

DETERMINANTS OF THE CORPORATE DECISION TO RECORD GOODWILL IMPAIRMENT LOSS: CANADIAN EVIDENCE

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Abstract

The initial application of the new goodwill accounting standard enables firms to record an actual goodwill impairment loss in their books without affecting their earnings. The recording of a goodwill impairment loss indicates that the acquiring firm paid an excessive premium at the time of the business combination, and that this goodwill does not enable it to generate future earnings. This study is based on the hubris hypothesis and governance structure and is aimed at predicting whether managers will choose to record a goodwill impairment loss. Using a sample of high-tech Canadian firms, we noted that firms where: (1) managers showed excessive confidence, (2) the CEO cumulates the function of chairman and (3) the dominant shareholder was also a manager tended to record a goodwill impairment loss. The results are consistent with those of previous studies, which suggest that systematic differences exist between firms that choose alternative accounting methods. Hence, the results provide further support in the developing framework of a positive theory of accounting methods.

Keywords: goodwill; impairment loss; hubris; governance structure; accounting method.

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1. Introduction

As of July 2001 in the United States and September 2001 in Canada, new standards with respect to goodwill and other intangible assets have been in effect (1). These standards (hereafter section 3062) introduced a major change in the accounting treatment of intangible assets. In effect, amortization is no longer permitted for intangible assets with an indefinite useful life; instead, firms must perform an impairment test annually and then recognize any applicable impairment losses in the income statement.

Section 3062 applies for the fiscal years beginning 1 January 2002 (15 December 2001 in the United States). It affects both newly acquired goodwill and those in existence before the new recommendations came into effect. Goodwill acquired in a business combination for which the acquisition date is after 30 June 2001 must be accounted for in accordance with the provisions of the new section. Goodwill arising from operations for which the acquisition date was before 1 July 2001 are submitted to impairment testing at the beginning of the fiscal year in which the new standard is initially applicable. The purpose of this test is to amortize, if applicable, the overstated book value of goodwill. In Canada, any impairment loss resulting from the application of the initial impairment test is treated as the effect of a

change in accounting policy and is charged to the opening retained earnings (2). Therefore, the application of the transitional provisions of section 3062 has no effect on net earnings for the fiscal year. However, the absence of systematic amortization expenses for intangible assets with an indefinite useful life will increase future earnings.

The impact of the initial application of section 3062 was estimated to have increased by \$35 billion US (8%) the net earnings of S&P 500 firms, amounting to approximately \$4 per share (estimation cited in Massoud and Raiborn, 2003). According to Korman (2002), the most active acquirers in the technology industry are the most affected because of overly optimistic forecasts in future earnings; these firms should write off half, if not more, of their goodwill.

In 2001, standard setters in both the United States and Canada issued a new accounting standard for the impairment of long-lived assets (3). SFAS No. 144 does not apply to goodwill and indefinite life intangible assets. The provisions of SFAS No. 144 are an attempt to make impairment concept and measurement less subjective. However, they have raised a lot of criticism (Reinstein and Lander 2004; Riedl 2004).

Many accounting researchers and practitioners have also criticized the impairment method for

goodwill set by regulatory bodies. The subjective nature of the multiple steps needed to conduct an impairment test was especially criticized. The latitude left to managers could open the door to manipulation in the form of earnings management (Hall, 2002; Massoud and Raiborn, 2003).

The purpose of this study - following existing research studies on agency theory, governance structure and the hubris hypothesis - is to identify which firms could take advantage of the transitional provisions of section 3062 to write off excessive goodwill arising from inefficient business combinations without affecting their earnings. The study focuses on two dimensions: (1) the empirical validation of certain underlying motives for business combinations; i.e. CEO hubris and failure of governance structure and (2) a new perspective on management behaviour when facing accounting decisions. This study falls within the framework of positive accounting theory developed by Watts and Zimmerman (1986), which provides: '(...) those who must make decisions on accounting policy (corporate managers, public accountants, loan officers, investors, financial analysts, regulators) with predictions of, and explanations for, the consequences of their decisions'. (Watts and Zimmerman, 1986, p. 14) (4).

In order to have a convenience sample of firms dealing with goodwill, we targeted knowledge-based industries in which goodwill is an important element. Knowledge-based firms consist mainly of high-tech and biotechnology firms. The stock market values of these firms are very high with regard to their book values (Lev, 2001), which shows the possible existence of not-recorded intangible assets such as goodwill. However, such intangible assets are valued and recorded in a merger or acquisition process. Within the framework of this study, we therefore chose Canadian high-tech firms (5). High-tech firms benefited from the technological bubble of the late 1990s to grow and/or diversify their operations through mergers or acquisitions. Choosing Canadian firms is justified because of events surrounding the adoption of section 3062: changes brought by this standard were accompanied by another significant change, one that only affects U.S. firms. In fact, the pooling of interests as an accounting method for business combinations is no longer permitted. The pooling of interests was rare in Canada, but was a common form of business combination in the United States. We therefore only selected Canadian firms in order to isolate the effect of the application of the standards on goodwill.

By using public information drawn from annual reports and management information circulars, we are testing our hypothesis using both univariate and multivariate analyses.

Our study unfolds as follows: in the following section, we review writings on business combinations and financial performance. In the third section, we present the theoretical framework used to predict whether or not managers will recognize a goodwill

impairment loss based in accordance with the transitional provisions of the new standard. In the fourth section, we describe our sample, data sources and the variables that were used. In the fifth section, we present the empirical results obtained and their interpretation. Finally, we present our conclusion, including suggestions for further research.

2. Business combinations and financial performance

As part of an ex-post evaluation to see if business combinations help create value, some studies have examined the relationship between the announcement of the business combination and the abnormal performance accruing to the shareholders of the concerned entities. These mostly U.S. studies cover the periods from 1955 to 1995 and examine both short and long-term financial performance (6). The results of these studies show that there is no short-term value creation for the acquiring firms, while the acquired firms generate significant abnormal returns. As regards long-term performance, the results of the studies are contradictory and seem to flow from the methodologies used. Studies based on Canadian data show that gains arising from business combinations seem to be allocated among the parties.

According to *Fortune* magazine, merger and acquisition transactions amounted to \$1,679 billion US in 1998. In Canada, after a peak of \$226 billion CDN involving 1,297 transactions in 2000, mergers and acquisitions dropped to \$128 billion (914 transactions) in 2001 and \$92 billion (852 transactions) in 2002, according to the 2002 edition of the *Directory of Mergers & Acquisitions in Canada*. While business combinations generally do not create value (at least in the short term), the current interest in mergers and acquisitions is difficult to justify.

There are four primary motives for business combinations: the search for synergies (Bradley, Desai and Kim, 1988), the disciplinary role (Martin and McConnell, 1991), an increase in the well-being of the managers of the acquiring firm (Amihud et Lev, 1981; Jensen, 1986; Shleifer and Vishny, 1989) and hubris (Roll, 1986). While the first two motives (the "economic motives") theoretically lead to efficient business combination, the latter two motives (the "opportunistic motives") seem to explain the persistence of the business combination phenomenon despite the fact that they do not create value. In some instances, managers use available cash flow to carry out acquisitions that give them prestige and better compensation, instead of distributing it to the shareholders. In other instances, overconfidence, pride and hubris lead them to overestimate the gains arising out of synergies and to pay an excessive premium to the targeted firm. Our study focuses on these opportunistic motives and explores their impact on the value of goodwill recorded in the books (7).

The accounting of business combinations using the purchase method consists of measuring the premiums paid (total price paid over the fair value of the acquired identifiable net asset) as goodwill. When these premiums do not generate future benefits, they should not be included in the balance sheet and must therefore be written off. The transitional provisions of section 3062 when they are initially adopted provide managers with the opportunity to clean up their balance sheets without negatively impacting earnings. Burgstahler and Dichev (1997) empirically demonstrate that managers tend to manipulate their earnings to avoid drops in earnings and subsequent losses.

3. Hypotheses

3.1 Hubris

The hubris hypothesis was developed by Roll (1986). He contends that excess confidence, pride and hubris lead managers to overestimate gains arising from synergies and to pay an excessive premium to the targeted firms. Berkovitch and Narayanan (1993) empirically recognize that hubris is associated with business combinations, in which no clear gain is generated by one party to the detriment of the other. Hayward and Hambrick (1997) directly tested the relationship between hubris and the volume of premiums paid. They recognized that the three factors most associated with high premiums are the firm's recent performance, recent media praise of the CEO, and the CEO's sense of importance as measured by his relative compensation level. Hypotheses 1 and 2 are (8):

H1: The greater their recent performance, the more likely firms will recognize goodwill impairment loss during the initial adoption of section 3062.

H2: The greater the managers' sense of importance, as measured by their relative compensation levels, the more likely their firms will recognize a goodwill impairment loss at the time of the initial adoption of section 3062.

3.2 Governance structure

Agency theory (Jensen and Meckling, 1976) predicts that segregating ownership and managerial control creates opportunistic behaviour on the part of managers, who then tend to act in their own interests to the detriment of those of the shareholders. In business combinations, managers could be tempted to use available cash flows to make inefficient acquisitions that will give them prestige and better compensation instead of distributing them to the shareholders. Governance structure is set up to limit these behaviours. Although there is no clearly established correlation between a firm's performance and its governance structure (Barnard and Rosenstein,

1998; Core, Haulthausen and Larcker, 1999; Coles, McWilliams and Sen, 2001), investors perceive that an effective governance structure helps reduce agency costs and thereby increases the value of the firm (Conyon and Peck, 1998). Governance structures such as ownership, the composition of the board of directors, and managerial compensation are the most often cited. We take the approach of relating business combination effectiveness to the acquirer's governance structure because the decision to launch a takeover bid is a prerogative of the acquirer's board of directors.

The vigilance of the board of directors is weakened when the CEO is also chairman of the board (Mizruchi, 1983). According to Geneen (1984), managers who cumulate both functions cannot objectively judge and monitor their own performance. Hayward and Hambrick (1997) recognized a correlation between a board's lack of vigilance, or weak vigilance, and managerial opportunism. Hypothesis 3 is:

H3: Enterprises in which the same person acts as chairman of the board and CEO are more likely to record a goodwill impairment loss during the initial adoption of section 3062.

According to Agrawal and Knoeber (1996) and Barnhart and Roseinstein (1998), the presence of a dominant shareholder (person or corporation holding a significant block of shares) is beneficial because this shareholder can monitor the managers more closely. The shareholder structure in countries such as Canada is quite specific in that there are often dominant shareholders who are also managers (9). The latter can use their advantageous positions to opportunistic ends to the detriment of minority shareholders. André and Schiehl (2004) recognize that the presence of dominant shareholders who are not managers, combined with a high compensation plan contributes to aligning the interests of managers with those of the shareholders. In other words, the opportunistic behaviour is hard to avoid when the dominant shareholder is also a manager. Hypothesis 4 is:

H4: The greater the percentage of shares held by dominant shareholders who are also managers, the more their firms will tend to record a goodwill impairment loss during the initial adoption of section 3062.

4. Sampling and methodology

The initial sample was taken from the Stock Guide database (10). The sample contains the entire 165 high-tech firms listed in the database. Table 1 shows that because of the absence of goodwill in the financial statements and the lack of available data, our final sample was reduced to 81 firms. While 70 firms from the initial sample (42.4%) were included in *Canadian Business's* list of 100 top technology firms, 45 were included (55.6%) in the final sample (11).

Insert table 1 about here

Information on goodwill amounts were taken from financial statements available on SEDAR's Website (12). Most of the data on governance structure and hubris hypotheses were drawn from management information circulars, which are also available on SEDAR's Website. Some accounting and financial data on the firms in the sample and corresponding industry data were taken from the Stock Guide. Thanks to these various sources, we collected data on the following variables for the end of the fiscal year before the initial adoption of section 3062 (13):

PERFACC = Recent performance – accounting measure: abnormal returns on the common shareholder equity (returns on the common shareholder equity of the firm - ROE, less those of the industry) (14).

PERFMARK = Recent performance – stock market measure: abnormal stock returns (annual stock returns of the firm – stock price changes adjusted for dividends, less those of the S&P/TSX60 Index).

COMP = Relative compensation of the CEO: the CEO's compensation (salary + bonuses) divided by the compensation of a manager other than the CEO and who is the best compensated person.

PLUR = Dichotomic variable: 1 = same person serving as both chairman of the board and CEO, 0 = absence of pluralism.

DOM = Percentage of shares held by the dominant shareholder/manager.

AMPL = Amplitude of goodwill: goodwill divided by total assets.

LASSET = Logarithm of the total assets.

DEBT = Indebtedness: total debts divided by total assets.

IND = Industry (1 = information technology; 2 = telecommunication services; 3 = television broadcasting and cable distribution).

5. Results

5.1 Descriptive statistics

Table 2 shows that, on average, one year before the initial adoption of section 3062, the goodwill amounts shown in the balance sheet asset columns of high-tech firms represented 17.7% of their total assets. After adopting section 3062, the net earnings of the technology firms increased on average by \$28.7 million (1%). Finally, impairment losses recorded during the transitional period represented 35.9% of the goodwill amount and 6.4% of the total assets.

Insert table 2 about here

In our final sample of 81 firms, 45 firms recognized a goodwill impairment loss during the transitional period and 36 others did not (Table 3).

Insert table 3 about here

5.2 Univariate tests

Table 4 shows the univariate test results. We used the Mann-Whitney U test to separately test our hypotheses (15). The PERF, PLUR and DOM variables behaved as predicted by the associated hypotheses.

H1 hypothesis was tested by using two different measures of the recent performance of the firm. The first measure, an accounting measure (PERFACC), is the abnormal return on equity (abnormal ROE). The other measure, a stock market measure (PERFMARK), is the abnormal stock return of the firm as in Hayward and Hambrick (1997). The H1 hypothesis test was statistically significant but only for the market measure.

The H2 hypothesis was tested by defining the "managers' sense of importance" by the CEO's relative compensation (the COMP variable). The results were not statistically significant and the relation was not as predicted. Hayward and Hambrick (1997) observed that the CEO's relative compensation was significantly and positively associated with ineffective business combinations in a U.S. context. By examining the compensation data, we recognized a Canadian specificity: some reporting unit managers residing in the United States receive substantially higher compensation than CEOs residing in Canada. The minimal COMP value of 0.33 in panel 1 indicates that when the amounts are converted into Canadian dollars, the CEO compensation levels are three times less than those of other managers who receive the highest compensation within the firm. This specificity leads us to interpret the results with caution.

The H3 hypothesis tested the correlation between a CEO cumulating the function as chairman of the board and the recording of a goodwill impairment loss. The results were marginally significant (α slightly greater than 0.10), as expected.

The H4 hypothesis tested the correlation between the percentage of shares held by the dominant shareholder, who is also a manager, and the recording of a goodwill impairment loss. The results were also marginally significant, as expected.

Insert table 4 about here

5.3 Multivariate test

As the dependant variable is categorical (goodwill impairment loss reporting versus no report at all), the binary Logit model can be used for our multivariate statistical analysis (Hosmer and Lemeshow, 2000) (16). Table 5 shows the correlations among the study's variables and some control variables. While the correlations among the variables were generally weak (less than 0.30), there were a few statistically significant correlations. The low degree of intercorrelation among the variables suggests that a multivariate approach is an appropriate means to

consider the simultaneous effect of the variables on the selected decision.

Insert table 5 about here

Our multivariate regression models featured four control variables. AMPL, the relative amplitude of the goodwill, measures the presence of significant goodwill on the balance sheet. It is used to capture the “economic” motives of business combination: a firm may pay a high premium during a business combination if it thinks it will benefit from the synergy. LASSET, the logarithm of the total assets, represents the size of the firm (17). Finally, DEBT represented indebtedness. Many studies on agency theory have used size and indebtedness as control variables (see: Morck, Shleifer and Vishny, 1988; Agrawal and Knoeber, 1996). The last variable, IND, controlled the industry effect.

5.3.1 Results of Logit Models analysis

Tables 6 and 7 present the Logit test results. While Logit model 1 (table 6) used the accounting measure of the recent performance of the firm (PERFACC), Logit model 2 (table 7) used the stock market measure (PERFMARK).

The behaviour of the variables followed the same pattern as in the univariate tests; with the exception of the COMP variable, the individual variable coefficient signs were all as predicted. Both models were significant at the $\alpha < 0.005$ level. Both models showed that the two variables related to governance structure were statistically significant ($\alpha < 0.05$). The recent performance of the firm measured by stock market returns was also significant. All else equal, the CEO hubris (PERF variable), the CEO duality (PLUR variable) and the presence of a dominant shareholder who was also a manager (DOM variable) seemed to motivate managers to carry out inefficient business combinations, which resulted in excessive premiums paid to target firm shareholders. These excessive premiums were recorded as goodwill, but since they are unlikely to generate future benefits, managers used the mandatory impairment test at the time of the initial adoption of section 3062 to clean up their balance sheets without affecting earnings. Overall, the present study confirms the results of Faleye and Huson (2002). They analyse the relationship between acquisition effectiveness (measured by stock returns) and the structure of corporate governance. They find that individual governance variables do not distinguish between poor and good acquisitions in univariate tests. However, their results suggest a strong association between acquirer returns and composite measures of corporate governance.

Insert tables 6 and 7 about here

5.3.2 Sensitivity analysis

We conducted two sets of sensitivity analyses. First, we measured the independent variables two years before the date of the adoption of section 3062. Because the business combination dates were not

identified in this study, the univariate and multivariate tests from Section 5.3.1 assume that the behaviours measured by our independent variables did not change from the time of the decision to merge or acquire. The first sensitivity analysis enabled analysing the stability of relations among the variables between the business combination dates and adoption of section 3062 (18). Tables 8 and 9 respectively reproduce the models of Logit 1 (with the PERFACC variable) and Logit 2 (with the PERFMARK variable) when these independent variables are measured two years before the adoption of section 3062. Only Model 2 is statistically significant. The recent business performance measured by an accounting indicator does not seem stable. According to Model 2, the PERFMARK variable remains statistically significant, but the PLUR and DOM variables are not significant. The reason seems to be as follows: a part of the variability has been captured by the COMP variable, which becomes statistically significant, as expected (which is not the case when this variable is measured one year before the adoption of section 3062).

Insert tables 8 and 9 about here

We then tested the relation among our variables using a linear regression model. Although our dependant variable is a dichotomic variable and the Logit model is the most adequate for our study, our second sensibility test sought to demonstrate if the results were only due to the choice of statistical model and not to a real correlation among the variables. Our regression analyses used the normalized amount of impairment loss recorded as a dependent variable (19). Table 10 (with PERFACC variable) and Table 11 (with PERFMARK variable) present the linear regression test results. Though significance levels may vary, the results usually confirmed those obtained by the Logit models.

Insert tables 10 and 11 about here

6. Conclusion

This study examined the factors explaining an firm’s decision to recognize a goodwill impairment loss during the transitional period of the initial adoption of section 3062. We based our study on theories derived from the writings on the reasons prompting business managers to engage in inefficient business combinations and governance structures. Two complementary hypotheses, namely hubris and weak management monitoring mechanisms, seemed to be confirmed by the empirical results of our study. Overconfidence coupled with the presence of a dominant shareholder who is also a manager and the same person serving as both chairman of the board and CEO explains opportunistic behaviour by managers, as shown by their recording an asset on the balance sheets that does not generate a future benefit. Other studies have also shown that holding two or more offices encourages managerial opportunism (Hayward and Hambrick, 1997).

The other test of the hubris hypothesis (CEO relative compensation) did not lead to significant results in this study. This may be due to two reasons: the specificity of the Canadian context in terms of management compensation, and the reduced size of our sample.

In our study, we assumed that managerial behaviours and governance structure were stable from the date of the acquisition decision to the initial adoption of section 3062, and one of our sensitivity tests seems to confirm this hypothesis. Further research could go back to the time of merger or acquisition and test the association between hubris and governance structure and excessive premiums. The association between excessive premium and the choice to record a goodwill impairment loss at the time of the adoption of section 3062 could then be tested directly.

One possible future research avenue would be to do a comparative study between U.S. and Canadian firms dealing with the present issue. There are significant differences in ownership and governance structure between U.S. and Canadian firms. Their accounting of transitional goodwill impairment loss is also different.

Another possible research avenue would be to explore the total compensation dimension (salary, plus bonuses and profit-sharing plan through stock options) in order to fine-tune the measurement of managers' sense of importance based on their relative compensation.

Finally, the variables related to hubris and governance structure identified in this study could enrich the set of variables used to predict other accounting method choices following the methodology of positive accounting theory studies. In fact, variables used in these studies are limited to compensation plans, debt covenants and political exposure variables.

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Appendices

Table 1

Enterprises included in the sample

	SG Code ¹		
	80	57 et 75	Total
Canadian high-tech firms included in the Stock Guide database	135	30	165
Financial statements not available	(13)	(1)	(14)
Enterprises having no goodwill	(58)	(11)	(69)
Goodwill information incomplete	(1)	-	(1)
Enterprises included in sample	63	18	81

¹ Stock Guide Industry Classification : 80 = Information technology, 57 = broadcasting and cable distribution; 75 = telecommunication services

Table 2
Descriptive Statistics

	Mean	Standard deviation	Minimum	Maximum
Goodwill before the adoption of section 3062 (000 \$)	470 229	1 940 792	201	15 947 000
Relative amount of goodwill (goodwill / total assets), % (AMPL variable)	17.69	15.63	0.00	77.00
Relative amount of goodwill (goodwill / intangible assets), %	62.93	30.40	1.44	100.00
Amortization expenses avoided after the adoption of section 3062 (000 \$)	28 683	115 000	48	971 000
Effect of the absence of amortization during section 3062's adoption year: net earnings increase (net loss decrease), %	0.93	2.37	0.00	17.45
Impairment loss recorded during the transitional period (000 \$)	168 457	1 055 940	0	9 422 000
Relative amount of impairment loss recorded (impairment loss / goodwill before the adoption of section 3062), %	35.87	41.75	0.00	100.00
Relative amount of impairment loss recorded (impairment loss / total assets), %	6.36	10.24	0.00	46.78

Table 3
The adoption of section 3062 – transitional period

	SG Code ¹		
	80	57 et 75	Total
Enterprises which recorded impairment loss during the transitional period	35	10	45
Enterprises which didn't record impairment loss during the transitional period	<u>28</u>	<u>8</u>	<u>36</u>
	63	18	81

¹ Stock Guide Industry Classification : 80 = Information technology,
57 = television broadcasting and cable distribution; 75 = telecommunication services

Table 4
Univariate Tests of the Relation between Explanatory Variables
and Goodwill Impairment Loss Reporting

Variables ¹	Hypotheses	Goodwill impairment loss reporting				Mann-Whitney U One-tailed significance
		(1) Yes		(2) No		
		Mean (s.d.)	Max. Min.	Mean (s.d.)	Max. Min.	
PERFACC	H1 : (1) > (2)	20.56 (42.46)	95.24 -109.41	0.21 (72.72)	60.81 -166.95	0.311
PERFMARK	H1 : (1) > (2)	24.58 (57.27)	80.00 -213.00	-16.72 (64.11)	71.00 -192.00	0.001
COMP	H2 : (1) > (2)	1.12 (0.40)	1.90 0.33	1.37 (0.52)	2.70 0.49	0.371
PLUR	H3 : (1) > (2)	0.63 (0.50)	1.00 0.00	0.44 (0.51)	1.00 0.00	0.111
DOM	H4 : (1) > (2)	26.09 (24.30)	82.47 0.00	22.53 (28.40)	99.90 0.00	0.123

¹ PERFACC Recent performance – accounting measure: abnormal returns on the common shareholder equity (returns on the common shareholder equity of the firm - ROE, less those of the industry).
PERFMARK Recent performance – stock market measure: abnormal stock returns (annual stock returns of the firm – stock price changes adjusted for dividends, less those of the S&P/TSX60 Index).
COMP Relative compensation of the CEO: the CEO's compensation (salary + bonuses) divided by the compensation of a manager other than the CEO and who is the best compensated person).
PLUR Dichotomic variable: 1 = same person serving as both Chairman of the Board and CEO, 0 = absence of pluralism.
DOM Percentage of shares held by the dominant shareholder/manager.

Table 5
Pearson Correlation Coefficients*

	AMPL	PERFACC	PERFMARK	COMP	PLUR	DOM	LASSET
AMPL							
PERFACC	0.018 (0.877)						
PERFMARK	0.032 (0.786)	-0.131 (0.270)					
COMP	-0.069 (0.559)	-0.125 (0.286)	0.078 (0.517)				
PLUR	-0.040 (0.727)	-0.044 (0.703)	-0.154 (0.189)	-0.053 (0.649)			
DOM	0.160 (0.163)	0.009 (0.936)	0.155 (0.187)	0.254 (0.028)	-0.198 (0.081)		
LASSET	0.099 (0.393)	0.266 (0.019)	0.063 (0.594)	-0.018 (0.880)	-0.199 (0.083)	0.255 (0.025)	
DEBT	0.263 (0.033)	-0.037 (0.771)	0.228 (0.075)	0.014 (0.910)	0.044 (0.725)	0.058 (0.646)	-0.068 (0.587)

* Pearson correlation (sign., 2-tailed).

LASSET Logarithm of the total assets (one year before Section 3062's adoption).

DEBT Indebtedness: total debts divided by total assets (one year before Section 3062's adoption).

AMPL Amplitude of goodwill: amount of the goodwill divided by the total assets (one year before Section 3062's adoption).

See table 4 for the definition of the other variables.

Table 6
Logit Model 1 of Goodwill Impairment Loss Reporting Decision

	Variables ¹								
	Const.	PERFACC	COMP	PLUR	DOM	AMPL	LASSET	DEBT	IND
Expected sign	?	+	+	+	+	?	?	?	?
Coefficient	-2.147	0.003	-0.545	1.913	0.042	1.022	0.165	3.800	-1.579
t-value	-0.874	0.429	-0.760	2.149	2.000	0.398	0.873	2.532	-1.655
Sign. (1 tailed)	0.191	0.321	0.224	0.016	0.023	0.346	0.191	0.006	0.049

Percentage correctly classified: 70.7%

Value of chi-squared statistic for model : 21.97, d.f. = 8

Probability under H0 : 0.005

Dependent variable = 1 if reporting = Yes, N = 45

= 0 if reporting = No, N = 36

¹ IND = industry (1 = information technology, 2 = telecommunication services, 3 = television broadcasting and cable distribution). See table 4 and 5 for the definition of the other variables.

Table 7
Logit Model 2 of Goodwill Impairment Loss Reporting Decision

	Variables ¹								
	Const.	PERFMARK	COMP	PLUR	DOM	AMPL	LASSET	DEBT	IND
Expected sign	?	+	+	+	+	?	?	?	?
Coefficient	-3.459	1.634	-0.891	2.541	0.040	1.238	0.283	2.992	-1.386
t-value	-1.310	1.893	-1.067	2.585	1.818	0.453	1.310	2.018	-1.397
Sign. (1 tailed)	0.095	0.029	0.143	0.005	0.033	0.326	0.096	0.022	0.081

Percentage correctly classified: 83.9%
 Value of chi-squared statistic for model : 25.11, d.f. = 8
 Probability under H0 : 0.001
 Dependent variable = 1 if reporting = Yes, N = 45
 = 0 if reporting = No, N = 36

¹ IND = industry (1 = information technology, 2 = telecommunication services,
 3 = television broadcasting and cable distribution). See table 4 and 5 for the definition of the other variables.

Table 8
Logit Model 1 of Goodwill Impairment Loss Reporting Decision

Sensitivity analysis : Independent variables – two years before Section 3062's adoption									
	Const.	PERFACC	COMP	PLUR	DOM	AMPL	LASSET	DEBT	IND
Expected sign	?	+	+	+	+	?	?	?	?
Coefficient	-1.331	0.006	0.690	0.175	0.018	0.177	0.064	0.973	-0.558
t-value	-0.673	1.000	1.063	0.274	1.286	0.099	0.352	1.091	-0.834
Sign. (1 tailed)	0.251	0.179	0.144	0.392	0.096	0.461	0.362	0.138	0.202

Percentage correctly classified: 71.0%
 Value of chi-squared statistic for model : 8.79, d.f. = 8
 Probability under H0 : 0.360
 Dependent variable = 1 if reporting = Yes, N = 45
 = 0 if reporting = No, N = 36

See table 6 for the definition of the variables.

Table 9
Logit Model 2 of Goodwill Impairment Loss Reporting Decision

Sensitivity analysis : Independent variables – two years before Section 3062's adoption									
	Const.	PERFMARK	COMP	PLUR	DOM	AMPL	LASSET	DEBT	IND
Expected sign	?	+	+	+	+	?	?	?	?
Coefficient	-3.792	0.782	1.765	0.437	0.012	1.103	0.214	0.721	-0.512
t-value	-1.499	2.754	2.063	0.571	0.750	0.496	0.911	0.717	-0.665
Sign. (1 tailed)	0.067	0.003	0.020	0.284	0.239	0.310	0.181	0.237	0.253

Percentage correctly classified: 75.9%
 Value of chi-squared statistic for model : 18.72, d.f. = 8
 Probability under H0 : 0.016
 Dependent variable = 1 if reporting = Yes, N = 45
 = 0 if reporting = No, N = 36

See table 7 for the definition of the variables.

Table 10
Regression Model 1: Amount of Goodwill Impairment Loss

	Variables ¹								
	Const.	PERFACC	COMP	PLUR	DOM	AMPL	LASSET	DEBT	IND
Expected sign	?	+	+	+	+	?	?	?	?
Coefficient	4.189	0.005	-1.253	2.707	0.108	22.095	-0.147	1.855	-3.178
t-value	0.537	0.266	-0.611	1.087	1.799	2.906	-0.238	3.124	-1.391
Sign. (1 tailed)	0.297	0.396	0.272	0.141	0.039	0.003	0.407	0.002	0.085

Adjusted R²: 0.348
 F-Value: 4.808
 Probability under H0 < 0.001
 Dependent variable = Relative amount of impairment loss recorded
 (impairment loss / total assets), %

See table 6 for the definition of the variables.

Table 11
Regression Model 2: Amount of Goodwill Impairment Loss

	Variables ¹								
	Const.	PERFMARK	COMP	PLUR	DOM	AMPL	LASSET	DEBT	IND
Expected sign	?	+	+	+	+	?	?	?	?
Coefficient	5.241	2.109	-2.384	4.053	0.115	21.710	-0.208	1.869	-3.033
t-value	0.702	1.128	-1.090	1.663	2.018	2.840	-0.360	3.036	-1.363
Sign. (1 tailed)	0.243	0.133	0.141	0.052	0.025	0.004	0.360	0.002	0.090

Adjusted R²: 0.382
 F-Value: 5.253
 Probability under H0 < 0.001
 Dependent variable = Relative amount of impairment loss recorded
 (impairment loss / total assets), %

See table 7 for the definition of the variables.

Endnotes

¹SFAS No.142 “Goodwill and Other Intangible Assets” in the United States and Section 3062 “Goodwill and Other Intangible Assets” in Canada.

² In the United States, transitional goodwill impairment loss is charged to net income.

³ SFAS No. 144 in the United States and Section 3063 in Canada.

⁴ Watts and Zimmerman (1990) reviewed empirical studies whose frame of reference is the positive accounting theory. To our knowledge, the study of Meyer, Karim and Karim (2000) constitutes the most recent empirical study.

⁵ These firms are, in fact, made up of information technology, telecommunication services, television broadcasting and cable distribution firms.

⁶ Detailed results of these studies are outlined in André, Ben Amar and L’Her (2000).

⁷ The statistical models that tested our hypotheses considered the economic motives of business combinations by introducing a variable that captured their characteristics (see Section 5.3).

⁸ We did not consider the hypothesis dealing with recent media praise due to a lack of available data in a Canadian context. The results obtained by Hayward and Hambrick (1997) showed a statistically significant positive correlation of 0.24 between this variable and recent performance.

⁹ The Canadian firms listed must publish management information circulars indicating the names and percentages of shares held by persons or firms holding 10% or more of the total shares.

¹⁰ Stock Guide is a financial and stock database on CD-ROM that features about 1,000 Canadian firms listed on the stock exchange.

¹¹ Stock Guide is a financial and stock database on CD-ROM that features about 1,000 Canadian firms listed on the stock exchange.

¹² SEDAR (System for Electronic Document Analysis and Retrieval) is a Website (www.sedar.com) that enables firms to electronically publish information mandated by Canadian stock market authorities.

¹³ We also collected data on the same variables two years before Section 3062’s adoption for sensitivity analysis purposes. See the results section.

¹⁴ The industry information is comprised of average data from the 165 firms that made up the initial sample. We also replaced this data with that of firms listed on the S&P/TSX60 index. By substituting the industry ROE with the average ROE of the firms listed on the S&P/TSX60 Index, we obtained similar results.

¹⁵ The Mann-Whitney U test is a non-parametric test. This rank test is robust and is not limited to variables having a normal distribution.

¹⁶ Logit model, as well as the similar Probit model, have been widely used in studies dealing with accounting method selection determinants (including those of Hagerman and Zmijewski, 1979; Bowen, Noreen and Lacy, 1981; Ayres, 1986).

¹⁷ Replacing the total assets with sales only marginally changes the results and does not affect the significance thresholds of the study variables.

¹⁸ The business combination trend involving technology firms occurred in the late 1990s. For its part, Section 3062 became applicable within the fiscal year beginning 1 January 2002.

¹⁹ The amount of impairment loss recorded was normalized by dividing it by the firm’s total assets.