, from May 1995 to July 2008. The pre-SOX period (May 1995-July 2002) includes 129 SEOs, 87 bought deals and 42 firm commitment. The post-SOX period (August 2002-July 2008) includes 91 SEOs, 57 bought deals and 34 firm commitment. The FP Advisor database is the source for the seasoned equity offerings and the determinants of underpricing. This includes SEO announcements, underwriting method (firm commitment,

bought deals), offer price, offer size, equity proceeds, offer purpose, offer type (primary, secondary), offer location (domestic, global), cross-listing exchange (NYSE, AMEX, NASDAQ), and book runners. The seasoned equity offerings include shares of common stock only. Statistics Canada (CANSIM) and the Canadian Financial Markets Research Centre (CFMRC) are sources of relevant market data such as daily foreign exchange rates (CAD/USD), daily stock prices, daily trades, daily volumes and monthly number of shares outstanding. All the figures are in Canadian dollars (CAD).

The cross-sectional OLS regression model that examines the relation between underpricing and the expected determinants takes the form of equations (1) and (2) as follows:

$$UnderP_i = a_0 + a_1 DumPerSOX + a_2 DumBD_i + a_3 SecOffer_i + a_4 StdRet_i + \cdots + a_n DumGlobal_i + a_{n+1} Dum1 + \cdots + a_{n+4} Dum4 + \varepsilon_i \quad (1)$$

$$UnderP_i = a_0 + a_1 DumPerSOX + (a_2 + \delta_{DumBD} DumPerSOX) DumBD_i + \left(a_3 + \delta_{SecOffer} DumPerSOX\right) SecOffer_i + (a_4 + \delta_{StdRet} DumPerSOX) StdRet_i + \cdots + (a_n + \delta_{DumGlobal} DumPerSOX) DumGlobal_i + a_{n+1} Dum1 \ldots + a_{n+4} Dum4 + \varepsilon_i \quad (2)$$

Equation (1) estimates the coefficients of the determinants for the full sample period, and the pre-SOX and post-SOX periods, respectively - undistinguished by underwriting method. Equation (1) can also estimate the coefficients for the full period, the pre-SOX period and the post-SOX period, separately for bought deals and firm commitment, respectively. On the other hand, equation (2) has the advantage that it can estimate the same coefficients of equation (1) but also simultaneously for the pre- and post-SOX periods for firm commitment and bought deals, respectively. The following section, which describes underpricing and its determinants explain the use of equations (1) and (2).

The model includes determinants of underpricing documented in the seasoned equity offering literature. The variables in equations (1) and (2) are as follows. $UnderP_i$ is the price discount for the SEO in percent and equals $(P_b\text{-}P_o/P_b)$x100, where P_b is the share price of the SEO on the previous trading day's close and P_o is the offer price. This measure is for firm commitment offers only. Underpricing occurs when the offer price is lower than the closing market price on the day before the issue day. Investment banks usually assign the SEOs at a favorable offer price below the market price to preferred customers as reward for information on issue demand. This paper uses a corrected discount measure for bought deals. The 'corrected' measure is the discount of the offer price from the closing price on the *offer date* as in Narayann, Rangan and Rangan (2004) and Autore (2011). That is, $UnderP_i$ equals $(P_{o*}\text{-}P_o/P_{o*})$x100, where P_{o*} is the share price on the offer date and P_o is the offering price. The corrected discount is net of the offer announcement effect. At the offer announcement date, a negative market reaction usually occurs, which for bought deals includes also the price discount. Determination of the offer price in bought deals is at the offering announcement date (Pandes, 2010). That is, the resulting decrease in price on the announcement date includes the information effect (market reaction) and discount effect. The 'corrected' discount adjusts for the information effect. Firm commitment offers do not need this correction because the offer price is several days after the announcement date. In other words, the information effect of firm commitment offers has vanished at the offer date. All underpricing data includes daily prices around the underpricing dates.

The description of the determinants of underpricing is as follows. *DumBD* is a dummy variable that equals one if the SEO's method of choice is a bought deal and zero if it is firm commitment. *DumPerSOX* is a dummy variable that equals one for the post-SOX period (*DumPostSOX*) and zero otherwise (*DumPreSOX*). An illustration of the use of *DumPerSOX* for the post-SOX period, (that is, *DumPostSOX)* in equations (1) and (2) is as follows. The expression $(a_2+\delta_{DumBD}DumPostSOX)DumBD_i$ in equation (2) equals $a_2DumBD_i + (\delta_{DumBD}DumPostSOX)DumBD_i$. This expression estimates the coefficients of *DumBD* for the full period, the pre-SOX period and the post-SOX period, respectively. The coefficient estimate of

DumBD for the full period -when the post-SOX period is *not* considered, i.e., *DumPostSOX* is zero- is a_2, as in equation (1). Similarly, the coefficient of *DumBD* for the pre-SOX period is a_2 in the expression $a_2 DumBD_i + (\delta_{DumBD} DumPostSOX) DumBD_i$ - when the post-SOX period *is* considered -, as in equation (2); and the coefficient estimate of *DumBD* for the post-SOX period is $a_2+\delta_{DumBD}$. To find whether the coefficient of *DumBD* is statistically significant for the post-SOX period, *DumPostSOX* changes to *DumPreSOX* in equation (2) as follows: $a'_2 DumBD_i + (\delta'_{DumBD} DumPreSOX) DumBD_i$ in which a'_2 is the coefficient of *DumBD* for the post-SOX period. Standard regression software shows the p-value of this coefficient. The empirical results section reports regression estimates using equations (1) and (2) as needed.

Other determinants of $UnderP_i$ include *SecOffer,* which is the ratio of number of shares sold by current shareholders to the total number of shares offered as in Lee and Masulis (2009). *StdRet* is the standard deviation of daily stock returns for the shares of the issuer of issue *i* during the three months before the SEO announcement. The volatility of stock returns is a measure of price uncertainty or price risk (Bae and Levy, 1990). *GProceeds* is the ratio of gross proceeds in Canadian dollars scaled by the market capitalization two days before the SEO announcement (Pandes, 2010). *RelOffer* is the ratio of the size of the offering to the total number of shares outstanding two days before the offer announcement (Loderer, Cooney and Van Drunen, 1991). *DumGlobal* is a dummy variable that equals one if the SEO is issued simultaneously in other countries (mostly U.S.) and Canada, and zero in Canada only. The model include dummy variables that classify the purpose of the offer as follows: *Dum0* (unknown), *Dum1* (working capital), *Dum2* (capital investment), *Dum3* (general corporate) and *Dum4* (debt reduction). ε_i is the error term that is assumed to be independently and normally distributed; that is, $\varepsilon_i \sim N(0,\sigma^2)$.

EMPIRICAL RESULTS

Underpricing of Seasoned Equity Offerings for Bought Deals and Firm Commitment

Table 1 reports the mean (median) underpricing (*UnderP*) values for seasoned equity offerings (SEOs) by Canadian cross-listed issuers. It consists of the overall sample period, and pre and post-SOX periods, respectively. It includes the number of SEOs in brackets, the mean (median) underpricing values in those periods, for bought deals and firm commitment, respectively. Column (1) of Table 1 shows the mean (median) underpricing value of 4.08% (2.68%) for the overall sample of SEOs. It also shows the mean *UnderP* is not significant different between the pre- and post-SOX periods (3.36% vs. 5.11%) for the all SEO sample (p-value of 0.1223). Similarly, column (2) shows the mean values of *UnderP* for bought deals are not significantly different between pre- and post-SOX periods (p-value of 0.5522). In contrast, column (3) shows the mean value of *UnderP* for firm commitment offers increased significantly from the pre- to the post-SOX period, from 3.70% to 9.67%. In addition, based on columns (2), (3) and (4), the mean *UnderP* of firm commitment is higher than bought deals for the overall period (p-value of 0.0027) and for the post-SOX period (p-value of 0.0000). These preliminary results show significant price discount for firm commitment offers after the passage of SOX, unlike bought deals, which did not show much change.

This section examines determinants of underpricing of SEOs for the overall sample period and the pre- and post-SOX periods, respectively. In addition, it examines whether bought deals show lower underpricing (or higher cost advantage) on firm commitment after controlling for offer and firm characteristics. Table 2 reports regressions of underpricing values (*UnderP*) of seasoned equity offerings on expected determinants using equation (1). This equation examines determinants of underpricing for the overall, and the pre- and post-SOX periods –undistinguished by underwriting method. Regression (1) reports the coefficient estimate of *DumBD* is negative and significant at the five percent level (-0.0313, p-value of 0.0209 unreported), after controlling for other determinants. It shows bought deals have a lower price discount than firm commitment offers during the overall period, consistent with results reported in Table 1. On the other hand, the coefficient of *DumPostSOX* is not significant for the overall period (0.0172, p-value of

0.1361 unreported). This shows that undepricing is not significantly different between the pre and post-SOX periods, a result that is also consistent with Table 1.

Table 1: Mean (Median) Underpricing Values of Seasoned Equity Offerings

Period	(1) All SEOs	(2) Bought Deals	(3) Firm Commitment	(4) P-value Difference BD vs. FC Mean (Median)
1995-2008	[220]	[144]	[76]	
	4.08%	2.87%	6.37%	0.0027***
	(2.68%)	(2.20%)	(3.69%)	(0.0098)***
Pre-SOX	[129]	[87]	[42]	
	3.36%	3.19%	3.70%	0.7589
	(2.60%)	(2.60%)	(2.50%)	(0.9779)
Post-SOX	[91]	[57]	[34]	
	5.11%	2.39%	9.67%	0.0000***
	(3.03%)	(1.90%)	(6.78%)	(0.0001)***
P-value difference Pre-SOX	0.1223	0.5522	0.0023***	
vs. Post-SOX	(0.0824)*	(0.7192)	(0.0009)***	

*This table reports the mean (median) underpricing (UnderP) of seasoned equity offerings (SEOs) by Canadian firms cross-listed on the NYSE.AMEX and NASDAQ. It includes the overall, and pre and post-SOX periods for bought deals (BD) and firm commitment (FC), respectively. The number of SEOs is reported in brackets. ***, ** and *show significance at the 1, 5 and 10 percent levels.*

Regressions (2) and (3) report the coefficient of *DumBD* is negative and significant at the one percent level during the post-SOX period only (-0.0704, p-value of 0.0002 unreported). (Equation (2) produces similar unreported results). The results show bought deals have less underpricing than firm commitment offers during the post-SOX period only, after controlling for other determinants. This is also consistent with the results in Table 1 in which the mean undepricing value for bought deals is significantly lower than firm commitment (2.39% vs. 9.67%) for the post-SOX period only. The coefficient estimate of *GProceeds* is positive and significant for the overall, pre and post-SOX periods, respectively. This shows that underpricing is increasing with gross offer revenues. That is, larger offer revenues produce more liquidity uncertainty, and therefore higher offer discount (Mola and Loughran, 2004). On the other hand, the coefficient of *RelOffer* is negative and significant for the full, pre- and post-SOX periods, respectively. It shows that underpricing is decreasing with the offer size, a result that is contrary to expectations. Interestingly, the dummy variables that show the purpose of the seasoned offerings change of sign from positive to negative from the pre to the post-SOX period.

Table 3 reports the determinants of undepricing (*UnderP*) for bought deals and firm commitment offers for the pre- and post-SOX periods, respectively, using equation (2). The first column shows the interaction of each determinant with the dummy variable *DumPerSOX*. This is a dummy variable that equals one during the pre-SOX period (*DumPreSOX*) and zero otherwise (*DumPostSOX*). *DumPostSOX* replaces *DumPerSOX* in regressions (1) and (3) and *DumPreSOX* replaces *DumPerSOX* in regressions (2) and (4). Regressions (1) and (2) of Table 3 show the coefficient estimates of the determinants of *UnderP* for bought deals for the pre- and post-SOX periods, respectively. Regression (1) shows a positive relation between underpricing and determinants such as secondary offerings (*SecOffer*), volatility of stock returns (*StdRet*), gross proceeds (*GProceeds*) and the dummy variable for the purpose of the SEO (*Dum1* to *Dum4*) for the pre-SOX period only. The positive sign of the coefficient of *SecOffer* (0.0804, p-value of 0.0183 unreported) suggests outside investors demand a greater price discount for SEOs sold from existing (controlling) shareholders as compensation for potential unfavourable information on the value of the firm (Mikkelson and Partch, 1985). In addition, the positive sign of the coefficient of return volatility reveals high price risk and investor uncertainty. Similarly, the positive coefficient of *GProceeds* shows liquidity uncertainty (Mola and Loughran, 2004).

Table 2: Determinants of Underpricing for Seasoned Equity Offerings of Canadian Cross-Listed Firms for the Overall, and Pre- and Post-SOX Periods

	Regression		
	(1)	(2)	(3)
	Overall Period	Pre-SOX Period	Post-SOX Period
Variables	**[220]**	**[129]**	**[91]**
Constant	0.0239	-0.0583*	0.2227***
DumBD	-0.0313**	-0.0038	-0.0704***
SecOffer	0.0171	0.0516	-0.1128***
StdRet	0.3790	0.8982**	-0.1270
Gproceeds	0.4117***	0.8860**	0.2923**
RelOffer	-0.3642**	-0.7708*	-0.2944**
DumGlobal	-0.0079	-0.0074	0.0141
Dum1	0.0174	0.0702**	-0.1489***
Dum2	0.0085	0.0558*	-0.1298***
Dum3	0.0031	0.0472	-0.1284***
Dum4	0.0186	0.0647**	-0.1241***
DumPost-SOX	0.0172		
R^2 Adj	0.048	0.045	0.351

*This table reports the cross-sectional regression results between underpricing (UnderP) of seasoned equity offerings (SEOs) and expected determinants for the overall sample, and the pre- and post-SOX periods, respectively, by Canadian cross-listed issuers on major U.S. exchanges using equation (1). The table shows regressions of underpricing on determinants such as ratio of secondary offers to the number of shares offered (SecOffer), standard deviation of returns (StdRet), ratio of gross proceeds to market capitalization (Gproceeds), ratio of offer size to shares outstanding (RelOffer). It also includes the dummy variables DumBD (bought deals),DumFC (firm commitment, DumGlobal (global issuance), Dum1 (working capital), Dum2 (capital investment), Dum3 (general corporate), Dum4 (debt reduction) and DumPostSOX (for post-SOX period).The first row shows the number of SEOs in brackets. ***, ** and *denote significance at the 1, 5 and 10 percent levels.*

Table 3: Determinants of Underpricing for Seasoned Equity Offerings of Canadian Cross-listed Firms for the Pre- and Post-SOX Periods for Bought Deals and Firm Commitment, Pespectively

	Regression			
	Bought Deals		Firm Commitment	
	(1)	(2)	(3)	(4)
Variables	***DumPerSOX* is *DumPostSOX*** **[144]**	***DumPerSOX* is *DumPreSOX*** **[144]**	***DumPerSOX* is *DumPostSOX*** **[76]**	***DumPerSOX* is *DumPreSOX*** **[76]**
Constant	-0.1538***	0.0366	0.0935	0.0937
DumBD				
SecOffer	0.0804**	0.0027	-0.0654	-0.1393**
*SecOffer*DumPerSOX*	-0.0776	0.0776	-0.0738	0.0738
StdRet	1.2143***	0.9729	-0.3083	0.2606
*StdRet*DumPerSOX*	-0.2414	0.2414	0.5590	-0.5590
GProceeds	1.6938***	0.0196	-0.4217	0.0043
*GProceeds*DumPerSOX*	-1.6741***	1.6741**	0.4261	-0.4261
RelOffer	-1.3352***	-0.0936	0.4040	-0.0675
*RelOffer*DumPerSOX*	1.2415**	-1.2415	-0.4715	0.4715
DumGlobal	-0.0123	-0.0096	0.0045	0.1048***
*DumGlobal*DumPerSOX*	0.0027	-0.0027	0.1002**	-0.1002
Dum1	0.1386***	-0.0289	-0.0163	0.0034
*Dum1*DumPerSOX*	-0.1675***	0.1675**	0.0197	-0.0197
Dum2	0.1200***	-0.0469	-0.0471	-0.0745
*Dum2*DumPerSOX*	-0.1670***	0.1670***	-0.0273	0.0273
Dum3	0.0933***	-0.425	-0.0674	-0.0572
*Dum3*DumPerSOX*	-0.1359**	0.1359**	0.0102	-0.102
Dum4	0.1355***	-0.0328	-0.0642	-0.1174
*Dum4*DumPerSOX*	-0.1684	0.1684***	-0.0532	0.0532
R^2 Adj	0.211	0.211	0.211	0.211

*This table reports the cross-sectional regression results between underpricing (UnderP) of seasoned equity offerings and expected determinants for bought deals and firm commitment offers of Canadian cross-listed issuers on major U.S. exchanges for the pre- and post SOX periods, respectively, using equation (2). The table shows regressions of underpricing on determinants such as ratio of secondary offers to the number of shares offered (SecOffer), standard deviation of returns (StdRet), ratio of gross proceeds to market capitalization (Gproceeds), ratio of offer size to shares outstanding (RelOffer). It also includes the dummy variables DumBD (bought deals),DumFC (firm commitment, DumGlobal (global issuance), Dum1 (working capital), Dum2 (capital investment), Dum3 (general corporate), Dum4 (debt reduction) and DumPerSOX (DumPreSOX for pre-SOX period and DumPostSOX for post-SOX period).The first row shows the number of SEOs in brackets. ***, ** and *denote significance at the 1, 5 and 10 percent levels.*

On the other hand, the coefficient of *RelOffer* (offer size) is negative and significant also for the pre-SOX period, which is not expected. Note that in regression (2) the coefficients of secondary offerings, return volatility, gross proceeds and offer size are no longer significant for the post-SOX period. This also includes the dummies *Dum1* to *Dum4* that describe the purpose of the offer. In short, these results show the determinants of undepricing for bought deals - which measure information asymmetry, price risk and liquidity uncertainty on the pre-SOX period - disappear after the passage of the Act.

For firm commitment offers, regression (3) of Table (3) shows no coefficient is significant for each determinant during the pre-SOX period. On the other hand, the coefficient of *SecOffer* is negative and significant (-0.1393, p-value of 0.042 unreported) during the post-SOX period as shown in regression (4). This suggests that lower underpricing occurs for non-raising capital firm commitment offers, after the passage of the Act. The reason behind this result is that information asymmetry between outside investors and controlling shareholders does not occur after the passage of SOX. That is, because the equity offer occurs several days after the announcement for firm commitment, investors infer the value of the firm is favorable around the offer day and are willing to accept a lower price discount. Unlike bought deals in which the offer date is the same as the announcement date and the information asymmetry about the value of the firm is greater and so the underpricing. The other coefficient that is also significant to underpricing for firm commitment offers after SOX is for global seasoned equity offerings (*DumGlobal*). The coefficient is positive and significant at the one percent level (0.1048, p-value of 0.0023 unreported). This reveals underpricing increased for global offerings under firm commitment after the passage of SOX.

In summary, bought deals and firm commitment equity offerings show different determinants for the pre- and post-SOX periods, respectively. The main reason firm commitment involves higher underpricing than bought deals is for global equity offers. In other words, investors accept to buy global equity offerings under firm commitment conditioned on high price discount only. This suggests issuing equity globally has been unfavorable for firm commitment after the passage of the Act.

CONCLUSIONS

The goal of this paper is to explore the impact of Sarbanes-Oxley Act (SOX) on the underpricing or price discount of seasoned equity offerings by Canadian firms cross-listed on the NYSE, AMEX and NASDAQ. Specifically, it addresses the effect on two underwriting methods of seasoned equity offerings: bought deals and firm commitment. Underpricing or price discount is an important issuance cost for seasoned equity offerings.

The sample data includes 220 seasoned equity offerings by Canadian cross-listed firms, from 1995 to 2008. The pre-SOX period (Jan 1995-July 2002) consists of 129 offers and the post-SOX period (August 2002-May 2008) of 91 offers. A cross-sectional OLS regression model tests the relation between underpricing of the seasoned equity offering with the expected determinants for the overall sample period, the pre- and post-SOX periods, and for bought deals and firm commitment offers, respectively. The results show that, for the overall sample, underpricing is not significantly different between the pre- and post-SOX periods. However, when distinguishing by underwriting method, underpricing is more negative for firm commitment than bought deals for the overall and the post-SOX periods, after controlling for offer and firm characteristics. In addition, the determinants of offer underpricing are different for bought deals and firm commitment for the pre- and post-SOX periods, respectively. The main reason firm commitment underpricing increased significantly after the passage of SOX, is for seasoned equity offerings issued globally. This suggests that underwriting global equity offerings through firm commitment has been unfavorable for Canadian cross-listed firms after the passage of the Act.

Some limitations of this paper are as follows. It does not include determinants that also may explain the underpricing, for example, shares float, insider ownership of the firm, and financial institution

shareholdings. The sample did not include data beyond year 2008 to improve the robustness of the results. Future research includes examining whether the findings of this paper are generalizable for similar underwriting methods of seasoned equity offerings in U.S. exchanges by U.S. and non-Canadian cross-listed firms. Since legislations similar to the Sarbanes-Oxley Act have passed in Europe and other countries, it is also worth exploring the underpricing effects on their publicly traded corporations (Rubalcava, 2012b).

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ACKNOWLEDGEMENTS

I thank the financial support from the Dean's Research Grant Fund of the Faculty of Business Administration of the University of Regina. I am also grateful to journal editor Terrance Jalbert and two anonymous referees for valuable comments that improved the content of this manuscript. Any errors are my own.

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