OPTIONS BACKDATING: A CANADIAN PERSPECTIVE

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Abstract

This paper provides an overview of (1) the basics of employee stock option backdating; (2) why firms and individuals may engage in backdating; (3) the difficulties in examining option backdating in Canada as well as a Canadian case study of option backdating; (4) implications of backdating; and (5) suggestions for curbing the potential to backdate in Canada.

Keywords: Backdating; Executive stock options; Compensation

1. Introduction

There has been a recent surge in popular interest and academic research regarding executive compensation that has been stimulated by both the escalation in the size of executive compensation, as well as the increasing array of components in executive compensation.[1] Generally, there are five components to most executive remuneration packages: annual salary, annual bonus, stock options, long-term incentive plans, and fringe benefits (e.g. pensions, car and possibly chauffeur, and club memberships). The intent of each is to tie compensation to either short or long-term company performance as well as to attract and retain key executives.

While all of these components have been growing over time, the use of stock options has experienced the greatest increase over the last 20 years. Stock options have become the single largest component of compensation among CEO's at large publicly traded companies in North America.[2] In 1991, 33 percent of the largest one hundred Canadian public corporations granted stock options to their executives[3] whereas by 1999 this number was 97 percent.[4]

There are four key reasons that the increasing proportion of stock options in executive compensation packages can be tied to.[5] The first relates to the classic economic principal-agent problem of aligning the incentives of managers with shareholders. The share price of a company should be positively related to the financial performance of the company, and therefore since executive stock options become more valuable the higher the stock price, options granted to executives should provide incentive for executives to maximize company performance and thus share price. Not surprisingly, shareholders have increasingly come to prefer a larger proportion of stock options in relation to base salary in executive compensation packages. Second, executives too have come to prefer this form of compensation likely because the "…overwhelming majority of stock options issued since 1980 have been exercised well in-the-money….".[6] The existence of this long-standing "bull market" means that executives have seen their stock prices rise regardless of their individual or collective managerial acumen. Third, until recently firms did not have to recognize a compensation expense when stock options were granted not-in-the-money.[7,8] As a result, firms that prefer stock options to cash compensation report higher book income. Finally, executives can also benefit from the preferential tax treatment – both deferral and a preferential tax rate – for the income earned from executive stock options. For example, in Canada, executive stock options do not incur a tax liability until at least

the time that the options are exercised and perhaps not until the underlying shares are sold. And, assuming the options are granted not-in-the-money, the stock option benefit – the difference between the fair market value of the shares at the time of exercise and the exercise price – is taxed similar to capital gains rather than employment income, where capital gains are effectively taxed at one-half the rate of employment income.

While executive stock options have gained prominence as a compensation and incentive mechanism, recent work in the U.S. has raised concerns about stock options as a major component of executive compensation. These concerns surround the practice of backdating and overall corporate governance.[9] Backdating is the act of choosing a date for a stock option grant *after* that date has occurred, and then claiming to have granted the options on that *earlier* date, in order to take advantage of the historical price performance of a company's stock. In practice this would involve looking back to find a local low point for the underlying stock relative to the current day's stock price and choosing that low point for the option's grant date. Under this practice of manipulating public filings, executive stock options are reported as being granted not-in-the-money on the date the share was trading at its lowest; however, given that the actual date the decision is made and options are awarded is after that earlier date, the options are, in reality, granted in-the-money.

The practice of backdating stock options was first identified by Erik Lie in 2005.[10] Lie's seminal study examined approximately 6,000 CEO option grants reported between 1992 and 2002 by publicly traded companies in the U.S. and found that stock returns were unusually low prior to the granting of executive stock options but then rebounded rather sharply following the granting

of the option. While some may argue this is coincidence or perhaps even evidence of impressive forecasting ability by these companies, the result raised concerns in the U.S. among regulators and shareholders alike. Shortly after Lie's study became public, the Securities and Exchange Commission (SEC) launched a broad probe of option granting, with a specific focus on backdating. Since then close to 200 companies have been investigated by the SEC and the U.S. Justice Department, many companies have had to restate earnings, a number of company executives have been forced to resign after admitting to backdating options, and criminal investigations have been launched against several key insiders. Since Lie's study, dozens of studies using U.S. data have been conducted that generally support Lie's finding.[11]

In stark contrast to the U.S. research on backdating, studies of Canadian backdating are absent. This void is likely not reflective of the lack of backdating or option timing in Canada. For example, Siskinds LLP, a Canadian law firm specializing in class actions, has investigated stock option awards of a number of companies trading on the TSX has found evidence of backdating behaviour or other stock option manipulation in 35 companies, and is investigating suspicious behaviour in 25 others.[12]

The goals of this paper are many. Focusing solely on Canadian publicly traded companies, the practice of backdating is explained in detail, as is the motivation to engage in backdating. Second, we demonstrate the manner in which option timing of Canadian corporations can be analyzed. Third, the tax, accounting, legal and policy issues that arise due to backdating are discussed. Finally we provide recommendations for constraining the practice of backdating.

2. What is Backdating

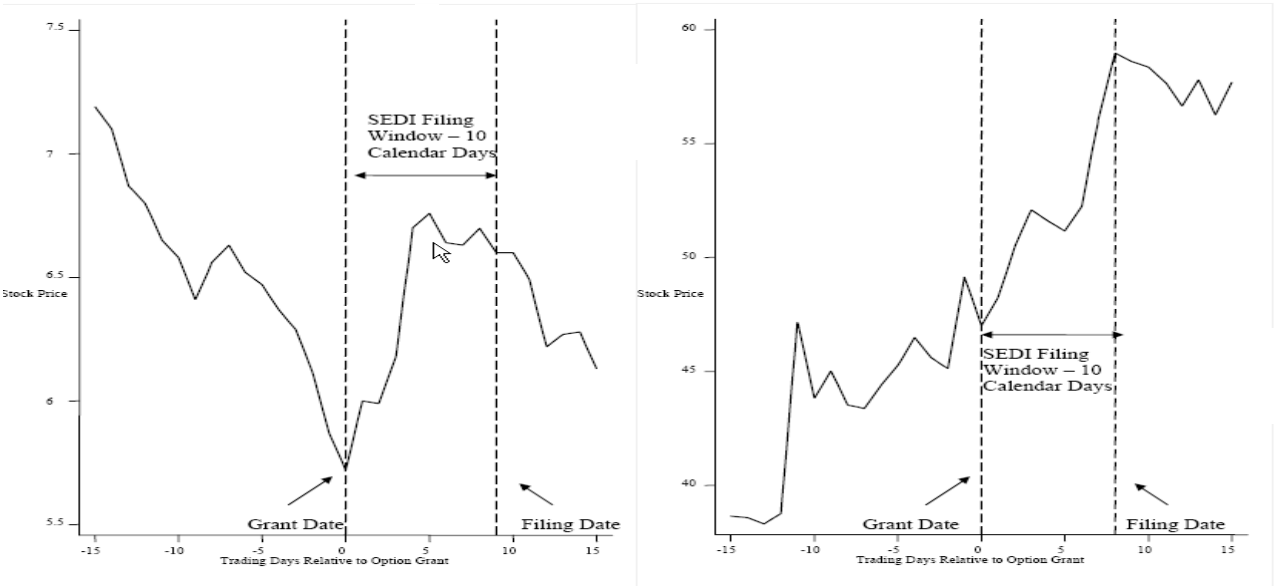
As stated earlier, backdating is the act of using hindsight to select a prior day's grant price and act as if this past date is the actual grant date in order to gain from any increase in the stock's price over that period. The primary motivation for backdating is therefore the increased benefit (either realized or potential) that arises.

Backdating can be difficult to identify. In examining backdating, it is important to understand the importance of the "filing window". In Canada, companies are required to report the granting of an option within 10 calendar days of awarding the option. With 10 calendar days to report an option, this in essence provides a "window of opportunity" to backdate, as one could continually look back over the previous 10 days for a low point in the share's price, select that low point as the option grant date, claim to have actually granted the option on that date, and still file on time. Adding further complexity to this is the problem that firms may not select the lowest price in the look back period (but the second or third lowest) in order to camouflage their activity. Moreover, it is not uncommon to find grants reported months or even years after they were apparently awarded. Late reporting provides an extremely large window to look back through for the purpose of backdating.

With this understanding, in Figure 1, we present two examples from Canadian option filings of behaviour that appears to be consistent with backdating.[13] Both the grant date and the date the option award was reported to the appropriate securities body are noted in the figure. In both cases the option grant date accorded with a local low point in the company's share price within a

30 day window. The graph on the left presents the pattern that is most identifiable in the backdating literature. In this case the company's stock price was falling in the days leading up to the date the options were awarded, rose immediately afterward, and the grant of the options was reported after the share price appeared to have stabilized at the higher level. The graph on the right presents a less identifiable pattern. In this case the company's stock price was generally rising over the entire period shown but, given that securities regulations require that option award be reported within 10 calendar days, it is clear that the stock option was awarded on the local low point within the ten calendar day filing (look back) window.[14]

Figure 1: Examples Consistent with Backdating



Consider the actual mechanics behind the act of backdating, particularly with the amount of oversight that is in place in many corporations. Three possible examples, each increasing in intentional wrongdoing, are outlined here and other examples are outlined in papers by Yermack[15] and by Chauvin and Shenoy.[16] The first is to establish a practice in which the grant date for option awards is automatically set to the lowest trading price within an established

window (e.g. the month in which the option was awarded, or the month preceding the grant of the option). The second is to declare a stock option award at a board meeting and the exercise price is set at a subsequent meeting, using the benefit of hindsight to set the price according to the lowest level at which the stock performed between the two dates. The third is to substitute the actual date that the options are awarded at a board meeting, usually without the knowledge of the board members, with a different date when the stock price is lower. This usually also requires that various corporate documents, such as Board and committee minutes, are falsified to misrepresent the actual dates of the related meetings and the associated option grants.

In terms of the question of the legality of backdating, as pointed out by Erik Lie, in the case of the U.S., backdating is not necessarily illegal if certain conditions are met.[17] First, documents must not have been falsified. For example, minutes of meetings and the documents surrounding the granting of the option must properly reflect the actual date the option was approved as well was granted. Second, companies must communicate to their shareholders that backdating is occurring when executive stock options are granted in-the-money based on using prior price information to set the option exercise price. Third, when backdating options to grant them in-the-money, this must be reflected in the company's statement of earnings as well as accurately stated for tax purposes. As Lie points out, these conditions are seldom met, making the act of backdating often illegal. While clearly these conditions might also be met in the case of companies listed in Canada, one area where the U.S. and Canada differ is in the requirements of their respective stock exchanges, as noted in the next section.

3. Canadian Institutional Context

This section details some of the rules, regulations, and requirements surrounding executive option awards and their reporting in Canada. All security based compensation arrangements, including employee stock option plans, of companies listed on the Toronto Stock Exchange (TSX) must comply with section 613 of the TSX Company Manual.[18] All such plans, both when instituted and when amended, must be approved by a majority of the directors and, in most cases, also by shareholders,[19] and must be filed with the TSX.[20] Security holders must be informed annually of the terms of security based compensation[21] and stock option grants must be reported to the TSX monthly.[22] The TSX requires that stock options *must* be granted not-in-the-money[23]: section 613(h)(i) states that "the exercise price for any stock options granted under a security based compensation arrangement or otherwise must not be lower than the market price of the securities at the time the option is granted." Granting stock options in-the-money, even if disclosed to shareholders, does not meet the exchange's requirements. Further, the option exercise price must not be based on undisclosed information relevant for the price of the stock.

In addition, Canadian securities regulators require that all insider option grants be reported on the System for Electronic Disclosure by Insiders (SEDI).[24] Since December 1999, insider trading information must be filed with the appropriate securities regulator within 10 calendar days of the option grant.[25] Previously, filing such a report was not required until 10 days following the end of the month in which the option was granted. Late reporting, if noticed by regulators, results in a fine of $50 per day up to a maximum of $1,000 per firm. Further, the OSC also requires that the option exercise price must not exceed the fair market value of the underlying stock on the date the option is deemed to be granted.

4. What are the Benefits of Backdating?

In this section we consider in turn, tax and accounting benefits to firms and their managers from backdating.

4.1 Tax Treatment – Employer

There have been several studies in the U.S. that explicitly blame the U.S. tax code – specifically, section 162(m) of the *Internal Revenue Code (Code)* – for the backdating scandal.[26] Until 1993 corporations could deduct compensation to employees as an ordinary business expense, provided the amount was reasonable.[27] In 1993, section 162(m) was introduced, which limits the deductable compensation to $1 million annually for each of a company's CEO and the next four highest paid executives. However, the limitation does not apply to some types of compensation, particularly performance-based compensation, such as stock options, providing key requirements are met. In particular, stock options must be granted not-in-the-money. Some have argued that section 162(m) is not only directly to blame for the dramatic rise in the use of stock options in executive compensation packages but also for the backdating scandal. The key argument here is that backdating stock option awards have the illusion of meeting the limitation exclusion whereas in reality the limitation should apply. That is, backdating circumvents section 162(m). However, there is no similar provision to section 162(m) in the Canada's *Income Tax Act*; Canadian firms have never been explicitly limited in the amount of executive compensation that is deductible (subject to a "reasonableness" requirement similar to that in U.S.[28]). This leads to

the observation that there is no tax advantage to Canadian corporations engaging in backdating. Since stock options are not deductible in Canada, firms could face a higher effective tax rate than they would if they substituted stock option awards with cash payments (assuming that the firm is otherwise profitable). This implies that Canadian firms face a trade-off between reporting higher book income with increased tax payments when granting options, a trade-off not necessarily faced by firms in the U.S.

4.2 Tax Treatment - Employee

There may well be tax reasons for backdating in Canada, but they are related to the tax treatment of employee (including executive) recipients of the options rather than the corporate grantor. Although one is generally hard-pressed to find examples where the Canadian tax treatment of individuals is more generous than that in the U.S., one such example is the tax treatment of employee stock options. Sandler provides a detailed comparison of the tax treatment of employee stock options in the U.S. and Canada.[29] What is particularly relevant for our discussion is that options granted not-in-the-money in Canada are given preferential tax treatment when compared to the taxation of options granted in-the-money and other employment income such as salary and cash bonuses.

The provisions of the *Income Tax Act* applicable to the treatment of employee stock options of publicly traded companies are section 7 and paragraph 110(1)(d). Under section 7, the amount of the stock option benefit – the difference between the fair market value of the shares at the time the options *are exercised* and the strike price under the options – is generally included in the

employee's income in the year the options are exercised. However, if certain conditions are met, the inclusion of this benefit may be deferred until the year that the shares are sold. For options of publicly-traded companies, the deferral to the year the shares are sold applies only if the conditions set out in paragraph 110(1)(d) are met and only up to a maximum of $100,000 worth of options per year.

Under paragraph 110(1)(d), the employee is entitled to a deduction in determining taxable income equal to one-half of the benefit included in income under section 7 (in the year the options are exercised or the year the shares are sold, as the case may be) if three conditions are met: the stock options are granted not-in-the-money, the employee deals at arm's length with the employer, and the shares acquired under the options are "garden variety" common shares. If the shares are sold for an amount exceeding the option exercise price, the employee also realizes a capital gain equal to the difference between the sale price of the shares and the fair market value of the shares on the exercise date; assuming that the shares acquired are considered capital property (which is likely to be the case), the employee's taxable capital gain is one-half of such capital gain.[30]

Thus, employee stock options granted not-in-the-money are taxed at the same effective rate as capital gains.[31] Furthermore, and contrary to the treatment of employee stock options in the U.S., the deduction under paragraph 110(1)(d) applies regardless of the total value of the options received and regardless of the length of time before sale that the shares are held after the exercise of the options.[32] Hence, in Canada, the most preferential compensation regime from an

employee's tax perspective is one where options are granted not-in-the-money (or for our purposes, backdated to appear as such).

4.3 Accounting Treatment

Historically, the accounting principles governing the reporting of employee stock options were quite simplistic. Until recently, Canadian and U.S. firms did not have to recognize a compensation expense for stock options that were granted not-in-the-money and were not performance-based[33] because the options could be accounted for using the intrinsic value method.[34] The intrinsic value of a stock option is the amount by which the price of the underlying stock exceeds the exercise price at the grant date. Provided that the option was granted not-in-the-money, it had no intrinsic value. When options were granted in-the-money, the intrinsic value of the options at the grant date must be amortized over the option *vesting* period. Therefore, firms that favoured compensation in the form of not-in-the-money stock options (or that least that were reported to be not-in-the-money) over cash remuneration reported higher book income.

In 1995, the U.S. Financial Accounting Standards Board (FASB) issued a statement encouraging but not requiring companies to use the fair value method. The fair value method requires that stock options be expensed based on their fair market value at the time of issuance (and amortized over the vesting period) even if the options are not-in-the-money. Option pricing models, such as a modified Black-Scholes model, can be used to determine the fair market value of options on their grant date. A similar non-mandatory move was made by the Canadian Institute of

Chartered Accountants (CICA) in late 2001. However, in the period following corporate scandals such as Enron, both Canada and the U.S. have made the fair value method mandatory. In Canada, firms have been required to use the fair value method for financial periods beginning on or after January 1, 2004 (CICA Handbook, Section 3870) while the U.S. rule applies for financial periods beginning on or after June 15, 2005 (FAS 123R).

5. Economic Modeling of Backdating in Canada

5.1 Difficulties Measuring Backdating in Canada

Although Canadian publicly traded companies have not yet been implicated in the backdating scandal that has been unfolding in the U.S., this lack of intense scrutiny should not be interpreted as reflecting a limited or non-existent presence and prevalence of backdating in Canada. While the institutional context in Canada does differ from that found in the U.S., it is not clear that these differences make it less likely that Canadian firms have engaged in questionable options timing behaviour. Indeed, since it is often argued that the corporate traditions in both countries are similar and that there is some evidence of a common North American labour market for senior corporate executives,[35] it is naive to assume that Canada is invulnerable to the practice of timing option awards.

While significant empirical research has been done on backdating in the U.S., there has been no empirical work on this subject published in Canada. The primary reason for this dearth of

research in Canada can be attributed to the differences in the availability of empirical data necessary to examine backdating in the U.S. and Canada.

Unlike in the U.S., there is no database detailing insider stock option grants for publicly traded companies in Canada. In the U.S., this information can be readily and easily accessed by researchers. For example, both the Thomson Financial Insider Filing and Standard & Poor's ExecuComp databases provide access to the information in documents that are filed daily with the SEC, including stock option awards. These SEC filings are compiled and heavily scrutinized by associated analysts with the database providers prior to their incorporation into the database. In Canada, no such database exists that is readily and costlessly accessible by academic researchers. Instead, researchers must compile and scrutinize the information for each company of interest themselves. Executive option grants post-June 2003 can be obtained online via SEDI. While SEDI is freely accessible, it is not readily useable, must be accessed on a company-by-company basis, and the filings have to be verified for accuracy by the researcher. Complete historical data (i.e., pre-SEDI data) is available only through the relevant provincial securities commissions (de facto the Ontario Securities Commission). The main source of pre-SEDI data is the weekly Ontario Securities Commission Bulletin (OSCB). However, and ignoring the time cost associated with such an endeavour, the OSCB excludes one crucial piece of information, namely the option filing date. The filing date along with the other relevant information can be obtained directly from the OSC but this is a costly and time-consuming endeavour.[36] And because the data when provided is in the form of photocopies, it must be entered manually into a statistics program in order to analyse it. Finally, because the OSC does not "vet" the filings before they are accepted, the accuracy of the data is not guaranteed. Therefore there is a

significant upfront cost in terms of both money and time for Canadian researchers relative to their U.S. counterparts where data is more readily available.

It is possible in Canada to obtain some historical information on stock option awards for the CEO and the top four highly paid executives. Since 1993, all publicly listed companies must disclose the compensation details of these five executives in their annual proxy statements to shareholders. Beginning in 1997, electronic access to the annual proxy statements has been available through the System for Electronic Document Analysis and Retrieval (SEDAR) system. Again, there still exists a substantial time cost associated with collected and screening this data. Like the data in the OSCB, the SEDAR data excludes information on the filing date. Further, the proxy filings often only include information on the expiration date of the option award and the grant date can only be imputed from the expiration date, the exercise price, and information regarding the granting, pricing, and vesting practices from the company's stock option plan.

A second obvious difference pertains to the sample size available. For instance, the seminal study by Lie[37] is based on a sample of approximately 6,000 CEO option grants over the 1992 to 2002 period taken from the Standard and Poor's ExecuComp database. Another noteworthy study by Narayanan and Seyhun consists of a sample of nearly 640,000 option grants over the 2002 to 2004 period obtained through Thomson Financial.[38] Sample size clearly is not an issue for these researchers. For Canada, the obvious companies to consider would be those trading on the TSX 60 or TSX Composite. Whether studying the 60 companies on the TSX60 or the close to 300 on the TSX Composite, sample size (and importantly statistical significance) becomes a problem very quickly, especially if the desire is to consider only grants to the CEO (as Lie does

in his 2005 study). Further, splitting the sample into industry categories and other subsamples (as is common in U.S. studies) to see how backdating may differ by industry, firm size, age of firm, is difficult with the small sample available in Canada.

A final point relates to data quality. Focusing on the data available in the electronic SEDI system and comparing this with information from the compensation details reported in the annual proxy statements to shareholders as well as other company reports, there is often conflicting filing information for a particular grant. Under the electronic SEDI system, the responsibility for filing insider reports rests with the individual receiving the option grant. As a result, it is quite common to see filings long after the 10 day reporting window has expired (and at times not reported at all), as well as a wide range of missing information (such as strike price, grant date, etc). These data quality issues make statistical analysis difficult and time intensive (as it is often necessary to examine other SEDAR or company reports to verify and correct the information provided in SEDI). While the accuracy of data can be an issue in the U.S., because of the large sample size available, U.S. researchers can simply discard observations that lack clear grant data.[39] Canadian researchers do not have this luxury.

5.2 A Canadian Example of Statistical and Economic Analysis of Backdating

Despite the lack of tangible proof of backdating in Canada, a number of Canadian companies have voluntarily and proactively, albeit quietly, launched internal reviews of their options granting procedures. As far as the authors are aware, only two companies have *publicly announced* that they have reviewed their option dating practices and released information

resulting from these reviews. In this section we examine one of these companies, FirstService Corporation, to determine whether "economic" or "statistical" modelling can demonstrate the use of hindsight.[40]

In a press release announcing its 2007 third quarter results dated January 29, 2008, and further elaborated in its 2008 Annual Report, FirstService Corporation announced that:

> Following receipt of an inquiry from its primary securities regulator, the Company's senior management and Board of Directors conducted a comprehensive review of historical stock option granting processes and the related accounting for the 13 year period from 1995 to 2007. In this regard, the Board established a Special Committee of independent directors to complete the review and make recommendations to the Board.[41]

The Special Committee found that, while FirstServices's stock option plan stipulated that stock option grants be priced at no less than their stock's TSX closing price on the effective date of the grant, company management had been using the lowest monthly trading price (on either the TSX or NASDAQ) of the month preceding the grant to determine the effective grant date. The special committee concluded that this practice was due to "…misapprehension by management as to the scope of permissible grant dates under our stock option plans…[and] was applied consistently throughout the relevant period and was not used selectively to benefit any one group or individual."[42] The company subsequently took a one-time $3.3 million non-material and non-cash incremental compensation expense, and has approved a number of related remedial actions.[43]

The public admission of FirstService to using hindsight to select option grant dates – specifically tying the grant date to the lowest trading price in the month preceding the actual grant – provides an excellent opportunity to determine whether economic or statistical modelling demonstrates the use of hindsight that the corporation has admitted.[44] This specific case provides a systematic way of collecting data, analyzing the information, and reporting the results where the outcome is known apriori. In addition, a case study of this nature can be informative for future research.

In order to undertake this examination, information related to FirstService executive stock option grants for the period from January 1, 1997 to December 31, 2006 was compiled from information contained in weekly OSC Bulletins, the annual proxy statements to shareholders available from the SEDAR system, and filings of stock option grants as well as exercises from the SEDI System.[45] As FirstService options are exercisable for a period of five years from the date of issue, the grant date can be imputed by matching the reported strike price to the value of the stock five years prior to the noted expiration date for the exercised option. We obtain an initial sample of 96 option awards to individual insiders over our sample period.

Before we proceed, it is essential to scrutinize the reported information for accuracy and we find some anomalies. First, while all insiders are required to file stock options awards with the OSC, we found incidences of option awards reported in the annual proxy statements that were not reported in the OSC Bulletins or in the SEDI system. We also find information related to exercises that do not have an associated option award reported in the OSC Bulletins or the SEDI system. Second, we found several cases where the information pertaining to specific grants varies between information sources. We use information pertaining to identical grants to other

insiders as well as the underlying stock price information to attempt to infer the accurate information for our purposes. Third, FirstService shares trade on both the TSX and NASDAQ and insiders are supposed to indicate when the option is priced in USD; however, the USD currency note is not always reported in the OSC Bulletins or SEDI System. Only by checking both stock series as well as historical awards to the noted insiders are we able to deduce the currency in which the option was priced. Fourth, we found several cases where we are unable to match the recorded grant date and exercise price with the underlying stock price. In some instances, the stock price matches the exercise price within a day of the reported grant date and we infer that the accurate grant date is the one where the exercise price matches the stock price. However, in a select number of cases, at no point during the reported grant month does the stock trade at the reported exercise price. In some cases, the discrepancy between the stated exercise price and the underlying stock price represents mere pennies and we assume that this result is driven by errors in our stock data and assume that the reported grant date is correct. In other cases where the discrepancy is larger, we eliminate the options from our sample because we are unsure of the accuracy of the grant date.[46] Last, we found several cases in the later part of the sample where the original SEDI filing is accurate, but more than two years after the original grant was filed, an amendment was filed by some insider that reprices the option with the new exercise price placing the grant well in-the-money. Since the stock was trading well above the exercise price on the date that the amendment was filed and no stock split is reported, we assume the amendment is erroneous and use the original filing information for our analysis. After eliminating options for which the associated information may be inaccurate, we are left with a sample of 86 option awards to individual insiders over our sample period. These 86 option

grants represent 26 separate option granting incidences over the sample period of January 1, 1997 to December 31, 2006.

In examining the stock performance of this company around the 26 separate option grant incidences, 69% (18) of the awards have an exercise price associated with the lowest price in the month prior to the option grant. Further, one additional award has an exercise price that is associated with the second lowest price in the month and three additional awards are associated with the third lowest price in the month (in both cases, the differences between the lowest and second lowest or third lowest price is pennies).

Assuming no prior information on the granting behaviour of the company, we would use statistical modeling to determine whether this was simply a case of very good luck. Therefore we consider the probability of this option pricing pattern being random by considering the odds of each option being priced at a monthly low. If we assume that the probability of hitting the lowest closing price at random is equal amongst all trading days in a month, then the probability is just one divided by the number of trading days in the month of interest. In particular, if there is an average of 20 trading days in any given month, then the probability of getting the low price in a month is 1/20 or 5%. These are quite low probabilities and hence there is a relatively low probability that even a single option will hit a low in the window.

We then consider the probability of the company *repeatedly* hitting a local low. To do so, we can use a formula based on the binomial distribution, assuming that the probability of "success" is 5%, as discussed in the preceding paragraph.[47] As noted above, we find that 18 of the 26

options hit the monthly low. The probability associated with exactly one of the 26 options hitting a monthly low is 36%. Hence it is probable that, from time to time, an option will randomly be priced at the lowest price of the month. However, the probability of at least 18 of the 26 options being priced randomly at the lowest price of the month is approximately 1 in 247 quadrillion, which is statistically insignificantly different from 0%. To put this in perspective, the probability that even just five of the 26 options are priced to accord with the monthly low of the stock price is less than 1%.

Finally, we can also examine the behaviour of the cumulative raw stock returns around the options' grant dates to see if they exhibit any abnormal patterns which might hint at option timing or manipulation. Following our discussion in Section 2, we examine a filing window of ten days before and after the grant of options, considering the stock returns over that period. It would be an arduous task to determine option timing behaviour by examining event windows for each and every executive option granted in our sample; therefore, an aggregated level of examination is needed. To examine the cumulative stock returns surrounding a grant date for a particular grant *g*, we calculate the cumulative raw returns as:

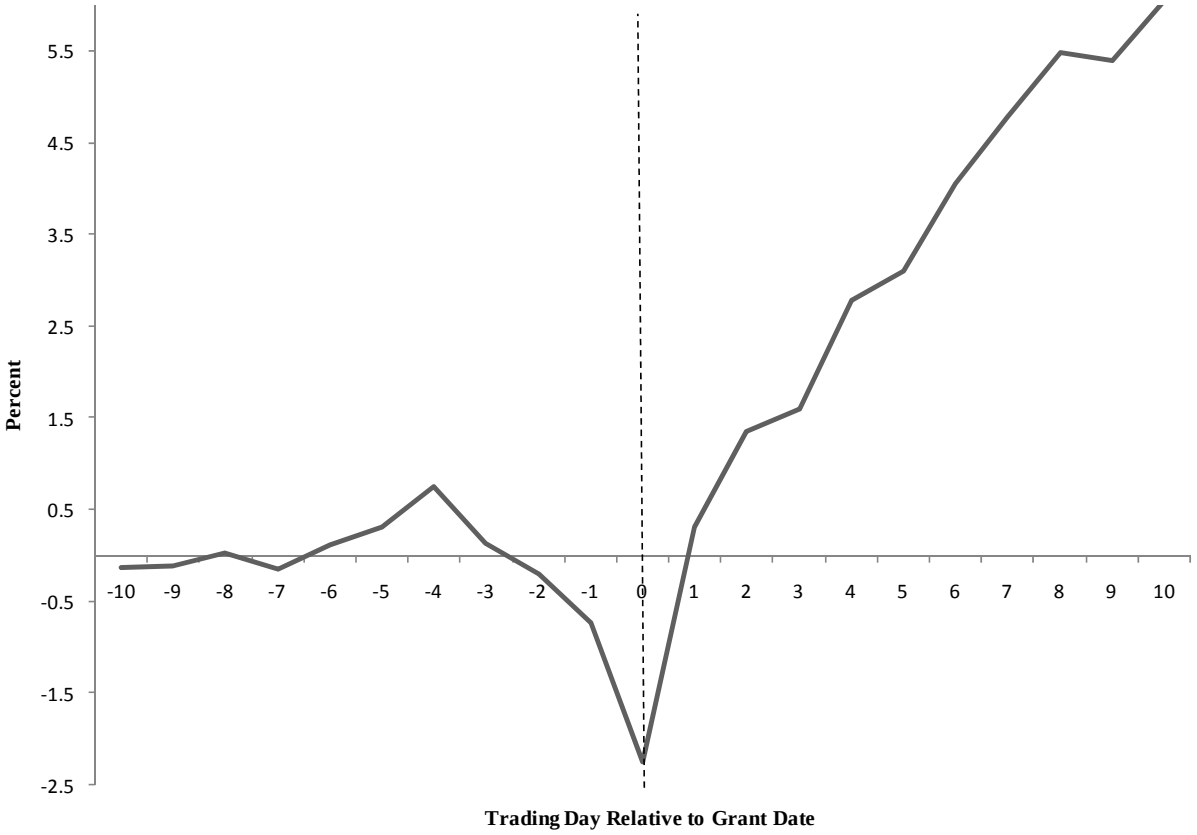
$$CR_g = \sum_{t=-10}^{10} (r_t) \tag{1}$$

where r_t is the daily raw return for FirstService on day *t*, and we cumulatively sum these returns from 10 trading days prior to the executive stock option grant to 10 trading days following the grant. In order to draw more overall inferences, we aggregate the period-by-period cumulative returns for all the grants in order to provide the mean cumulative returns.

Figure 2 displays the average cumulative raw returns around a twenty-one trading day option grant window for all of the options in our sample; that is, the average daily cumulative stock return from 10 trading days prior to 10 trading days following each aggregate option award averaged for our entire sample of stock option awards. The graph displays aggregate findings which provide suggestive evidence that in the dates surrounding an executive option grant, returns are on average low or negative before the grant and high after. This recognizable trough or v-shape could be an indication of backdating, although proving egregious backdating is difficult.

In sum, it appears the use of an economic or statistical model to identify possible backdating behaviour works quite well. Examining the number of times an option was granted on a monthly low, we see that statistically speaking (1 in 247 quadrillion) chalking this up to good luck is unlikely. Further, investigating the cumulative returns surrounding option grants we again see the tell-tale “v pattern” commonly found in backdating studies. While these results are not surprising given the public announcement by FirstService of their historical option granting practices, the results do highlight the ability of the statistical and economic models to demonstrate behaviour consistent with irregularities in option granting activities.

Figure 2: FirstService Cumulative Stock Returns Surrounding Grant Dates



6. Implications of Backdating

There are a number of implications for those caught backdating. In particular, backdating violates stock exchange requirements, securities regulations, leads to misstated and/or falsified corporate documents such as financial statements, and creates severe and adverse tax consequences to employees (whether they were aware of the backdating or not). We detail some of the implications in this section.

6.1 Tax Implications

Should TSX companies engage in backdating, a number of issues have bearing beyond the company itself. Consider again, the tax issues surrounding backdating by a publicly traded company set out in section 4.2. Both the deduction of one-half of the stock option benefit under paragraph 110(1)(d) and the deferral of the inclusion of the stock option benefit until the year that the shares are sold (rather than the year the options are exercised) require that the stock option be granted not-in-the-money.

If options are granted in-the-money, the executive must include in employment income the full amount of the stock option benefit in the year the option is exercised without any offsetting deduction. Thus, employees who receive backdated stock options – the equivalent of an in-the-money option assuming that the fair market value of the shares on the real grant date exceeds the strike price under the option – may be reassessed by the Canada Revenue Agency not only to deny any deduction claimed under paragraph 110(1)(d) but also to include the income in an earlier year than that in which the employee reported the benefit (and offsetting deduction) for tax purposes. Such reassessment would also include interest, compounded daily at a relatively high rate. Furthermore, an employee who knowingly received backdated options and reported them as if they were not-in-the-money could be subject to gross negligence penalties and perhaps even be charged with tax evasion.

Consider the following example. A corporation (X Co.) grants an employee options to acquire 10,000 common shares at $10 per share, which is the trading price of the shares on Day 1. However, the options are in fact granted a few days later (say on Day 10) when the trading price per share is $11, but are backdated to appear as if they were granted on Day 1. The employee

exercises the options a few years later (year 4), when the trading price is $22 per share. The employee sells the shares two years after that (year 6) for $28 per share. The employee reports the tax consequences (knowingly or perhaps innocently) on the basis that the options were granted not-in-the-money. Because the total value of the shares that could be acquired under the options originally granted (that is, purportedly granted) was $100,000, the employee does not report any stock option benefit until the shares are sold (year 6). In that year, the employee includes in employment income a stock option benefit of $120,000,[48] a deduction under paragraph 110(1)(d) of $60,000,[49] as well as a taxable capital gain of $30,000.[50] In total, the taxpayer would include $90,000 in taxable income in year 5 as a consequence of these transactions. However, because the stock options were in fact granted in-the-money (because the value of the shares on the actual grant date ($11) exceeded the strike price under the option ($10)), the employee must include the full amount of the stock option benefit ($120,000) in income in year 4 rather than year 6. In year 6, the employee should have reported only the $30,000 taxable capital gain. Not only is the employee's aggregate taxable income increased by $60,000 in years 4 and 6 combined, the $120,000 included in income in year 4 would also generate a substantial additional interest expense from April 30 of that year to the date of the reassessment. Although the taxpayer's reported income in year 6 would be reduced (from $90,000 to $30,000) and the refund owing to the taxpayer for excess taxes paid that year would also include interest, such interest is computed at a lower rate (2 percentage points lower) than the interest charged pursuant to the year 4 reassessment.

6.2 Accounting Implications

Beyond the tax implications to the employee, there are important accounting implications to the employer if found backdating, as any company that has backdated stock options *may* be required to restate its earnings (if it is a material amount) in order to properly reflect the compensation expense resulting from the in-the-money portion of the options. This may involve restating earnings over past years and may result in a significant reduction in past earnings. To give a sense of the magnitude of these restatements, consider the amounts of the restatements by a number of companies investigated for backdating. As noted in section 5, FirstService took a one-time $3.3 million non-material and non-cash incremental compensation expense as a consequence of its backdating. This amount pales in comparison to the substantial restatements of reported income that numerous U.S. corporations have been forced to make due to inappropriate option pricing practices.[51]

Obviously for shareholders these restatements represent a significant concern, and cost, as it is reasonable to expect the stock market to react negatively to these reductions to earnings and associated reputational loss surrounding the revelation of backdating by the corporation.[52] Indeed, it has been estimated that the revelation of backdating results in an average loss to shareholders of $500 million per firm whereas the benefit to corporate managers from backdating is no more than $3 million over a 5-year period.[53] It is not surprising, therefore, that backdating exposes a company to potential law suits from shareholders who consider themselves harmed as a result.[54]

6.3 Securities Regulations

Backdating also raises issues relating to adherence to Canadian exchange regulations and securities law. As discussed earlier, backdating is equivalent to granting in-the-money options, and for companies listed on the TSX, this is a clear violation of the exchange's rules. By misrepresenting the actual grant date of the option, companies also breach Canadian securities laws in terms of misleading public disclosure. Further, by violating exchange and legal requirements, companies may be subject to significant negative reaction by financial markets, and as a result, a potential reduction in shareholder value. In sum, backdating may have negative ramifications for investor confidence in those companies implicated for backdating and option manipulation.

7. Suggestions for Reform

This paper has not attempted to provide an exhaustive examination of backdating in Canada. Significantly more empirical data would have to be collected and analyzed for such an endeavour. Rather, our intent is to provide an overview of what backdating is, why we should care, and some of the implications of backdating, as well as providing one Canadian empirical example. Given the ongoing investigations involving Canadian companies, an obvious question is what can be done to reduce this practice? From our review of the current state of affairs in Canada, as well as that south of the border, a number of policy options are worth considering.

i. Reduce the reporting date to match that in the U.S. post Sarbanes-Oxley

The *Sarbanes-Oxley Act*, enacted in 2002, amended SEC reporting regulations which now require the grant holder to report grants to the SEC within two business days of receiving the grant. A forthcoming study by Heron and Lie[55] shows that with the introduction of this new two-day reporting period, the return pattern associated with backdating is much weaker, while another study by the same authors[56] shows the percent of unscheduled grants backdated or manipulated fell dramatically following the introduction of the two-day rule. Given these findings, a move by Canadian regulators to enact a similar two-day rule may have similar effects.

ii. Require an immediate public press release the day of the grant.

An alternative to following the U.S. lead is to consider a practice currently in place for companies listed on the TSX Venture exchange. TSX-V listed companies granting executive stock options must issue a public press release on the *day of* the option grant. Through this requirement – assuming there are (or the threat of) severe consequences in the event of a failure to comply – the ability to backdate should be eliminated completely and at a relatively low cost in terms of resources.

iii. Remove individual responsibility for filing and make it a company responsibility.

Currently, under the SEDI system, the responsibility for filing insider reports rests with the executive receiving the option grant. As a result, it is quite common to see filings long after the 10 day reporting window has expired, as well as a wide range of missing information. This non-uniformity in data entry reduces transparency and potentially allows for greater opportunity for

filing misconduct. Moving this responsibility from the individual to the corporation may serve to increase uniformity and timeliness of filing. In either case, the consequences attached to a failure to comply must be sufficiently meaningful to promote compliance.

iv. Examine the cost attached to late filing of SEDI filings.

Two related concerns that immediately arise when examining SEDI insider filings are the punishment for not filing within the 10 day window and whether the punishment is enforced. It is our understanding that currently, late reporting (*if* it is noticed by the regulators) results in a fine of $50 per day up to a maximum of $1,000 per firm. This does not appear, at least to us, as a terribly biting punishment even if more rigorously enforced. Regulators may want to reconsider their current practice and whether increasing the costs of late filing may impact the decision to backdate.

v. Consider board-management separation and issues arising from a seemingly non-arms length relationship.

Clearly a much larger task centres on the current state of affairs concerning how executive stock options are granted. There is a large body of literature concerning the potential for conflict of interest and opportunism with the granting of options and executive compensation generally due to the close relationship between compensation committees and executives.[57] Increasing the arms-length relationship between the board of directors and senior management, and reconsidering how compensation committees are structured are two areas that clearly require

addressing because the close relationship provides fertile ground for practices such as backdating to occur.[58] We offer no simple solutions to this problem, but clearly the problem is a glaring one. Other than changes to compensation committee structure, other corporate governance options could be considered, including the outright elimination of equity-based compensation for senior executives or at least the elimination of non-scheduled option grants (where there is the greatest potential to manipulate dates).

vi. Eliminate the preferential tax treatment of employee stock options

Some commentators suggest that employee stock options are a poor – indeed perverse – form of executive compensation.[59] The preferential tax treatment of options only exacerbates this problem. The preferential tax treatment of employee stock options – specifically the deduction permitted under paragraph 110(1)(d) of the Act – may contribute to backdating. Since the tax preference requires as a precondition that the options be granted not-in-the-money, it stands to reason that the elimination of the tax preference should reduce the propensity to backdate.

If the deduction under paragraph 110(1)(d) is eliminated, the question remains as to *when* the tax benefit from stock options should be reported and whether the employer should be permitted on offsetting deduction. In our view, it would be inappropriate for the tax treatment of options to match the current accounting treatment. Specifically, since employment income is taxed on a received rather than earned basis, an employee should not be required to include an amount in income prior to having an unconditional legal right to exercise the options: that is, when the options vest. In our view, option pricing models are sufficiently robust that they can determine

an option's value at that time with a reasonable degree of accuracy. However, if it is considered too difficult to value options at that time, then they should be taxed at the earlier of exercise or sale (which is the earliest point in time that they are currently taxed under the Act). The employer should be entitled to a deduction in the same amount at that time.[60]

vii. Permit backdating, or permit in-the-money options (with shareholder approval)

A more radical suggestion is to permit corporations to (or not prohibit them from) granting options that are in-the-money. In principle, there is no reason why corporations should not be able to pay employees in whatever manner they see fit provided that shareholders pre-approve the use of such compensation and appropriate corporate governance protection is in place. Shareholders could, if they wish, impose restrictions in such plans. They could outright prohibit in-the-money options, or impose limits on their use.[61] For publicly-listed companies, this proposal would obviously requires changes to the TSX rules.

Beyond these suggestions, there is the obvious need of further academic research on backdating in the Canadian context. There is a need to determine the extent to which backdating exists in Canada, as has been done in the U.S.[62] Is backdating a wide problem in Canadian financial markets or is it relegated to only a handful of companies? Further, we believe investigating backdating in Canada will provide results useful not only for Canada, but for researchers on U.S. backdating as well. Comparing backdating in Canada with that in the U.S. may prove useful in determining the relative importance of tax, accounting and securities regulation in option backdating. The rules in these three areas governing the treatment of stock options are

substantially similar in Canada and the U.S., although the rules have changed at different times. By investigating whether the amount of backdating has been affected by various "trigger" dates (i.e., dates of significant changes to tax laws, accounting rules and securities regulation relating to stock options), we can provide important insights for Canada and the U.S. as to the possible causes of backdating, as well as opportunities for reform.

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[1] Since 1970, the median cash remuneration paid to S&P 500 CEO's has more than doubled and the median total remuneration has nearly quadrupled: K. Murphy, "Executive Compensation" in Orley Ashenfelter and David Card (eds.), *Handbook of Labor Economics*, Vol. 3, (New York: North Holland, 1999), at 1.

[2] See B.J. Hall and K.J. Murphy, "The Trouble with Stock Options" (2003) vol. 17, no. 3 *Journal of Economic Perspectives* 49-70; and The Conference Board, *The 2006 Top Executive Compensation Report* (New York: The Conference Board, 2006).

[3] K.J. Klassen and A. Mawani, "The Impact of Financial and Tax Reporting Incentives on Option Grants to Canadian CEOs" (2000) vol. 17, no. 2 *Contemporary Accounting Research* 227-262 at 232.

[4] K. Press, "Editorial: Stock in Trade" (1999) vol. 23, no. 9 *Benefits Canada* 7.

[5] In the U.S., a fifth reason has been cited for the increased use of stock options as executive compensation, particularly since 1993: the introduction of s. 162(m) to the *Internal Revenue Code*, which limits the deduction by a publicly-held company of the compensation paid to its CEO and each of the next four highest paid executives to $1 million annually, unless the compensation is based on performance, the corporation receives the approval of the shareholders, and an independent compensation board determines the criteria on which the compensation award is based. Stock options are considered to be performance-based provided that they are granted not-in-the-money. Conway (2008, pp. 405-410) discusses the impact of s. 162(m) on executive compensation, particularly the growth in the use of stock options. As to the impact of s. 162(m) on backdating, see infra section 4.1.

[6] Murphy, supra note 1 at 23.

[7] Note: At-the-money (out-of-the-money) [in-the-money] {not-in-the-money} refers to when the exercise price of the option equals (exceeds) [is below] {is at or above} the market price of the underlying stock

[8] Certain practices under this accounting regime, including option repricing, net exercise options, extensions of post-termination exercise period, and performance ties to options, triggered variable accounting which results in accounting charges when the underlying stock price increases.

[9] In fact, concern has been raised about option manipulation more broadly, with spring loading and bullet dodging also receiving attention in the academic literature and popular press.

[10] E. Lie, "On the Timing of CEO Stock Option Awards" (2005) vol. 51, no. 5 *Management Science* 802-812.

[11] See, for example, M.P. Narayanan and H. N. Seyhun, "Do Managers Influence their Pay? Evidence from Stock Price Reversals Around Executive Option Grants", Working Paper, University of Michigan, Version: January 2005; M.P. Narayanan and H. N. Seyhun, "Effect of Sarbanes-Oxley Act on the Influence of Executive Compensation" Working Paper, University of Michigan, Version: March 2006; M.P. Narayanan and H.N. Seyhun, "The Dating Game: Do Managers Designate Option Grant Dates to Increase Their Compensation", *Review of Financial Studies* (forthcoming); R.A. Heron and E. Lie, "What Fraction of Stock Option Grants to Top Executives Have Been Backdated or Manipulated?", Working Paper, University of Iowa, Version: July 2006; R.A. Heron and E. Lie, "Does Backdating Explain the Stock Price Pattern Around Executive Stock Option Grants" (2007), vol. 83 *Journal of Financial Economics* 271-295; M.P. Narayanan C.A. Schipani, and H.N. Seyhun, "The Economic Impact of Backdating of Executive Stock Options" (2007) vol. 105, no. 8 *Michigan Law Review* 1597-1642; and D.I. Walker, "Unpacking Backdating: Economic Analysis and Observations On The Stock Option Scandal" (2007) vol. 87, no. 1 *Boston University Law Review* 1-58.

[12] J. Melnitzer, "Manipulation 'Serious Problem'", *Financial Post*, September 19, 2007.

[13] The information presented in figure 1 is based on actual Canadian data filed with SEDI of two executive stock option reports filed for a TSX listed company.

[14] The graph on the right might also demonstrate "spring loading": the issuance of stock options shortly before a company's public announcement that sends share prices up. Spring loading, and its counterpart, bullet dodging, are akin to insider dealing in that option timing and pricing is based on insider knowledge before it is made public. Neither of these types of stock option manipulation are considered in this paper.

[15] D. Yermack, "Good Timing: CEO Stock Option Awards and Company News Announcements" (1997) vol. 52, no. 2 *Journal of Finance* 449-476.

[16] K.W. Chauvin and C. Shenoy, "Stock Price Decreases Prior to Executive Stock Option Grants" (2001) vol. 7, no. 1 *Journal of Corporate Finance* 53-76.

[17] See E. Lie, "Backdating of Executive Stock Option (ESO) Grants" (undated), retrieved October 27, 2006 from E. Lie's website at the University of Iowa: http://www.biz.uiowa.edu/faculty/elie/backdating.htm.

[18] The TSX Company Manual is available at http://tsx.complinet.com/en/display/display_main.html?rbid=2072&element_id=1.

[19] TSX Company Manual, s. 613(a). Shareholder approval is not required in certain circumstances. For example, under s. 613(c), shareholder approval is not required for "security based compensation arrangements used as an inducement to a person or company not previously employed by and not previously an insider of the listed issuer, to enter into a contract of full time employment as an officer of the listed issuer, provided that the securities issuable to such person or company do not exceed 2% of the number of securities of the listed issuer which are outstanding, on a non-diluted basis, prior to the date of the arrangement."

[20] TSX Company Manual, s. 613(f).

[21] TSX Company Manual, s. 613(g).

[22] TSX Company Manual, s. 613(i).

[23] In contrast, the TSX Venture exchange (TSX-V), which lists small market capitalization companies, permits firms to grant incentive options in-the-money with a discount within a range of 15-25% depending on a company's price per share: see TSX Venture Exchange Corporate Finance Manual, Policy 4.4, section 2.6 and definition of

"Discounted Market Price" in Policy 1.1. The entire manual is available at http://tsx.complinet.com/en/display/display_main.html?rbid=2074&element_id=1.

[24] SEDI is a web-based service for filing and public viewing of insider trading reports. Filing on SEDI is mandatory for all insiders. SEDI was originally operational on October 29, 2001 but was suspended on January 31, 2002 due to technical problems. SEDI was reactivated on June 9, 2003. Prior to the creation of SEDI, insider trading information was paper-based and available from individual provincial securities commissions. For example, for firms listed on the TSX, the information is available in the weekly *Ontario Securities Commission Bulletin*.

[25] Securities Act, RSO 1990, c. S-5, s. 107(2).

[26] For more detail, see L. Cicconi, "Blaming the Tax Code for the Backdating Scandal" (2007) vol. 114 *Tax Notes* 1129 (March 19, 2007).

[27] Code s. 162. It is only in rare situations that the "reasonableness" test has been used to restrict the deduction of compensation to unrelated employees: see M.R. Conway, "Money for Nothing and the Stocks for Free: Taxing Executive Compensation" (2008), vol. 17 *Cornell Journal of Law and Public Policy* 383-429 at 392.

[28] Section 67 of the Income Tax Act. Like section 162 in the U.S., section 67 has rarely been used to restrict the deduction of compensation paid to unrelated employees.

[29] D. Sandler, "The Tax Treatment of Employee Stock Options: Generous to a Fault" (2001), vol. 49, no. 2 *Canadian Tax Journal* 259-319.

[30] If the value of the shares declines between the time the options are exercised and the time of sale, the employee must still include in income the full stock option benefit under section 7 and may still claim the deduction under paragraph 110(1)(d) if the conditions in that provision are met. However, the allowable capital loss also realized by the employee (i.e., one-half of the difference between the option exercise price and the sale price for the shares) is deductible only from taxable capital gains; it cannot be used to reduce the net amount of the stock option benefit. If the employee has not realized any taxable capital gains, the allowable capital loss may be carried back three years or forward indefinitely but remains deductible only from taxable capital gains.

[31] As of October 18, 2000, the capital gains inclusion rate is one-half or 50% of the gain, so that the effective tax rate applicable to the employee stock option benefit is only one-half that applicable to ordinary income, including salary, bonus, and employee benefits generally.

[32] In contrast, in the U.S., there are monetary limits on the value of stock options that benefit from capital gains treatment and the employee must hold the shares for at least one year after exercising the options to benefit from the long-term capital gains tax rate. While there are monetary limits in Canada on the value of executive stock options that benefit from a *deferral* of tax (until the shares are sold), there are no monetary limits on the amount of the benefit for which a deduction under paragraph 110(1)(d) is permitted provided the requirements of that provision are met.

[33] "Performance based" options are options that may be exercised only if certain performance targets – such as the share price reaching a target amount or the corporation out-performing certain industry benchmarks – are met.

[34] See note 8 for exceptions to this rule. In the U.S., this approach was originally enshrined in Accounting Principles Board, *Opinion* no. 25, "Accounting for Stock Issued to Employees," October 1972 ("APB 25"). APB 25 required variable accounting in certain circumstances. There was no equivalent to APB 25 in Canada and, other than note disclosure, companies in Canada virtually never recorded compensation expense for employee stock options under any circumstances.

[35] See C. Southam and S. Sapp, "Comparing CEO compensation between neighbors: What can we learn from cross-listed firms?" (January 2008), available at SSRN: http://ssrn.com/abstract=869868.

[36] The OSC charges a $150 purchase fee per company and a photocopying charge of $0.50 per page and it can be months before the information is provided.

[37] Supra, note 10.

[38] M.P. Narayanan and H.N. Seyhun, "The Dating Game: Do Managers Designate Option Grant Dates to Increase Their Compensation", *Review of Financial Studies* (Forthcoming). The much larger sample size for Narayanan and Seyhun reflects the fact that their sample is based on all insider option grants by all publicly traded companies, while Lie's sample is based only on CEO option grants of 2,000 large firms and is pared down from a larger sample of near 11,000.

[39] Users of the Thomson Financial Insider Filing Database are also provided with a cleanse indicator which details how clean or high quality a particular observation is. See Heron and Lie (2006, 2007), supra note 11.

[40] Our definition of backdating for these purposes is simply the use of hindsight to determine the effective grant date and price. We are not testing, nor implying, the broader definition of backdating commonly seen in the literature which includes activities such as altering of legal documents, or other wrongdoings.

[41] FirstService Corporation, January 29, 2008 Press Release, at 4; retrieved July 7, 2008, from http://www.firstservice.com/investors/newsroom/pdf/Q3_F2008_earnings_release_final_29Jan08.pdf.

[42] FirstService Corporation, Annual Report 2008; retrieved July 7, 2008, from http://www.firstservice.com/investors/annual_reports/pdf/Annual_2008.pdf

[43] Interested readers are directed to FirstService's 2008 Annual Report, which discusses the findings of the special committee and the resulting actions in greater detail. http://www.firstservice.com/investors/annual_reports/pdf/Annual_2008.pdf

[44] Our definition of backdating for these purposes is simply the use of hindsight to determine the effective grant date and price. We are not testing, nor implying, the broader definition of backdating commonly seen in the literature which includes activities such as altering of legal documents, or other wrongdoings.

[45] We obtain the daily stock price information (open, high, low, close, and adjusted close) for FirstService from Yahoo Finance. As the series obtained contains numerous missing observations from the period prior to January 1, 1997, we are unable to examine stock option grants prior to this date.

[46] In all such cases, the option appears to have been granted in-the-money.

[47] The binomial distribution considers that case of a repeated random experiment where each trial within the experiment has two possible outcomes and each trial is independent.

[48] [$22 (fair market value of the shares at the time of exercise) – $10 (strike price)] x 10,000.

[49] One-half of the stock option benefit of $120,000.

[50] One-half of the capital gain: [$28 (sale price per share) – $22 (cost per share, equal to the strike price under the option)] x 10,000.

[51] The Wall Street Journal periodically updates its "Options Scorecard", which tracks companies that have come under scrutiny for past stock-option grants: see http://online.wsj.com/public/resources/documents/info-optionsscore06-full.html. The Scorecard includes a column indicating those companies that have had to restate earnings, the amount of which is often set out in the "comments" column.

[52] See G. Bernile and G.A. Jarrell, "The Impact of the Options Backdating Scandal on Shareholders" (2007), available at SSRN: http://ssrn.com/abstract=971137.

[53] Narayanan, Schipani and Seyhun, supra note 11.

[54] Class action law suits have been commenced against a number of companies in the U.S. as a consequence of option pricing practices. Interested readers are directed to http://dandodiary.blogspot.com/2006/07/counting-options-backdating-lawsuits.html which provides a running tally of U.S. law suits for option pricing practices. A recent report, *Do Options Backdating Class Actions Settle for Less?* by NERA, provides interesting findings on the lower than expected settlements for backdating-related shareholder class action lawsuits relative to other comparable non-backdating related class action settlements. This report can be found at

http://www.nera.com/image/PUB_Backdating_PartIV_0608.pdf

[55] Heron and Lie (2007), supra note 11.

[56] Heron and Lie (2006), supra note 11.

[57] See, for example, Yermack, supra note 15; and Chauvin and Shenoy, supra note 16.

[58] For example some companies have openly admitted that executives have a large part in structuring their own compensation with compensation committees serving only to ratify the plans, while others have their own CEOs on the compensation committee: Yermack, supra note 15 at 453.

[59] See, e.g., C.A. Johnson, "Stock and Stock Option Compensation: A Bad Idea" (2003) vol. 51, no. 3 *Canadian Tax Journal* 1259-1290.

[60] See further, D. Sandler, "The Benchmark Income Tax Treatment of Employee Stock Options: A Basis for Comparison" (2003) vol. 51, no. 3 *Canadian Tax Journal* 1204-1229.

[61] For example, they could adopt limits similar to those imposed by the TSX-V, supra note 23.

[62] Supra notes 10 and 11.