

**Causes and Consequences of
Transitional Goodwill Impairment Losses**

Pascale Lapointe

A Thesis

in

The John Molson

School of Business

**Presented in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy at
Concordia University
Montreal, Quebec, Canada**

March 2006

© Pascale Lapointe, 2006



Library and
Archives Canada

Bibliothèque et
Archives Canada

Published Heritage
Branch

Direction du
Patrimoine de l'édition

395 Wellington Street
Ottawa ON K1A 0N4
Canada

395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file *Votre référence*
ISBN: 978-0-494-16304-7
Our file *Notre référence*
ISBN: 978-0-494-16304-7

NOTICE:

The author has granted a non-exclusive license allowing Library and Archives Canada to reproduce, publish, archive, preserve, conserve, communicate to the public by telecommunication or on the Internet, loan, distribute and sell theses worldwide, for commercial or non-commercial purposes, in microform, paper, electronic and/or any other formats.

The author retains copyright ownership and moral rights in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

AVIS:

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque et Archives Canada de reproduire, publier, archiver, sauvegarder, conserver, transmettre au public par télécommunication ou par l'Internet, prêter, distribuer et vendre des thèses partout dans le monde, à des fins commerciales ou autres, sur support microforme, papier, électronique et/ou autres formats.

L'auteur conserve la propriété du droit d'auteur et des droits moraux qui protègent cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

In compliance with the Canadian Privacy Act some supporting forms may have been removed from this thesis.

Conformément à la loi canadienne sur la protection de la vie privée, quelques formulaires secondaires ont été enlevés de cette thèse.

While these forms may be included in the document page count, their removal does not represent any loss of content from the thesis.

Bien que ces formulaires aient inclus dans la pagination, il n'y aura aucun contenu manquant.


Canada

ABSTRACT

Causes and Consequences of Transitional Goodwill Impairment Losses

Pascale Lapointe, Ph.D.
Concordia University, 2006

This dissertation investigates the causes and consequences of the goodwill reporting choices made by Canadian firms following the adoption of revised standards on purchased goodwill in 2002. Standard setters believed that by forcing firms to test goodwill for impairment every year, its economic value would be better reflected on the balance sheet, and its reliability and relevance improved. However, critics were worried that the fair value could not be measured reliably enough to warrant the move towards an impairment-only approach, they were concerned about the potential for management interpretation and bias, and they doubted that goodwill impairment losses would provide timely information to market participants. The empirical analyses contained in this dissertation are motivated by this debate. First, the dissertation shows that transitional goodwill impairment losses are associated with managers' incentives to both overstate and understate them, after controlling for economic impairment. Furthermore, independent board of directors and audit committees act as a constraint on Canadian managers' transitional goodwill reporting choices to ensure that the economic value of goodwill is better reflected in financial statements. Second, it is shown that investors perceive goodwill as an asset, and goodwill impairment losses as sufficiently reliable measurements of a reduction in the value of goodwill to incorporate them in their valuation assessments. Lower valuation weights are put on transitional goodwill impairment losses reported by firms with an independent board of directors while a higher valuation weight is put on transitional goodwill impairment losses recorded by firms with market value of equity lower than book value. Finally, the dissertation shows that transitional goodwill impairment losses were impounded in stock prices prior to the adoption of SFAS 142/Section 3062. Overall, the empirical evidence contained in the dissertation is consistent with SFAS 142/Section 3062 improving the quality of the financial information on goodwill provided in the financial statements.

Acknowledgements

I would first like to thank my supervisor, Professor Michel Magnan, for his kindness, his availability, his flexibility and his continual guidance and support from the day I met him to discuss the Ph.D. program at Concordia to today. I would like to thank Dr. Denis Cormier for always being there to answer my numerous questions and for believing in me. Thank you also to Dr. Paul André for his help and comments. Our meeting in Prague gave life to this dissertation. Finally, I would like to thank Dr. Joung Kim for his valuable input.

I want to acknowledge the support and friendship of my fellow Ph.D. students, all of whom became dear friends: Samer Khalil, Sylvie Héroux, Jacques Maurice, Jacqueline DiVito, Tasha Wallace, Jacques Sarremejeanne. Sharing the joys and tears of the Ph.D. with you made it a lot easier.

À mes parents, à mon frère et à Chloé qui ont toujours été là pour m'encourager et me soutenir, merci du fond du coeur. À mes amis de toujours, Isabelle et Alexandre, Julie et Frédéric, Julie et Jean-Philippe, merci pour votre présence, elle m'a aidée à me rappeler qu'il y avait et aurait une vie au-delà du doctorat. À mes très chers amis de l'Université Laval : Jean-François, Martine, Nicole, Sophie, notre complicité me manque à tous les jours. Merci de m'avoir aidé à garder l'équilibre en rendant la vie au travail si agréable. Isabelle et Alexandre, et Claudette et Germain, merci de m'avoir accueillie si généreusement chez vous lorsque j'en avais besoin. To all my friends and family here in Ontario, thank you for being patient and supportive despite my numerous trips to Montreal.

Finally, to my husband Nelson. I could not have done it without you. You stood by me to comfort my tears, you shared my joys, you always believed in me. You spent countless hours proofreading the various versions of my papers, and listening to my presentations. From the bottom of my heart, thank you for sharing my life and being there. I love you.

Papa, je l'ai eu mon papier!

En mémoire de ma grand-mère.

Table of Contents

List of Figures	viii
List of Tables.....	ix
Chapter 1 – Introduction.....	1
Chapter 2 – Background Information and Illustration.....	8
2.1 Introduction.....	8
2.2 Accounting for Goodwill	11
2.3 The Vidéotron Transaction.....	13
2.3.1 The Battle Over Vidéotron.....	13
2.3.2 Accounting for the Acquisition.....	16
2.3.3 Accounting for Goodwill upon Adoption of Section 3062	18
2.4 Discussion	21
2.5 Conclusion	26
Chapter 3 – Economic Determinants, Reporting Incentives and Constraints.....	28
3.1 Introduction.....	28
3.2 Background.....	32
3.2.1 Accounting for Goodwill	32
3.2.2 Sources of Managerial Discretion.....	34
3.3 Relationship to Prior Research.....	36
3.4 Hypothesis Development	39
3.4.1 Reporting Incentives and Disincentives.....	39
3.4.1.1 Financial Ratio Target Deviation	39
3.4.1.2 Change in CEO.....	42
3.4.1.3 Compensation.....	43
3.4.1.4 Need for Financing.....	45
3.4.2 Internal Monitoring by the Audit Committee and Board of Directors.....	45
3.4.2.1 Audit Committee	45
3.4.2.2 Board of Directors	47
3.5 Methodology.....	47
3.5.1 Sample and Data	47
3.5.2 Model and Variables	48
3.6 Results	55

3.6.1 Descriptive Statistics	55
3.6.2 Multivariate Results	60
3.6.3 Sensitivity Analyses	62
3.7 Discussion and Conclusion	64
Chapter 4 – Value-Relevance and Timeliness	68
4.1 Introduction	68
4.2 Background	73
4.2.1 Accounting for Goodwill	73
4.2.2 Reliability Concerns	75
4.2.3 Timeliness Concerns	77
4.2.4 Related Research	78
4.3 Methodology	81
4.3.1 Sample and Data	81
4.3.2 Models and Variables	82
4.3.2.1 Value-Relevance	82
4.3.2.2 Timeliness	86
4.4 Results	87
4.4.1 Descriptive Statistics	87
4.4.2 Multivariate Results	89
4.4.2.1 Value-Relevance	89
4.4.2.2 Timeliness	92
4.4.3 Sensitivity Analysis	93
4.5 Discussion and Conclusion	94
Chapter 5 - Discussion	98
Chapter 6 – Conclusion	104
References	109
Figure	117
Tables	118
Appendix A: The Impairment Test – A Numerical Example	139

List of Figures

Figure 1 – The Impairment Test117

List of Tables

Table 1 – Chronology of Events	118
Table 2 – Value per Subscriber and the Cable Television Segment	119
Table 3 – Estimated Transitional Goodwill Impairment Loss	120
Table 4 – Sample Selection.....	121
Table 5 – Panel A – Descriptive Statistics – TGIL by Industry	122
Table 5 – Panel B – Descriptive Statistics – TGIL by Industry – Comparison with Zang (2003).....	123
Table 6 – Expected TGILs vs. Reported TGILs	124
Table 7 – Disclosure.....	125
Table 8 – Descriptive Statistics – Variables	126
Table 9 – Determinants of Transitional Goodwill Impairment Losses.....	127
Table 10 – Determinants of Transitional Goodwill Impairment Losses.....	128
Table 11 – Descriptive Statistics.....	129
Table 12 – Pearson Correlation Matrix	131
Table 13 – Value-Relevance of Goodwill, AGILs and TGILs	133
Table 14 – Value-Relevance of TGILs – Additional Analyses	134
Table 15 – Change in Value-Relevance.....	136
Table 16 – Timeliness of TGILs	137
Table 17 – Value-Relevance of TGILs – Sensitivity Analysis	138

Chapter 1 – Introduction

This dissertation investigates the causes and consequences of the goodwill reporting choices made by Canadian managers as a result of the initial application of the revised standards on purchased goodwill introduced in 2001. After many years of debate, the Financial Accounting Standards Board (FASB) and the Canadian Accounting Standards Board (AcSB) simultaneously introduced revised standards on purchased goodwill in 2001. The new standards (SFAS 142/Section 3062) eliminate goodwill amortization. They require that goodwill be subjected to a transitional impairment test in the adoption year as well as to annual impairment tests in subsequent years. For accounting purposes, goodwill is “the excess of the cost of an acquired enterprise over the net of the amounts assigned to assets acquired and liabilities assumed” (3062.05). Many factors such as expected synergies with the target, growth, the use of cash to finance the acquisition, the presence of a hostile target and the presence of multiple bidders influence acquirers’ willingness to pay a purchase premium (André et al., 2000). An impairment of goodwill occurs when any of these factors proves to be unjustified and the fair value of goodwill decreases below its book value following the acquisition.

Standard setters believed that by forcing firms to systematically re-evaluate the fair value of goodwill each year the underlying economic value of goodwill would be better reflected on the balance sheet. However, significant controversy surrounded the adoption of SFAS 142/Section 3062. First, critics were worried that the fair value of goodwill could not be measured reliably enough to produce a relevant goodwill figure and warrant the move towards an impairment-only approach (e.g. Herz et al., 2001). Second, they were concerned about the potential for management interpretation,

judgment and bias both at the time of a merger and in future periods, and the lack of public information at the reporting unit level necessary to unravel managerial discretion (e.g. Massoud and Raiborn, 2003). Finally, because 1) TGILs are catch-up adjustments to reflect the cumulative effect of using the impairment approach for accounting purposes for the first time; and 2) changes in the economic value of goodwill are typically incorporated in equity market values as they occur, it was unclear whether goodwill impairment losses could provide any timely information to market participants. The empirical analyses contained in this dissertation are motivated by this debate.

The first objective of this dissertation is to use a real-life transaction, the acquisition of Vidéotron by Quebecor Media in 2000, to illustrate 1) how the circumstances and characteristics of a transaction influence the value of goodwill at the acquisition; 2) the impact of the adoption of SFAS 142/Section 3062 on previously recognized goodwill; and 3) the set of information available to external financial statement users to try and assess the fair value of goodwill and the reasonableness of recognized TGILs. My analysis reveals that the seven month bidding war between Rogers and Quebecor Media resulted in Quebecor Media paying a purchase premium representing more than 90% of the purchase price. Despite indications that the value of goodwill could be impaired, no impairment loss was booked by Quebecor on December 31, 2001. Rather, it was the adoption of Section 3062 on January 1, 2002 that triggered the recognition of a transitional goodwill impairment loss of 1,960.0 million dollars or 42.6% of the remaining balance of goodwill. When I use the information available to try and assess the reasonableness of the reported loss, I obtain an estimated transitional goodwill impairment loss that is lower than the reported loss. However, because of the

limitations imposed by the absence of detailed information on the method(s) and inputs used by Quebecor to assess the fair value of its segments, net assets and goodwill, I am unable to reconcile the observed difference.

The second objective of this dissertation is to investigate whether and why managers make use of the available discretion to influence the magnitude of TGILs and the constraints they face in doing so. Canadian standards on purchased goodwill diverge from American standards in that TGILs are charged to opening retained earnings rather than net income. Equity recognition is of particular interest because it generates conflicting incentives for managers who have the unique opportunity to protect their future operating earnings by maximizing the TGIL (i.e. taking a bath) but must at the same time take into consideration the negative impact that the TGIL can have on the quality of their balance sheet and on the future cash flow expectations of market participants. Consistent with the existence of this conflict, the empirical results show that TGILs are associated with managers' incentives to both overstate and understate them. The results also show that independent board of directors and independent and financially competent audit committees act as a constraint on Canadian managers' transitional goodwill reporting choices to ensure that the economic value of goodwill is properly reflected in financial statements.

The third objective of this dissertation is to investigate whether the combined effects of identified reliability problems are sufficient to render the TGILs valuation irrelevant, and to explore the effect of reduced opportunities for management discretion and information asymmetry on the value-relevance of TGILs. To investigate whether reliability issues arising from the nature of the goodwill asset, inherent limitations of

valuation models and managerial discretion are sufficient to render goodwill and goodwill impairment losses valuation irrelevant, I test for the relation between share price/market value, and goodwill, TGILs and AGILs recorded in the year in which the transitional goodwill impairment test is completed. I find a significant positive relation between reported goodwill, TGILs and AGILs, and share price (TGILs and AGILs are expressed as negative numbers). This result is consistent with investors perceiving goodwill as an asset, and TGILs and AGILs as sufficiently reliable measurements of a reduction in the value of goodwill to be incorporated by them in their valuation assessments.

I explore the effect of reduced opportunities for management discretion and information asymmetry on the value-relevance of TGILs by examining whether investors put a different valuation weight on TGILs reported by 1) firms with a majority of independent directors on the board and an independent chairman; 2) firms with market value of equity lower than book value (i.e. firms that are expected to record a TGIL); 3) firms with better goodwill disclosure; and 4) firms that disclose changes in the carrying amount of goodwill for each reporting unit or segment. I find that investors put a lower valuation weight on TGILs reported by firms with an independent board of directors and a higher valuation weight on TGILs recorded by firms with market value of equity lower than book value. However, I do not find any evidence of investors putting a different valuation weight on TGILs reported by firms with better goodwill disclosure or firms that disclose the reporting unit allocation of goodwill.

Finally, the fourth objective of this dissertation is to investigate the timeliness of reported AGILs and TGILs. The timeliness of annual and transitional goodwill

impairment losses is tested by examining their association with past and contemporaneous stock returns. If decreases in the value of goodwill were incorporated in equity market values as they occurred and TGILs only represent catch-up adjustments to reflect the cumulative effect of using the impairment approach for accounting purposes for the first time, then returns should lead TGILs. If TGILs also provide new information to the market, I should observe a positive association between TGILs and adoption year returns as well. Finally, if the market was completely unaware of the existence of the impairment and did not anticipate the loss, I should observe no association between TGILs and prior year returns and a positive association between TGILs and adoption year returns. Results suggest that TGILs only represent catch-up adjustments to reflect the cumulative effect of using the impairment approach for accounting purposes for the first time. If AGILs only represent the adoption year portion of goodwill impairment, then there should be a positive association between AGILs and adoption year returns, and no association between AGILs and prior year returns. However, if reliability concerns with respect to the measurement of goodwill impairment losses result in the delayed recognition of TGILs as AGILs, then I could also observe a positive association between AGILs and prior year returns. Results show a positive and significant association between prior and adoption year returns and AGILs.

The results of this dissertation have several implications for standard setters and regulators. First, my analysis of the Vidéotron transaction shows that reliability issues can significantly affect both the reported transitional goodwill impairment loss and financial statement users' expectation of the amount to be reported. It demonstrates how the absence of public information at the reporting unit level and the lack of disclosure

requirements on the methods and inputs used to value goodwill can facilitate managerial opportunism and limit financial statement users' ability to assess the reasonableness of reported goodwill impairment losses. Second, the observed associations between reported TGILs and reporting incentives and disincentives mean that consistent with criticisms of the standards, the impairment approach has not been entirely successful in forcing firms to be more transparent with respect to the underlying economic value of goodwill. Nevertheless, the results demonstrate that reliability concerns with respect to measurement of the fair value of goodwill arising from measurement error and management discretion are not sufficient to render goodwill impairment losses valuation irrelevant. Third, the results illustrate the role played by accounting in aggregating available financial information and the ability of market participants to impound declines in the value of goodwill in prices prior to the recognition of goodwill impairment losses in the financial statements. The adoption of SFAS 142/Section 3062 led to the recognition of transitional goodwill impairment losses that were already impounded in stock prices prior to the adoption year. However, reliability concerns with respect to the measurement of the transitional loss also seem to have resulted in a partially delayed recognition of TGILs as AGILs. This suggests that the adoption of Section 3062 is likely to improve the timeliness of goodwill impairment losses by forcing firms to test goodwill for impairment every year. Finally, the results support the move towards a rules-based approach to corporate governance by demonstrating that independent directors can make a difference in constraining managerial opportunism.

This dissertation contributes to the accounting literature in at least two ways. First, it provides new evidence on whether those accounting choices that do not affect net

income are influenced by managers' reporting incentives. To the best of my knowledge, whether and how equity recognition affects managerial incentives is an empirical question that remains unanswered. Understanding managers' reporting choices in the context of equity recognition is important because it is likely to become more prevalent in future years. In May 2005, the FASB issued SFAS 154 entitled "Accounting Changes and Error Corrections" that harmonizes Canadian and American standards and require that the cumulative effect of a change in accounting principles be charged to opening retained earnings in the United States as well. Second, the dissertation contributes to the literature interested in the value-relevance of fair value measurements by providing evidence on the reliability, value-relevance and timeliness of the financial information on goodwill provided to the market after the adoption of SFAS 142/Section 3062. The empirical analyses contained in this dissertation go beyond traditional value-relevance studies to examine the effect of reduced opportunities for management discretion and information asymmetry on the value-relevance of TGILs.

The rest of the dissertation is organized as follows. Chapter 2 analyzes the acquisition of Vidéotron by Quebecor Media. Chapter 3 investigates the economic determinants, reporting incentives and constraints of reported TGILs. Chapter 4 studies the value-relevance and timeliness of reported TGILs. Chapter 5 discusses the results. Finally, Chapter 6 concludes.

Chapter 2 – Background Information and Illustration

2.1 Introduction

After many years of debate, the Financial Accounting Standards Board (FASB) and the Canadian Accounting Standards Board (AcSB) simultaneously introduced revised standards on purchased goodwill in 2001. The new standards (SFAS 142/Section 3062) eliminate goodwill amortization. They require that goodwill be subjected to a transitional impairment test in the adoption year as well as to annual impairment tests in subsequent years. For accounting purposes, goodwill is “the excess of the cost of an acquired enterprise over the net of the amounts assigned to assets acquired and liabilities assumed” (3062.05). Many factors such as expected synergies with the target, growth, the use of cash to finance the acquisition, the presence of a hostile target and the presence of multiple bidders influence acquirers’ willingness to pay a purchase premium (André et al., 2000). An impairment of goodwill occurs when any of these factors proves to be unjustified and the fair value of goodwill decreases below its book value following the acquisition.

Prior to the adoption of SFAS 142/Section 3062, goodwill impairment losses were fairly infrequent. Accounting standards did not require firms to test goodwill for impairment on a regular basis and the impairment threshold was based on the net recoverable value of goodwill rather than its fair value. In addition, the adoption of SFAS 142/Section 3062 followed the most important mergers and acquisitions wave since the 60’s. The 90’s wave was characterized by significant purchase premiums resulting from the bull market being paid and an intense competition between bidders, and followed by underwhelming performance from the combined entities and the market

crash of 2000 (e.g. L'Her and Magnan, 2000; Henry and Jespersen, 2002). Consequently, the adoption of SFAS 142/Section 3062 was expected to trigger the recognition of significant unrecognized goodwill impairment losses.

Despite the potential benefits of forcing firms to test goodwill for impairment upon the adoption of SFAS 142/Section 3062 and in every following year to better reflect the economic value of goodwill in their financial statements, significant controversy surrounded the adoption of SFAS 142/Section 3062. Critics were worried that the fair value of goodwill could not be measured reliably enough to produce a relevant goodwill figure and warrant the move towards an impairment-only approach (e.g. Herz et al., 2001). They were concerned about the potential for management interpretation, judgment and bias both at the time of a merger and in future periods as well as the lack of public information at the reporting unit level necessary to unravel managerial discretion.

This chapter uses the acquisition of Vidéotron by Quebecor Media in 2000 to illustrate 1) how the circumstances and characteristics of a transaction influence the value of goodwill at the acquisition date; 2) the impact of the adoption of SFAS 142/Section 3062 on previously recognized goodwill; and 3) the set of information available to external financial statement users to try and assess the fair value of goodwill and the reasonableness of recognized goodwill impairment losses. I choose this transaction because it was highly publicized, it was one of the largest deals of 2000 and it resulted in one of the most significant transitional goodwill impairment losses booked in Canada. The fact that it was almost entirely allocated to a single reporting unit that was created following the acquisition also makes it easier to gather the information necessary to track the value of the goodwill generated by the acquisition itself.

My analysis reveals that the seven month bidding war between Rogers and Quebecor Media resulted in Quebecor Media paying a purchase premium representing more than 90% of the acquisition price. Despite indications that the value of goodwill could be impaired, no impairment loss was booked by Quebecor on December 31, 2001. Rather, it was the adoption of Section 3062 on January 1, 2002 that triggered the recognition of a transitional goodwill impairment loss of 1,960.0 million dollars or 42.6% of the remaining balance of goodwill. When I use the information available to try and assess the reasonableness of the reported loss, I obtain an estimated transitional goodwill impairment loss lower than the reported loss. However, because of the limitations imposed by the absence of detailed information on the method(s) and inputs used by Quebecor to assess the fair value of its segments, net assets, and goodwill, I am unable to reconcile the observed difference.

Overall, my analysis demonstrates how the absence of public information at the reporting unit level and the lack of disclosure requirements on the methods and inputs used to value goodwill can facilitate managerial opportunism and limit financial statement users' ability to assess the reasonableness of reported goodwill impairment losses. This chapter is important because it helps in understanding the costs and benefits of the impairment-only approach to accounting for goodwill. It also helps in motivating the empirical analyses contained in the next two chapters.

The rest of this chapter is organized as follows. Section 2 summarizes the recommendations of SFAS 142/Section 3062. Section 3 describes the seven month battle that surrounded the acquisition of Vidéotron by Quebecor Media as well as the way in which Quebecor accounted for the goodwill generated by the acquisition. Section 4 uses

the Vidéotron example to illustrate criticisms of SFAS 142/Section 3062. Section 5 concludes.

2.2 Accounting for Goodwill

Before the introduction of SFAS 142/Section 3062, firms were required to amortize goodwill over a period not exceeding forty years. They were asked to compare the book value of their goodwill to its net recoverable value if they had *any* indication that the *undiscounted* future cash flows generated by the subsidiary to which the goodwill was attributed could be *significantly and permanently reduced* (SFAS 121 and Section 1580). The resulting impairment loss was charged to net income, most often as an unusual item. Thus, the timing, measurement and presentation of goodwill write-offs could easily be managed: goodwill write-offs were fairly rare, they were usually substantial and they were most often recorded when firms were experiencing financial difficulties or entering important restructurings (Elliott and Shaw, 1988; Francis et al., 1996).

The decision to review existing standards on business combinations and purchased goodwill was made concurrently by the FASB and the AcSB in 1999¹. A first exposure-draft eliminating the pooling of interests method and reducing the maximum amortization period of goodwill to twenty years was then published. Most of the reactions to the exposure-draft focused on the elimination of the pooling of interests method. Nevertheless, when the revised exposure-draft was published in 2001, it

¹ The project on business combinations was added to the FASB's agenda in 1996. A G4+1 (Australia, New Zealand, United Kingdom, United States, Canada and the International Accounting Standards Board) position paper was developed in 1998. However, the joint Canada-United States project only formally took form in 1999.

primarily addressed accounting for goodwill without significant changes to pooling. Mainly, it suggested that goodwill amortization be eliminated and replaced by an impairment-only approach. SFAS 142/Section 3062 was issued in June 2001, with few changes from the second exposure-draft.

SFAS 142/Section 3062 1) eliminates goodwill amortization and 2) requires that a two-step impairment test be performed on goodwill at the same date every year. The ultimate objective of the impairment test is to compare the fair value of goodwill for each reporting unit with its book value as if it were acquired again every year. Before conducting the impairment test for the first time, firms have to entirely allocate their goodwill balance between their different reporting units. Once this is done, the fair value of each reporting unit is compared to its book value. If there is excess **fair value**, there is no need to go further and the conclusion of the test (no impairment necessary) is disclosed in the notes to the financial statements. Conversely, if there is excess **book value**, the fair value of the reporting unit is compared to the fair value of net assets excluding goodwill to obtain the fair value of goodwill. The fair value of goodwill is then compared with its book value and any excess is recorded as an impairment loss (see Figure 1 and Appendix A for an example).

The provisions of SFAS 142/Section 3062 came into effect on January 1, 2002. They apply to financial years starting on or after this date although early adoption is allowed for firms with a fiscal year beginning on or after April 1, 2001, provided the first interim period financial statements have not been previously issued. A first transitional impairment test must be conducted before the end of the second quarter of the adoption year to retroactively apply the change in accounting policy. The amounts used in the

transitional goodwill impairment test are measured as of the beginning of the year the new standard is initially applied to capture the loss in value that is attributable to past events. As a result, the TGIL recorded represents the cumulative effect of the change in accounting policy. In the United States, the transitional loss is charged to the income statement. In Canada, it is charged to opening retained earnings, without any restatement of the prior periods. In contrast, annual impairment losses are charged to income from operations in both countries.

2.3 The Vidéotron Transaction

2.3.1 The Battle over Vidéotron

The battle to buy Vidéotron starts on February 7, 2000. Rogers Communications Inc. and Le Groupe Vidéotron Ltée announce that day that they agreed to merge their two companies through a share exchange. Pending approvals, each Vidéotron share is to be exchanged for 0.925 Non-Voting Class B Shares of Rogers, for a total deal value of 5.6 billion dollars. TVA Group is not included in the transaction. TVA holdings are to be distributed to Vidéotron shareholders prior to the exchange so that the control of TVA Group remains unchanged. On February 14, 2000, the two companies announce that the definitive merger agreement has been executed and that the merger is expected to be completed by April, 2000. The merger agreement prohibits Vidéotron from soliciting any competing offers and gives Rogers the right to increase its offer to match any unsolicited offer having a higher value. If Vidéotron decides to terminate the agreement

under certain undisclosed circumstances, it is required to pay a 2\$ per share termination fee based on the fully diluted number of shares to Rogers².

Rogers' main motivation to merge with Vidéotron is to be able to compete with communications giant Bell Canada. At that time, the feeling is that Vidéotron is the only real threat to Bell Canada because of the soon to be launched technology for delivering voice over cable. Ted Rogers, CEO of Rogers, describes the merger as follows:

“Through this agreement we plan to offer our customers and Vidéotron's the benefits of bundling; combining cable, telephony and video services with publications and wireless product, as well as the benefits stemming from our alliances with AT&T, Microsoft and British Telecom.” The deal would indeed create Canada's largest cable company with 3.7 million customers, 260,000 high-speed Internet users and 5.6 billion in revenue and operating income for 2000 (Tedesco, 2000).

The same day Rogers and Vidéotron announce they signed a definitive merger agreement, Jean-Claude Scraire, the head of the Caisse de Dépôt et Placement du Québec (CDPQ), announces that “the transaction is not over” and that he needs to take a second look at the merger before approving it. The CDPQ is allowed to do so under a private shareholders' agreement signed with the Chagnon family (the controlling shareholders of Vidéotron) and giving them the power to block a change of control at Videotron and the sale of company assets. Mr. Scraire says he is mainly concerned about the fate of TVA Group Inc., Quebec's largest French-language television network. He wants more details about how the spin-off is going to proceed and to be able to increase the CDPQ's stake in

² The material change report describing the merger agreement is available on www.sedar.com. The complete URL is: <http://www.sedar.com/csfsprod/data17/filings/00239459/00000001/e%3A%5CDOCUMENT%5C2901-001%5Cmcr-fe00%5CMATCHR8.pdf>

TVA. The CDPQ goes to court on March 24 and gains a temporary injunction preventing Vidéotron's shareholders from voting on the merger offer. The search for a better offer starts, despite the terms of the definitive agreement (Broadcaster, February 2000).

On March 27, 2000, Quebecor and the CDPQ announce a joint 5.88 billion hostile takeover bid (or 49\$ a share) for Vidéotron, including TVA. However, Quebecor specifies that it will not make a formal offer until the Chagnon family terminates its support of the Rogers bid. The competing bid fuels intense debate. CEO Claude Chagnon rejects the offer, calling it inadequate. Vidéotron's shareholders are accusing the CDPQ of acting in bad faith and twisting facts, reminding them that their two representatives on the board first voted in favour of the Rogers proposal. The business press perceives that Rogers' friendly takeover bid is being twisted into a "political war of wills". Analysts interpret the situation as living proof that the CDPQ is motivated by Quebec nationalism as much as shareholder value (Broadcaster, April 2000; O'Brien, 2000).

Rogers extends the deadline of its bid and the court battle continues. The Chagnon family asks the court to examine the contentious shareholder agreement to decide whether it constitutes a veto. Court hearings are due to start in June. They are delayed to September after the Chagnons accuse the CDPQ of withholding key legal documents (Cablecaster, July 2000).

On August 9, 2000, Quebecor and the CDPQ announce a revised all-cash offer of 45\$ per share for a total deal value of 4.9 billion dollars. The details of the offer are made public. A new private company, Quebecor Media, is to be formed to own Vidéotron. Quebecor is to invest 1.035 billion cash and to transfer its investments in

NURUN, Sun Media Corporation as well as all of the assets held by Quebecor New Media while the CDPQ agrees to invest 2.2 billion cash and its shareholdings in Vidéotron. If the transaction is concluded, Quebecor and the CDPQ will hold 54.7% and 45.3% of the common shares of Quebecor Media, respectively. The offer has two conditions: 1) that the payment of the 241 million break-up fee to Rogers be delayed; and 2) that Quebecor be able to escape the transaction in the event of a “material adverse setback” to its assets (Cablecaster, September 2000).

Vidéotron’s board qualifies the offer as attractive, but refuses to make a recommendation because of the two conditions. Nevertheless, negotiations between Vidéotron, Quebecor Media and Rogers are rumoured to be taking place behind the scenes. The battle ends on September 12, 2000 when Quebecor Media agrees to withdraw the two conditions. Vidéotron’s board approves a deal under which Rogers withdraws its bid and collects the 241 million break-up fee, and the acquisition by Quebecor Media can go through. The acquisition is completed on October 23, 2000. All court actions are halted. Vidéotron’s shares stop being traded on December 4, 2000 (Cablecaster, October 2000). Table 1 summarizes the key moments of the battle.

{Insert Table 1 here}

2.3.2 Accounting for the Acquisition

Because Quebecor Media is a private company, details on the accounting treatment of the transaction by Quebecor Media must be traced to Quebecor Inc.’s consolidated financial statements. According to Quebecor’s financial statements for the year ended December 31, 2000, the final purchase price for Vidéotron is 5,274.7 million

dollars, settled in cash. The acquisition is not consolidated at this point in time because the CRTC must approve the transaction for Quebecor Media to gain control of Vidéotron. Rather, it is accounted for using the equity method. Given the magnitude of the transaction, the purchase price allocation has yet to be finalized.

The CRTC's approval is gained in May 2001 for Vidéotron and September 2001 for Groupe TVA. Thus, Vidéotron is consolidated into Quebecor's financial statements for the first time for the quarter ended June 30, 2001 and Groupe TVA is consolidated into Quebecor's financial statements for the first time for the quarter ended September 30, 2001. A new segment, Cable Television, is created for Vidéotron while TVA joins the Broadcasting segment. 4,840.0 million dollars or 91.8% of the purchase price is allocated to goodwill. The remaining purchase price is allocated as follows:

	Cable Television segment	Broadcasting segment	Total
Assets			
Current non-cash operating assets	\$ 96.9	\$ 177.8	\$ 274.7
Portfolio investment	2.6	10.6	13.2
Property, plant and equipment	1,219.9	84.0	1,303.9
Licenses	—	69.9	69.9
Future income taxes	50.9	4.3	55.2
Deferred charges	67.4	4.3	71.7
Goodwill	4,668.3	171.7	4,840.0
	6,106.0	522.6	6,628.6
Liabilities			
Current non-cash operating liabilities	243.3	143.1	386.4
Long-term debt	963.3	53.9	1,017.2
Future income taxes	228.3	36.2	264.5
Non-controlling interests	2.5	101.1	103.6
	1,437.4	334.3	1,771.7
Net assets	\$ 4,668.6	\$ 188.3	\$ 4,856.9

Because the acquisition is completed before June 30, 2001, in accordance with Section 3062's provisions, goodwill is amortized for the year ended December 31, 2001. Quebecor's summary of significant accounting policies further states that "when circumstances or events indicate a possible decline in the net recoverable amount for goodwill, an evaluation, on an undiscounted basis, of the future expected cash flows related to the plants or products which gave rise to the goodwill is undertaken. As the case may be, the carrying amount of goodwill is then reduced."³ No write-down of Vidéotron's goodwill is recorded for the year ended December 31, 2001.

2.3.3 Accounting for Goodwill upon Adoption of Section 3062

Quebecor is required to apply Section 3062 for the first time on January 1, 2002 i.e. less than a year after the Vidéotron acquisition is consolidated in its financial statements. In accordance with Section 3062's requirements, before completing the transitional goodwill impairment test, Quebecor must 1) determine whether there are any intangible assets previously recognized as goodwill that meet the recognition criteria in paragraph 1581.48 and need to be reclassified as such; and 2) allocate the opening balance of its goodwill figure between its different reporting units⁴. A reporting unit is defined as an asset group that constitutes a business for which discrete financial information is available. It can be a segment, or one level below. It is suggested that the details of the allocation be disclosed.

³ Quebecor's consolidated financial statements are available at www.sedar.com.

⁴ Paragraph 1581.48 states that an intangible asset should be recognized apart from goodwill when the asset results from contractual or other legal rights OR the asset is capable of being separated or divided from the acquired enterprise and sold, transferred, licensed, rented or exchanged. Otherwise, it should be included in the amount recognized as goodwill.

Quebecor's consolidated financial statements for the quarter ended March 31, 2002 show that no amount previously recognized as goodwill is reclassified to intangible assets. Quebecor chooses to test goodwill at the segment level. In accordance with the purchase price allocation, 96.8% of the goodwill generated by the Vidéotron acquisition is allocated to the Cable Television segment. The rest is allocated to the Broadcasting segment. Note 6 to the financial statements shows the following allocation:

For the quarter ended March 31, 2002, the changes in the carrying amounts of the goodwill are as follows:

	Balance as at January 31, 2002	Goodwill acquired during the period	Write-off during the period	Translation adjustments	Balance as at March 31, 2002
Printing	\$ 3,978.2	\$ 1.4	\$ -	\$ (3.3)	\$ 3,976.3
Cable Television	4,604.2	-	-	-	4,604.2
Newspapers	1,001.8	-	-	-	1,001.8
Broadcasting	164.3	-	-	-	164.3
Leisure and Entertainment	98.4	-	-	-	98.4
Business Telecommunications	273.4	-	-	-	273.4
Web Integration/Technology	29.2	-	(8.9)	0.1	20.4
Internet/Portals	70.5	-	-	-	70.5
Total	\$ 10,220.0	\$ 1.4	\$ (8.9)	\$ (3.2)	\$ 10,209.3

Quebecor is required to complete the transitional goodwill impairment test before the end of the year ended December 31, 2002. The first step of the test must be completed before the end of the quarter ended June 30, 2002. If the first step indicates that the fair value of the reporting unit is lower than its book value, the second step must be completed as soon as possible, and no later than December 31, 2002. Quebecor discloses the following information with respect to the progress of the transitional goodwill impairment test in its consolidated financial statements for the quarter ended March 31, 2002:

Within the end of the 2002 second quarter, the Company will complete the first impairment step for each reporting unit, in accordance with the new requirements of Section 3062, except for the first and second impairment test for Mindready Solutions Inc. which was completed as at January 1, 2002. A portion of the goodwill attributed to the Cable Television segment within the acquisition of Groupe Vidéotron might be impaired in 2002. As per management's estimates and assumptions, the impairment might amount between \$1.5 and \$2.0 billion or between \$0.8 and \$1.1 billion, net of non-controlling interest.

The transitional goodwill impairment test is completed by the end of the quarter ended June 30, 2002. A total transitional goodwill impairment loss of 2,192.2 million dollars is recorded, 1,960.0 million of which relates to the Cable Television segment. Opening retained earnings are reduced by 1,189.9 million dollars, net of non-controlling interest of 1,002.3 million dollars:

In accordance with the transitional provision of Section 3062, an impairment loss resulting from the first application of the recommendations, is recognized as the effect of a change in accounting policy and charged to opening retained earnings, without restatement of prior periods. During the three-month period ended June 30, 2002, the Company recorded an estimated goodwill impairment loss for each of its reporting units having a carrying amount exceeding its fair value. Accordingly, the opening balance of goodwill was reduced by \$2,192.2 million and opening retained earnings were reduced by \$1,189.9 million, net of non-controlling interest of \$1,002.3 million.

	Balance as at January 1, 2002 as previously reported	Restatement due to a change in accounting policy	Balance as at January 1, 2002 as restated
Printing	\$ 3,978.2	\$ -	\$ 3,978.2
Cable Television	4,604.2	(1,960.0)	2,644.2
Newspapers	1,001.8	-	1,001.8
Broadcasting	164.3	-	164.3
Leisure and Entertainment	98.4	-	98.4
Business Telecommunications	273.4	(174.4)	99.0
Web Integration/Technology	29.2	(20.4)	8.8
Internet/Portals	70.5	(37.4)	33.1
Total	\$ 10,220.0	\$ (2,192.2)	\$ 8,027.8

2.4 Discussion

The net transitional goodwill impairment loss of 1,189.9 million dollars booked by Quebecor represents 54.6% of the opening balance of retained earnings as at January 1, 2002. There are a number of reasons to expect the write-down. Quebecor Media pays \$45 a share for those Vidéotron shares that are not already owned by the CDPQ when the closing price of the shares on the last trading day prior to the announcement of the offer is 33.20\$, i.e. a premium of 35.5%. Although Quebecor and the CDPQ justify the premium paid with the strong potential for growth of Quebecor Media, for many observers it is mostly due to the bidding war between Rogers and Quebecor Media and the desire to keep Vidéotron in Quebec⁵. The \$45 price represents a multiple of 18 to 20 times the EBITDA, much higher than the historical multiple of 13 to 15 for the cable sector and the average multiple of 12.1 for Canadian cable companies (Silva et al., 2001 and Deloitte and Touche, 2002). The acquisition is made shortly after the bubble burst of March 2000, at a moment where the media and Internet industries are suffering from a significant slowdown. Between the acquisition date and the consolidation date, Vidéotron is barely breaking even (see income statement below). Between the consolidation date and December 31, 2001, Vidéotron earns revenues of 476.5 million dollars, and its operating income before financial expenses, reserve for restructuring of operations and other special charges, write-down of goodwill, gains on sale of business, shares of a subsidiary and a portfolio investment, and gains on dilution between the consolidation date and December 31, 2001 is 82.9 million dollars, i.e. probably close to the same on a net basis. Finally, the acquisition is followed by a 110 million dollar cut on

⁵ The press release is available on www.sedar.com. The complete URL is: <http://www.sedar.com/csfsprod/data20/filings/00290812/00000001/d%3A%5Cclients%5Cqbcor%5Cvdoos%5Cmcrpt%5Cnew%5Cpren.PDF>.

Vidéotron's operating budget and over 110 layoffs, most of which coming from the promising IP telephony division (Cablecaster, January 2001).

	2001	2000
Revenues	\$ 463.1	\$ 211.1
Operating expenses	333.3	151.2
Amortization	49.8	24.7
Financial expenses	29.8	14.1
Income before income taxes	50.2	21.1
Income taxes (credit) ¹	21.8	(7.5)
	28.4	28.6
Non-controlling interest	(4.4)	(4.0)
Income before amortization of goodwill	24.0	24.6
Amortization of goodwill, net of non-controlling interest	(41.5)	(24.3)
Net (loss) income and equity (loss) income from non-consolidated subsidiaries	\$ (17.5)	\$ 0.3

To the extent that all of these facts are known on December 31, 2001, it seems really surprising that no write-down of goodwill is deemed necessary in the financial statements for the year ended December 31, 2001. From that point of view, it would seem that by forcing Quebecor to perform a goodwill impairment test and lowering the impairment threshold, Section 3062 is effective in triggering the recognition of the existing unrecognized impairment loss. Nevertheless, consistent with criticisms of SFAS 142/Section 3062, very limited financial information at the reporting unit level is publicly available to help us make an external appraisal of the fair value of goodwill and assess whether the transitional goodwill impairment loss booked by Quebecor is reasonable.

An initial means to try and assess the fair value of the goodwill generated by the Vidéotron acquisition is to look at the segmented information in Quebecor's consolidated financial statements for the year ended December 31, 2001. It is relatively easy to do so

in Quebecor's case because a new segment, Cable Television, is created following the acquisition and the quasi-totality of the goodwill generated by the acquisition is attributed to that segment. If significant portions of the goodwill were spread to different reporting units, it would be very difficult, if not impossible to do the same exercise. Quebecor discloses each segment's operating income before amortization, financial expenses, reserve for restructuring of operations and other special charges, write-down of goodwill, gains on sale of business, shares of a subsidiary and a portfolio investment, and gains on dilution in its segmented information. In the absence of any other disclosed earnings or cash flow measure, I use this figure as an approximation of Vidéotron's EBITDA. Using the average EBITDA multiple for Canadian cable companies of 12.1, I obtain a value of 3,289.99 million dollars for the Cable Television segment.

Another metric that is commonly used to value Cable companies is the value per subscriber. This method is now used to assess the reasonableness of the EBITDA valuation. Vidéotron's main competitors in Canada are Cogeco, Shaw Communications and Rogers Communications. All three companies disclose the number of subscribers in their 2001 MD&A. The market value of equity on December 31, 2001 of Cogeco, Shaw and Rogers according to *Compustat* is then used to obtain the individual and average values per subscriber. Using the 2,197.52\$ per subscriber industry average value and the disclosed 1,500,000 subscribers for Vidéotron, I obtain a value of 3,296.28 million dollars for the Cable Television Segment (see Table 2). This value is very close to the EBITDA valuation. Therefore, I proceed with the goodwill impairment test based on the EBITDA valuation.

{Insert Table 2 here}

Step 1 of the goodwill impairment test requires the comparison of the fair value of the reporting unit to its book value including goodwill. Because I do not have access to the book value of the Cable Television segment's net assets, I use the book value according to the purchase price allocation (4,854.4 million dollars) as an approximation. The fair value of the reporting unit (3,289.9 million dollars) is lower than its book value (4,854.4 million dollars). Therefore, the second step of the goodwill impairment test must be completed.

Step 2 requires the calculation of the implied fair value of goodwill and the comparison to its book value. The implied fair value of goodwill is obtained by deducting from the fair value of the reporting unit the fair value of net assets other than goodwill. Once again, because the fair value of net assets other than goodwill for the Cable Television segment is unknown, I use the book value according to the purchase price allocation (14.4 million dollars) as an approximation. This gives an implied fair value of goodwill of 3,275.5 million dollars. The implied fair value of goodwill is then compared to the book value of goodwill (4,604.2 million dollars) to determine the amount of the transitional goodwill impairment loss, if any. The estimated transitional goodwill impairment loss for the Cable Television segment is 1,328.7 million dollars. It is lower than the reported loss of 1,960.0 million dollars. Table 3 summarizes the calculation.

{Insert Table 3 here}

A second way to try and assess the fair value of goodwill is by using financial information at the firm level. This is the method suggested by specialized valuation firms such as Bear and Sterns. It is particularly useful in cases where goodwill is split between

many different reporting units. With this method, Quebecor is treated as a single reporting unit, i.e. as though it has been purchased in a business combination. Its market value as at December 31, 2001(1,250.51 million dollars) is assumed to proxy for the fair value of the reporting unit. The fair value of net assets is also assumed to be equal to their book value. The goodwill impairment test can then be simplified to the difference between the market and the book value of stockholders' equity. The book value of Quebecor's stockholders' equity on December 31, 2001 is 2,804.10 million dollars. Therefore, the estimated transitional goodwill impairment loss for Quebecor as a whole is 1,553.59 million dollars. Once again, it is lower than the reported total transitional goodwill impairment loss of 2,192.2 million dollars.

The calculations above illustrate the limitations imposed by the absence of detailed information on the method(s) and inputs used by Quebecor to assess the fair value of its segments, net assets and goodwill. Both methods lead to an estimated transitional goodwill impairment loss that is lower than the reported transitional goodwill impairment loss. Unfortunately, many competing explanations can contribute to the observed differences and it is impossible to precisely reconcile them. On one hand, the reliability of the *reported* transitional goodwill impairment loss can be questioned because 1) goodwill is not a separable asset and it must be measured as a residual; 2) there is a significant potential for measurement error in computing the fair value of the reporting unit and its net assets; and 3) there also is a significant potential for management judgment and bias in computing the fair value of the reporting unit and its net assets. On the other hand, the reliability of the *estimated* transitional goodwill impairment loss can be questioned because it is based on gross approximations of the

EBITDA figure, the EBITDA multiple, and the fair value and book value of Quebecor's and the Cable Television segment's net assets and goodwill.

2.5 Conclusion

This chapter uses the acquisition of Vidéotron by Quebecor Media in 2000 to illustrate 1) how the circumstances and characteristics of a transaction influence the value of goodwill at the acquisition; 2) the impact of the adoption of SFAS 142/Section 3062 on previously recognized goodwill; and 3) the set of information available to external financial statement users to try and assess the fair value of goodwill and the reasonableness of recognized goodwill impairment losses. Despite the potential benefits of forcing firms to test goodwill for impairment upon adoption of SFAS 142/Section 3062 and in every following year to better reflect the economic value of goodwill in their financial statements, significant controversy surrounded the adoption of SFAS 142/Section 3062. Critics were worried that the fair value of goodwill could not be measured reliably enough to produce a relevant goodwill figure and warrant the move towards an impairment-only approach (e.g. Herz et al., 2001). They were concerned about the potential for management interpretation, judgment and bias both at the time of a merger and in future periods and the lack of public information at the reporting unit level necessary to unravel managerial discretion.

My analysis reveals that the seven month bidding war between Rogers and Quebecor Media resulted into Quebecor Media paying a purchase premium representing more than 90% of the purchase price. Despite indications that the value of goodwill could be impaired, no impairment loss was booked by Quebecor on December 31, 2001.

Rather, it is the adoption of Section 3062 on January 1, 2002 that triggered the recognition of a transitional goodwill impairment loss of 1,960.0 million dollars or 42.6% of the remaining balance of goodwill. When I use the information available to try and assess the reasonableness of the reported loss, I obtain an estimated transitional goodwill impairment loss lower than the reported loss. However, because of the limitations imposed by the absence of detailed information on the method(s) and inputs used by Quebecor to assess the fair value of its segments, net assets and goodwill, I am unable to reconcile the observed difference.

Overall, my analysis shows that reliability issues can significantly affect both the reported transitional goodwill impairment loss and financial statement users' expectation of the amount to be reported. It demonstrates how the absence of public information at the reporting unit level and the lack of disclosure requirements on the methods and inputs used to value goodwill can facilitate managerial opportunism and limit financial statement users' ability to assess the reasonableness of reported goodwill impairment losses. Given the magnitude of TGILs reported by Canadian firms following the adoption of Section 3062, it raises the questions of whether and how limitations to valuation models and managerial discretion influence the magnitude of reported TGILs, and whether and how investors make use of the limited information they have to assess TGIL. The next two chapters investigate these questions.

Chapter 3 – Economic Determinants, Reporting Incentives and Constraints

3.1 Introduction

After many years of debate, the Financial Accounting Standards Board (FASB) and the Canadian Accounting Standards Board (AcSB) simultaneously introduced revised standards on purchased goodwill in 2001. The new standards (SFAS 142/Section 3062) eliminate goodwill amortization. They require that goodwill be subjected to a transitional impairment test in the adoption year as well as to annual impairment tests in subsequent years. The standard setters believed that by forcing firms to systematically re-evaluate the fair value of goodwill each year the underlying economic value of goodwill would be better reflected on the balance sheet. However, the new standards leave significant room for management interpretation, judgment and bias both at the time of a merger and in future periods. Consequently, critics have expressed concerns over managers' ability to defeat the standards' purpose by relying on the new recommendations as a justification for making reporting decisions that can mislead financial statement users regarding the economic value of goodwill (e.g. Massoud and Raiborn, 2003). Motivated in part by the debate over whether and why managers make use of the available discretion to influence the magnitude of goodwill impairment losses, this chapter investigates the determinants of transitional goodwill impairment losses (TGILs) recorded by Canadian firms.

The transitional impairment test is of particular interest when it comes to examining managers' goodwill reporting choices for a number of reasons. First, the adoption of SFAS 142/Section 3062 had a significant impact on the financial statements

of many companies. Prior to the introduction of the new standards, goodwill impairment was calculated at the enterprise-level and the fair value of goodwill was measured on the basis of undiscounted future cash flows. As such, SFAS 142/Section 3062 lowered the impairment threshold and was expected to trigger the recognition of significant TGILs. Second, TGILs do not affect income from operations. This generates conflicting incentives for managers as they now have the unique opportunity to protect their future operating earnings by maximizing the initial loss (i.e. taking a big bath) but must at the same time take into consideration the negative impact that the impairment loss can have on the quality of their balance sheet and on the future cash flow expectations of market participants (King, 2002). Therefore, it is not clear *a priori* which incentives will prevail. Finally, if we consider the pool of available impairments as fixed on a finite horizon *ceteris paribus*⁶, TGILs can be seen as potential facilitators (constrainers) to the potential for future earnings management in that understating (overstating) the transitional impairment loss leaves room for more (less) significant subsequent annual impairment losses. Consequently, the decisions made upon the adoption of the new standards are likely to affect more than one accounting period.

The Canadian context further provides a unique opportunity to revisit our knowledge of the determinants of accounting choices and to examine managers' discretionary behaviour in a context that has not been examined before. Canadian standards diverge from American standards in that TGILs are charged to opening retained earnings rather than net income. Equity recognition could exacerbate the conflict between managers' incentives with respect to TGILs because it has the potential

⁶ Overstating (understating) TGIL reduces (increases) future available annual impairment losses because firms cannot write-off more than the book value of goodwill, and previous impairment losses cannot be reversed.

to mute the impact and attention paid to negative events (Karleff, 2003). At the same time, Canadian managers' transitional goodwill reporting decisions are not likely to be driven by "income statement" incentives such as those examined in the literature interested in the determinants of asset and goodwill write-offs (e.g. income smoothing). However, to the best of my knowledge, whether and how equity recognition affects managerial incentives is an empirical question that remains unanswered. Understanding managers' reporting choices in the context of equity recognition is even more important in that it could become more prevalent in future years. In May 2005, the FASB issued SFAS 154 entitled "Accounting Changes and Error Corrections" that harmonizes Canadian and American standards and require that the cumulative effect of a change in accounting principles be charged to opening retained earnings in the United States as well. As such, the results of this chapter may help standard setters understand the potential consequences of the newly issued standards on accounting changes.

Consistent with prior research on the determinants of asset and goodwill impairment losses, I hypothesize that the magnitude of TGILs is a function of economic factors, and reporting incentives and disincentives. However, I propose a more comprehensive reporting framework within which the constraints imposed by board of directors and audit committees are also taken into consideration. The empirical results show a significant association between TGILs and managers' reporting incentives and disincentives. Firms with lower than target return-on-equity (ROE) and return-on-assets (ROA) record higher TGILs to smooth ROE and ROA towards the industry median. Similarly, firms with higher than target leverage record lower TGILs to avoid further deviation from the industry median. Firms that experience a change in CEO record

higher TGILs, consistent with the big bath hypothesis. Firms where top paid executives hold in-the-money exercisable stock options and firms that issue new debt or equity capital in the year that follows the announcement of the completion of the transitional goodwill impairment test record lower TGILs. Lastly, firms with a higher proportion of independent directors on the board of directors and a higher proportion of independent and financially literate directors on the audit committee record lower abnormal TGILs, consistent with the hypothesis that the board of directors and audit committee constrain managers' goodwill reporting choices.

Standard setters are interested in understanding managers' reporting choices in order to determine how the discretion afforded by accounting standards may be exploited. The adoption of SFAS 142/Section 3062 was followed by similar standards on the impairment of other long-lived assets (SFAS 144/Section 3063), consistent with the recent tendency toward better recognition of the fair value of long-lived assets on the balance sheet. However, significant controversy surrounded the adoption of impairment standards, mainly because of the numerous assumptions needed to assess the fair value of long-lived tangible and intangible assets. Therefore, providing evidence on the determinants of TGIL reported following the adoption of Section 3062 may prove to be useful for standard setters who wish to assess the costs and benefits of the impairment approach and to evaluate the ability of impairment standards to make firms more transparent with respect to the underlying economic value of their long-lived assets.

This chapter contributes to the existing literature by providing new evidence on whether those accounting choices that do not affect net income are influenced by managers' reporting incentives. In addition, while previous studies examine managers'

reporting choices with respect to discretionary asset write-offs, few investigate the same behaviour in a context where they are made compulsory. Thus, this paper contributes to this stream of literature by considering a different set of reporting incentives and alternative motivations for the transitional goodwill reporting choices made by Canadian managers in this context. Finally, Healy and Wahlen (1999) and McNichols (2000) suggest that it is important to focus on specific accruals to further our knowledge of the determinants of accounting choices because 1) this allows for a better understanding of the set of actions managers take to achieve given objectives; and 2) this facilitates the avoidance of many problems associated with the measurement of discretionary accruals. The focus on TGILs taken in this chapter is consistent with this view.

The rest of this chapter is organized as follows. Section 2 provides some background information. Section 3 reviews prior research. Section 4 develops the research hypotheses. Models and variables are presented in section 5. Results are presented in Section 6. Finally, Section 7 discusses the results, concludes and highlights future research avenues.

3.2 Background

3.2.1 Accounting for Goodwill

The decision to review existing standards on purchased goodwill was made concurrently by the FASB and the AcSB in 1999. The main objective of the review was to force firms to better reflect the underlying economic value of goodwill on their financial statements. This was an important concern at the time for at least two reasons. First, because the loss in economic value of goodwill is irregular and difficult to predict,

amortizing and expensing a fixed amount of goodwill every year did not faithfully represent how this loss in value occurs. Second, existing standards were not precise enough to trigger a timely recognition of the existing impairment in cases where the unamortized value of goodwill was greater than its economic value. As a result, the information provided regarding goodwill in the financial statements was generally not useful (FASB, 2001).

To mitigate these problems, SFAS 142/Section 3062 1) eliminates goodwill amortization and 2) requires that a two-step impairment test be conducted on goodwill at the same date every year. The ultimate objective of the impairment test is to compare the fair value of goodwill for each reporting unit with its book value as if it were acquired again every year. Before conducting the impairment test for the first time, firms have to entirely allocate their goodwill balance between their different reporting units. Once this is done, the fair value of each reporting unit is compared to its book value. If there is excess **fair value**, there is no need to go further and the conclusion of the test (no impairment necessary) is disclosed in the notes to the financial statements. Conversely, if there is excess **book value**, the fair value of the reporting unit is compared to the fair value of net assets minus goodwill to obtain the fair value of goodwill. The latter is then compared with the book value of goodwill and any excess is recorded as a write-off (see Figure I and Appendix A for an example).

The provisions of SFAS 142/Section 3062 came into effect on January 1, 2002. They apply to financial years starting on or after this date although early adoption is allowed for firms with a fiscal year beginning on or after April 1, 2001, provided the first interim period financial statements have not been previously issued. A first transitional

impairment test must be conducted before the end of the second quarter of the adoption year to retroactively apply the change in accounting policy. The amounts used in the transitional goodwill impairment test are measured as of the beginning of the year the new standard is initially applied to capture the loss in value that is attributable to past events. As a result, the TGIL recorded represents the cumulative effect of the change in accounting policy. In the United States, the transitional loss is charged to the income statement. In Canada, it is charged to opening retained earnings, without any restatement of the prior periods. In contrast, annual impairment losses are charged to income from operations in both countries.

3.2.2 Sources of Managerial Discretion

The impairment approach removes the “write-off recognition” choice from managers by forcing them to conduct a goodwill impairment test every year, while still leaving them with considerable discretion regarding the measurement of the impairment loss. The first instance of managerial discretion is the allocation of the opening goodwill balance to the different reporting units. A reporting unit is defined by the FASB and the AcSB as an asset group that constitutes a business for which discrete financial information is available (e.g. CICA, 1998), thereby implying that it does not necessarily have to be a specific subsidiary or division. Moreover, it is possible to attribute the goodwill generated by a specific acquisition to more than one reporting unit. Thus, provided they have incentives to maximize (minimize) the TGIL and/or future annual impairment losses, managers could choose to allocate a greater portion of goodwill to reporting units with a smaller (greater) fair value.

The second instance of managerial discretion is the assessment of the fair value of both the reporting unit as a whole and of the identifiable assets and liabilities that constitute this reporting unit. To assess the fair value of a reporting unit, SFAS 142/Section 3062 recommends the use of quoted market prices in active markets if available. If not, the use of a present value technique is suggested (SFAS 142, par. 23-24; 1581.A2 and 1581.A8). The fair value of the identifiable assets and liabilities is measured in the same way as at the time of the acquisition (e.g. capital assets that are to be used are measured at replacement cost). Even though independent valuers can be hired to review management's reports and give an independent opinion on various aspects of the impairment process, it is primarily managers' responsibility to assess fair value (Cole and White, 2003). They can and must make use of their judgement to forecast future performance, choose an appropriate discount rate, assess the replacement or net realizable value of a given asset, etc. As such, it has been argued that managers have the flexibility to calculate either impairment or non-impairment in the same period, based on their selected underlying assumptions (Massoud and Raiborn, 2003).

In the case of goodwill impairment testing, the use of managerial discretion is further facilitated by the fact that no financial information is publicly available at the reporting unit level unless every reporting unit is a public firm itself (which happens very rarely). Therefore, it is virtually impossible for outsiders to collect the information necessary to make an external appraisal of the fair value of goodwill at the reporting unit level. On one hand, this can allow managers to convey some of their private information on the future performance of the reporting units to the market. On the other hand however, provided they have incentives to do so, managers can also make use of the

afforded discretion to mislead financial statement users regarding the underlying economic value of goodwill, while justifying their reporting choices by citing the new standards' recommendations as their motivation. Thus, it is important for financial statement users and standard setters to understand what motivates managers' goodwill reporting choices.

3.3 Relationship to Prior Research

An extensive body of literature exists examining the determinants of accounting choices in general and asset write-offs in particular. This chapter differs from previous work in three ways. First, most studies are focused on explaining those accounting choices that affect net income. To the best of my knowledge the determinants of managers' reporting choices when equity recognition is allowed have only been examined in contexts where income statement recognition is also an option, with authors' main concern being to explain managers' incentives to *avoid* income statement recognition rather than to *choose* equity recognition. Gujarathi and Hoskin (1992) investigate managers' preferences with respect to the adoption of SFAS 96. Balsam et al. (1995) examine a broader set of mandated accounting changes. Both studies find that firms with a positive cumulative effect for the change in accounting policy tend to choose income statement recognition whereas firms with a negative cumulative effect prefer equity recognition. Hand and Skantz (1998) study the economic determinants of the choice between income statement and equity recognition for equity carve-out gains recorded under SAB 51. They show that parent companies have a higher probability of charging the gain to equity when their leverage and other large discretionary write-offs

for the year are lower. Finally, Lee et al. (2004) examine the reporting decisions of property-liability insurers who are allowed to choose between the statement of equity and a performance statement to report comprehensive income. They find that insurers with a tendency to manage earnings and a reputation for poor financial reporting quality are more likely to report comprehensive income in the statement of equity. In contrast to these papers, I investigate factors that affect the reporting of TGILs for a set of firms that only have the option to charge the loss to equity.

Second, the set of incentives considered in previous asset and goodwill write-off studies are of limited importance for my sample firms because they relate to earnings rather than equity. The literature on asset write-downs shows that impairment losses are used to smooth earnings and/or take an “earnings bath”, after controlling for economic factors that likely drive the impairment (Strong and Meyer, 1987; Zucca and Campbell, 1992; Francis et al., 1996)⁷. Riedl (2004) contrasts the associations between write-offs, and economic factors and reporting incentives across the pre-SFAS 121 and post-SFAS 121 regimes. He finds that write-offs reported in the post-SFAS 121 regime have significantly lower associations with economic factors and a higher association with “big bath” reporting behaviour relative to those reported in the pre-SFAS 121 regime. This is consistent with managers applying more discretion following the implementation of the standard.

Concurrent research examines the reporting incentives associated with TGILs recorded by American firms. Segal (2003) finds that goodwill impairment losses are used to smooth earnings, but finds no support for the big bath, the debt-covenant or the

⁷ The reader interested in a more complete review of the literature on asset write-offs can refer to Alciatore et al. (1998).

bonus compensation hypotheses. To the contrary, Zang (2003) shows that initial goodwill impairment losses are associated with incentives to take an earnings bath and to avoid debt covenant violations. Sellhorn (2004) finds that smaller and less exposed firms' TGILs are primarily driven by difficult economic circumstances whereas larger and more exposed firms' TGILs are associated with reporting incentives (earnings smoothing, big bath and debt-covenant). Lastly, Beatty and Weber (2005) show that SFAS 142 adoption choices are associated with firms' incentives to take above-the-line or below-the-line expenses. Firms accelerate goodwill charges when their income from continuing operations has a higher stock market multiple and when they had recent managerial turnover. They delay expense recognition when their debt covenants or bonus plans are affected by below-the-line accounting charges, or when they are faced with financial market delisting requirements. My study is inspired by existing research on asset and goodwill write-offs in that contracting and market incentives are used to explain the magnitude of the TGILs reported by Canadian firms. It differs in that I use a set of reporting incentives adapted to the context of equity recognition.

Finally, most studies on asset and goodwill write-offs solely focus on managers' incentives to act opportunistically in order to explain the accounting choices they make. However, managers' ability to act opportunistically ultimately depends on the level of the internal and external monitoring of the financial reporting process respectively undertaken by the board of directors (and more particularly the audit committee) and the auditors. Thus, consistent with both theory and prior research, I suggest that managers' ability to record goodwill impairment losses that differ from the predicted economic losses depends on the board of directors' and audit committee's internal monitoring of

the financial reporting process. Overall, I rely on a more comprehensive reporting framework to explain the magnitude of TGILs recorded by Canadian firms.

3.4 Hypothesis Development

The measurement discretion allowed by the impairment approach as well as the fact that transitional goodwill impairment losses are charged to retained earnings in Canada raises the question of whether and why managers will use their discretion to influence the magnitude of TGILs. Managers' discretion with respect to TGILs can be exercised in two ways: either they overstate the transitional impairment loss and record a write-off greater than the necessary economic impairment (which could be zero) or they understate or simply don't recognize the necessary impairment. Thus, it is important to examine managers' motivations to *both* over- and understate transitional goodwill impairment losses. My research hypotheses are built accordingly.

3.4.1 Reporting Incentives and Disincentives

3.4.1.1 Financial Ratio Target Deviation

Prior research shows that the financial ratios of firms in the same industry have a tendency to converge to the mean value for the industry (e.g. Lev, 1969; Davis and Peles, 1993; Wu and Ho, 1997). These adjustments in financial ratios towards their equilibrium level are subject to both passive industry-wide effects and active management control. Hence, provided managers have the *opportunity* and *incentives* to do so, a subtle form of managerial discretion exists in the smoothing of financial ratios (Wu and Ho, 1997). Managers have an opportunity to smooth financial ratios when they can choose from

available generally accepted measurement techniques that can push the financial ratios in the desired direction (e.g. Lev, 1969). They have incentives to do so if the relative cost of deviating from the target ratio is greater than the cost of making a sub-optimal economic decision to reach this target (Wu and Ho, 1997). While the literature on financial ratio smoothing suggests that managers make use of the measurement discretion afforded by GAAP to have their financial ratios converge to their target equilibrium level, no attempt is made to identify the accounting techniques through which this objective is achieved. One contribution of this chapter is to examine whether TGILs are used for such a purpose.

ROE is likely the most commonly examined ratio in the literature due to its contribution in explaining overall firm performance and its use in the residual income valuation model⁸. Considerable attention has also been given to ROA (or profit margin x asset turnover) and leverage, the components of ROE according to the DuPont decomposition. Because TGILs reduce assets and equity equally without affecting net income, they directly increase the value of ROE, ROA and leverage (debt-to-equity or debt-to-assets). Thus, provided they perceive the costs of deviating from target ROE and ROA to be larger than the potential decrease in market value that a higher than anticipated TGIL can cause, firms with lower than target ROE and ROA could have incentives to maximize TGILs to bring the value of these ratios towards the industry

⁸ For example, Mann (2004) states: "It doesn't get the same treatment as earnings per share, it doesn't gain much cult status like free cash flow, and you'll never, ever hear the folks on Bubblevision using the term. But ROE matters. It shows how good a company is at generating money based on the retained shareholder equity, also known as money that the company could return to you. A consistently low ROE is a sign that the company's management isn't effectively deploying the resources at its command. Moreover, *relative* return on equity within an industry can tell investors which companies are well run, and which are not. Ever wonder why **Ralph Lauren** was such a lousy investment for so many years even though *everyone* seemed to have one or two pieces of Polo clothing in their closets? Look no farther than a chronically anemic ROE."

norm. Similarly, provided they want to avoid the additional costs associated with the increase in leverage caused by TGILs, firms with higher than target leverage could have incentives to minimize TGILs.

Potential costs associated with a negative deviation from target ROE, ROA and leverage include a reduction in firm value, credit rating or compensation. Financial statement (and ratio) analysis is an important part of the fundamental analysis required for equity valuation (Nissim and Penman, 2001; Walker and Wang, 2003)⁹ Executive compensation is shown to be influenced by accounting-based performance measures such as ROE and ROA (e.g. Craighead et al., 2004). Finally, the disclosure of profitability and liquidity ratio targets by agencies such as Standard and Poor's, Moody's and Dun & Bradstreet exerts pressure on firms to stay competitive by preventing their ratios from deviating too significantly from the industry norm (Wu and Ho, 1997). Overall, this indicates that those firms which exhibit a negative deviation from the target industry ROE and ROA (leverage) can benefit from using the reporting flexibility afforded by Section 3062 to record higher (lower) TGILs. If managers use TGILs to smooth financial ratios, then those firms with lower than target ROE should record higher TGILs. Equivalently, under the DuPont decomposition, firms with lower (higher) than target ROA (leverage) should record higher (lower) TGILs¹⁰. This leads to my first research hypothesis (stated in the alternative form):

⁹ Prior research demonstrates that financial ratios, including ROE, ROA and leverage, provide information about future profitability and firm value (e.g. Ou and Penman, 1989; Ou, 1990; Nissim and Penman, 2001; Fairfield et al., 2003; Nissim and Penman, 2003). Walker and Wang (2003) more specifically demonstrate how a deviation from target profitability can cause a reduction in firm value.

¹⁰ The debt-covenant hypothesis suggests that managers make income-increasing accounting decisions to avoid costly violations of debt covenants (Watts and Zimmerman, 1990). However, according to Leftwich (1983), goodwill is normally excluded from the calculation of leverage for debt contracting purposes. Moreover, Beatty et al. (2002) show that most debt agreements exclude mandatory accounting changes for covenant calculations (73% of their sample). Consequently, contrary to Zang (2003) and Sellhorn (2004), I

H_{1a}: Ceteris paribus, firms with lower than target ROE will record higher TGILs.

H_{1b}: Ceteris paribus, firms with lower than target ROA will record higher TGILs.

H_{1c}: Ceteris paribus, firms with higher than target leverage will record lower TGILs.

3.4.1.2 Change in CEO

The magnitude of reported TGILs is likely to be influenced by a change in CEO. On one hand, CEOs who made the acquisition decision are less likely to record a TGIL because doing so suggests that the acquisition price may have been too high or that they failed to realize the promised synergies from the acquisition. For example, Harbert (2002) states: “If the company’s current CEO is responsible for acquisitions that have now declined in value, they may not want to admit to their shareholders that they made a mistake”. On the other hand, incoming CEOs can use TGILs to 1) blame predecessors for less successful acquisitions; 2) send a signal to investors that bad times are behind the firm and that better times will follow and 3) protect current and future operating earnings (e.g. Elliott and Shaw, 1988; Riedl, 2004; Zucca and Campbell, 1992). They can further count on the fact that the transitional impairment test is compulsory as a justification for their decision to reduce the value of goodwill. Overall, this suggests that firms with incoming CEOs should take advantage of the adoption of Section 3062 to record higher

do not expect managers’ primary motivation with respect to the avoidance of the effect of TGIL on leverage to be the respecting of debt covenants.

TGILs. This allows me to draw my second research hypothesis (stated in the alternative form):

H₂: Ceteris paribus, firms that experience a change in CEO will record higher TGILs.

3.4.1.3 Compensation

Managers might have incentives to manipulate TGILs if the latter negatively affect their compensation. This can happen in two ways. First, TGILs can affect managers' cash compensation. TGILs likely have no *immediate* impact on managers' cash compensation because they do not impact net income. However, reported TGILs could eventually influence managers' cash compensation if by maximizing the transitional loss managers were able to avoid future annual impairment losses and the resulting decrease in operating earnings. Managers with a higher proportion of their compensation in bonuses would then have incentives to maximize the transitional loss. This allows me to draw my third research hypothesis:

H₃: Ceteris paribus, firms where a higher proportion of managers' compensation is paid in bonuses will record higher TGILs.

Second, TGILs can affect managers' compensation by reducing the value of their stock options. The increased use of stock-based compensation and other equity incentives over the last decade has raised concerns that they might induce managers to increase short-term stock price in order to benefit from subsequently selling shares or exercising options (Cheng and Warfield, 2005). Cheng and Warfield (2005) show that there is a significantly higher incidence of meeting or just beating analysts' forecasts for firms with

higher managerial equity incentives. Lev (1992) further suggests that in cases where managers have incentives to manage stock price, they will choose to delay or accelerate the disclosure of bad and good news so that it moves in the desired direction. In other words, they will try to minimize stock price (and the exercise price) when stock options are granted, and maximize it when the options can be exercised¹¹.

TGILs would reduce the value of managers' stock options if recording a loss that is greater than what was anticipated by the market triggers a decline in the expectation of future cash flows and a decrease in stock price¹². Efendi et al. (2005) suggest that managers are likely to be more sensitive to this decrease in the value of their options when they are exercisable with a profit (i.e. in-the-money) and the existing profit is significant compared to their wealth (i.e. deep in-the-money). Under the assumptions that managers 1) are aware of the potential negative reaction of the market to the announcement of greater than anticipated TGILs, and 2) want to maximize stock value when their stock options are in-the-money and of significant value, the managers should then try to minimize TGILs when a higher proportion of their options are exercisable and in-the-money. As such, my fourth research hypothesis (stated in the alternative form) is:

H₄: Ceteris paribus, firms where the value of in-the-money exercisable options held by top executives is higher will record lower TGILs.

¹¹ Empirical studies generally support the stock price management hypothesis. Yermack (1997) finds that stock options are generally granted shortly before higher than expected quarterly earnings are announced, and followed by favourable stock price movements. Aboody and Kasznik (2000) show that unfavourable (favourable) stock movements generally occur before (after) stock options are granted. They also find that the granting of stock options is preceded by negative but insignificant abnormal returns and followed by positive and significant abnormal returns, consistent with managers accelerating (delaying) the announcement of bad (good) news prior to the granting.

¹² The results obtained by Segal (2003) and Zang (2003) are consistent with this hypothesis.

3.4.1.4 Need for Financing

Firms could also have incentives to minimize TGILs if they plan on raising new debt or equity financing in the near future. Existing research suggests that managers have incentives to inflate share prices and lower the cost of equity capital preceding an equity issuance (Lang and Lundholm, 2000). Similarly, firms have incentives to portray a more favourable financial situation prior to the issuance of new debt in order to minimize the risk assessment of the company by creditors, bond rating agencies and other parties, and lower the cost of debt capital (Legoria et al., 2000). Means to do so for example include accruals management (e.g. Teoh et al., 1998; Legoria et al., 2000), financial statement fraud (e.g. Dechow et al., 1996; Richardson et al., 2003) and increased disclosure (Lang and Lundholm, 2000). Provided that firms want to avoid any negative market reaction to the announcement of a TGIL or any reduction in the quality of their balance sheet caused by a TGIL, we can then expect firms that plan on raising new debt or equity capital to minimize TGILs. This leads to my fifth research hypothesis (stated in the alternative form):

H₅: Ceteris paribus, firms who plan to raise new debt or equity capital in the near future will record lower TGILs.

3.4.2 Internal Monitoring by the Audit Committee and the Board of Directors

3.4.2.1 Audit Committee

Even though Canadian managers may have incentives to make use of the discretion afforded by Section 3062 to influence the magnitude of TGILs, their ability to do so ultimately depends on the constraints they face. The audit committee is the

committee of the board responsible for overseeing the entire financial reporting process and weighing and brokering divergent views between managers and auditors to ultimately produce more balanced and accurate reports. As such, it has been identified as one of the primary constraints on management's opportunistic behaviour¹³.

Independence and financial competence are considered to be essential characteristics for an audit committee to fulfill its oversight role, and to more or less prevent severe cases of managerial opportunism. Prior research supports the assertion that independent and financially literate audit committee members are better able to constrain managerial opportunism (e.g. Klein, 2002; Xie et al., 2003; Bedard et al., 2004). Thus, existing evidence suggests that the presence of independent and financially competent audit committee members should limit managers' ability to exploit the discretion afforded by the impairment approach and to record TGILs that differ from the existing economic impairment. Financial literacy gives directors the expertise necessary to critically assess the valuation methods chosen by managers and the hypotheses that they make.

Independence gives them the ability to refute managers' decisions when they feel that the resulting valuation reports are not representative of the economic reality of the firm. This allows me to draw my sixth research hypothesis (stated in the alternative form):

H₆: Ceteris paribus, firms with a higher proportion of independent and financially literate audit committee members will record lower unexpected TGILs.

¹³ For example, in 1998, Arthur Levitt, former Chairman of the SEC, identifies "qualified, committed, independent and tough-minded audit committees as the most reliable guardians of the public interest" when it comes to earnings management.

3.4.2.2 Board of Directors

In addition to the oversight of the audit committee, managers might also be subject to the scrutiny of the board of directors. Even if the board delegates the responsibility to oversee the financial reporting process to the audit committee, it must still promote accurate, high quality and timely disclosure of financial and other material information to the public markets, and to shareholders (Blue Ribbon Committee, p.22). While audit committee members devote most of their time to financial reporting issues, other board members might gain a better knowledge of the company's business and environment. And this knowledge might prove to be very useful when comes the time to examine the goodwill valuation reports prepared by or for management and assess their reasonableness. However, once again, directors are more likely to object managers' goodwill reporting decisions if they judge that they do not lead to an accurate portrayal of the economic value of goodwill if they are independent from management. Therefore, my seventh research hypothesis (stated in the alternative form) is:

H₇: Ceteris paribus, firms with a more independent board of directors will record lower unexpected TGILs.

3.5 Methodology

3.5.1 Sample and Data

Sample firms are drawn from the January 2004 version of *Compustat Research Insight*. To enter the sample, firms must be listed on the Toronto Stock Exchange (TSX), have a positive goodwill balance as at the year-end preceding the adoption of Section 3062, and report in Canadian GAAP. Observations without information available on the stock exchange, the goodwill balance, or the financial year-end in *Compustat* are

completed manually. Sample firms are required to be listed on the Toronto Stock Exchange so that they are subject to the same governance regulation. Sampling is also based on the reported goodwill figure so that firms that record a TGIL as well as those that do not are considered. This leaves 417 firms. Financial data is obtained from *Compustat Research Insight*, *Canadian Financial Markets Research Centre*, *CanCorp Financials*, *FinancialPost.com*, *StockGuide* as well as from the sample firms' annual reports. Target ratios are found in the Canadian edition of *Dun & Bradstreet Industry Norms & Key Business Ratios*. Information about the board of directors, audit committees, managers' compensation and changes in top management is obtained from firms' proxy statements and *FP Directory of Directors*. Finally, the December 2002 Edition of *TSX Review* is used to verify if firms are cross-listed in the United States. Overall, complete data is available for 331 firms. Table 4 summarizes the sample selection procedure.

{Insert Table 4 here}

3.5.2 Model and Variables

The following multivariate tobit model is used to assess the determinants of TGILs¹⁴:

¹⁴ A tobit specification is appropriate when the dependent variable is censored (Greene, 2003, p. 761). The assumed latent variable of my model is the change in the economic value of goodwill, be it positive or negative. All firms with a positive goodwill balance must apply the transitional goodwill impairment test. However, firms that experienced an increase in the economic value of their goodwill cannot disclose or book the increase. Instead, they report a zero transitional loss and the existing increase is not observable. Thus, the distribution of my dependent variable is censored at zero. Using an OLS model in situations where the dependent variable is censored produces biased and inconsistent coefficients (Gujarati, 1995, p. 573). The tobit model controls for this bias by computing a regression for the nonlimit observations and the relevant probabilities for limit observations.

$$\begin{aligned}
TGIL_i = & \alpha_0 + \lambda_1 GOODWILL_i + \lambda_2 EXCGWILL_i + \lambda_3 RUNITS_i + \lambda_4 ROE1_i + \lambda_5 ROE3_i + \\
& \lambda_6 CDEBT_i + \beta_7 DEVROE_i (DEVROA_i, DEVLEV_i) + \beta_8 CHANGE_i + \beta_9 PERBONUS_i + \\
& \beta_{10} ITMEXERC_i + \beta_{11} FIN + \beta_{12} AC_i (BOD_i) + \beta_{13} AC*POS_i (BOD*POS_i) + \beta_{14} OWN_i + \\
& \beta_{15} SIZE_i + \beta_{16} CLIST_i + IND_i + \varepsilon_i
\end{aligned} \tag{1}$$

Where:

<i>TGIL</i>	=	Reported transitional goodwill impairment loss deflated by lagged total assets
<i>GOODWILL</i>	=	Opening balance of goodwill deflated by lagged total assets
<i>EXCGWILL</i>	=	Difference between the market value and the book value of the firm at the end of the year preceding the adoption of Section 3062 deflated by lagged total assets
<i>RUNITS</i>	=	Number of reporting units among which the opening balance of goodwill is split or of operating segments if not disclosed
<i>ROE1</i>	=	Return-on-equity for the year preceding the adoption of Section 3062
<i>ROE3</i>	=	Annualized return-on-equity for the third and second year preceding the adoption of Section 3062
<i>CDEBT</i>	=	Percentage of acquisitions financed entirely with cash and/or debt in the five year period preceding the adoption of Section 3062
<i>DEVROE</i>	=	1 if pre-TGIL adoption year ROE is lower than industry median, 0 otherwise
<i>DEVROA</i>	=	1 if pre-TGIL adoption year ROA is lower than industry median, 0 otherwise
<i>DEVLEV</i>	=	1 if pre-TGIL adoption year D/E is higher than industry median, 0 otherwise
<i>CHANGE</i>	=	1 if there is a change in CEO in the year preceding or the year of adoption of Section 3062, 0 otherwise
<i>PERBONUS</i>	=	Average percentage of top paid executives' compensation paid in bonus for the adoption year
<i>ITMEXERC</i>	=	Average value of in the money exercisable stock options for the top paid executives as at the adoption year year-end divided by their total annual compensation for that same year
<i>FIN</i>	=	1 if the firm raised new debt or equity capital in the year following the announcement of the transitional impairment test being completed, 0 otherwise
<i>AC</i>	=	Proportion of financially literate and independent directors on the audit committee in 2002
<i>AC*POS</i>	=	<i>AC</i> *1 if <i>EXCGWILL</i> > 0, 0 otherwise
<i>BOD</i>	=	Score out of 2 with 1 mark being awarded if a majority of

		directors are independent and 1 mark being awarded if the CEO is not the chair of the board OR if there is an independent lead director
<i>BOD*POS</i>	=	<i>BOD*1</i> if <i>EXCGWILL</i> > 0, 0 otherwise
<i>OWN</i>	=	1 if no external shareholder controls more than 20 percent of outstanding votes (i.e. the firm is widely-held), 0 otherwise
<i>SIZE</i>	=	Natural logarithm of lagged total assets
<i>CLIST</i>	=	1 if the firm is cross-listed in the United States, 0 otherwise
<i>IND</i>	=	Industry dummies, from 1 to 10 based on TSX Indices

The dependent variable corresponds to the reported TGIL, expressed as a positive number, deflated by lagged total assets¹⁵. This chapter aims at explaining the determinants of managers' reporting choices with respect to TGILs. In an ideal world, the dependent variable would be the abnormal TGIL measured as the sum of the differences between the fair value of the goodwill of each reporting unit and their book value, and the recorded impairment loss. However, unless each reporting unit is also a public firm or the researcher can access private data, the information necessary to estimate the fair value of each reporting unit is not publicly available. Consequently, similar to Francis et al. (1996), Segal (2003) and Zang (2003), I use the recorded TGIL as my dependent variable and include economic impairment proxies in my model. Nevertheless, if some missing impairment variables are related to the discretion proxies, then the coefficients and the results of my tests could be biased.

Six variables are included in the model to proxy for the economic impairment of goodwill. These variables are measured at the *firm level* and attempt to capture the actual impairment of *firm-wide* goodwill¹⁶. First, I include three variables to proxy for the

¹⁵ While most asset and goodwill write-offs studies use total assets as a deflator, Chen et al. (2004) argue that it is inappropriate to do so because the scaler is a function of goodwill and TGILs. When I re-estimate my model using total market value, sales and goodwill as a deflator, results (untabulated) are not affected.

¹⁶ Economic activity could also map into the value of goodwill at the macro and industry levels (Riedl, 2004). To capture macro-economic effects, Riedl (2004) includes the change in GDP in his model.

characteristics of goodwill (*GOODWILL*, *EXCGWILL*, *RUNITS*). A firm having a greater amount of goodwill in its asset composition might incur more goodwill impairment because the relative amount of goodwill exposed to the impairment test is greater (Zang, 2003). As such, I expect a positive association between reported TGILs and the opening balance of goodwill. The excess fair value of goodwill (*EXCGWILL*) measures the expected impairment at the firm-level. The firm is treated as one reporting unit, i.e. as though it has been purchased in a business combination. Its market value as at year-end of the year preceding the adoption is assumed to proxy for the fair value of the reporting unit. The fair value of the net assets excluding goodwill is assumed to equal their book value. Firms with a higher excess fair value of goodwill are less likely to incur TGILs. Consequently, I expect a negative association between reported TGILs and the excess fair value of goodwill. Finally, a firm with more reporting units might incur higher TGILs because existing losses cannot be netted against one another (Schneider, 2001). As such, I expect a positive association between reported TGILs and the number of reporting units.

Next, I control for past firm and acquisition performance (*ROE1*, *ROE3*, *CDEBT*). Similar to Francis et al. (1996), I control for both long- and short-term firm performance by including annualized return-on-equity for the third and second year preceding (*ROE3*) and the year preceding (*ROE1*) the adoption of Section 3062 in the model (measured as net income/equity). It is important to control adequately for firm performance because some of the proxies for managers' reporting incentives (e.g. deviation from target ROE

Because this paper uses a cross-section of firms all reporting TGILs in the same two-year period (2002-2003), they are all subject to the same change in macro-economic activity. As such, it is not necessary to control for the change in GDP. I control for industry effects by including industry dummies in my model. I also suppose that they are already reflected in the excess fair value of goodwill, through the market value.

and ROA and in-the-money exercisable stock options) could also be seen as proxies for firm performance. I predict that the poorer the firm's past performance, the greater the magnitude of reported TGILs (e.g. Francis et al., 1996; Zang, 2003). Finally, studies interested in the short- and long-term performance of acquisitions show that cash transactions generally outperform stock transactions (e.g. Loughran and Vijh, 1998; Ghosh, 2001). As a result, the method of financing prior acquisitions is likely to constitute a good predictor of economic impairment and is included in the model. I expect the percentage of cash transactions to be negatively related to TGILs.

Five (or six) variables are included in the model to proxy for managers' reporting incentives and disincentives (*DEVROE* (*DEVROA*, *DEVLEV*), *CHANGE*, *PERBONUS*, *ITMEXERC*, *FIN*). Deviation from target ROE (*DEVROE*) and deviation from target ROA (*DEVROA*) are indicator variables taking on the value of 1 if pre-TGIL adoption year ROE or ROA is lower than the industry median and zero otherwise. Pre-TGIL ROE is measured by dividing adoption year income before extraordinary items by adoption year shareholders' equity plus the reported TGIL. Industry matching is based on four-digit SIC codes. Similarly, pre-TGIL ROA is measured by dividing adoption year income before extraordinary items by adoption year total assets plus the reported TGIL. Deviation from target leverage (*DEVLEV*) is an indicator variable taking on the value of 1 if pre-TGIL adoption year D/E is higher than the industry median and zero otherwise. Pre-TGIL D/E is measured by dividing adoption year total liabilities by adoption year shareholders' equity plus the reported TGIL. Consistent with H₁, I expect a positive (negative) association between TGILs and a deviation from target ROE and ROA (leverage). *CHANGE* is an indicator variable taking a value of one if the firm

experienced a change in CEO in the year preceding the adoption or the year of adoption of Section 3062 and zero otherwise. Consistent with H₂, I expect a positive association between TGILs and a change in CEO. *PERBONUS* is the average percentage of top paid executives' compensation paid in bonus for the adoption year. Total adoption year compensation is calculated by adding the minimal value of the options granted in the year to salary and bonus (i.e. according to Smith and Zimmerman, 1976). Consistent with H₃, I expect a positive association between TGILs and the percentage of compensation paid in bonus. *ITMEXERC* is the average value of in the money exercisable stock options for the top paid executives as at the adoption year year-end scaled by their total annual compensation for the adoption year. Consistent with H₄, I expect a negative association between TGILs and the value of in the money exercisable stock options held by the top executives. Finally, *FIN* is an indicator variable taking the value of one if the firm issued new debt or equity in the year following the announcement of the completion of the transitional impairment test and 0 otherwise. Consistent with H₅, I predict a negative association between TGILs and the issuance of new debt or equity.

AC captures the financial competence and independence of audit committee members. Consistent with governance regulations in Canada and the United States and prior research, I consider audit committee members with a professional accounting or finance designation (CA, CGA, CMA, CPA, CFA) and/or experience in corporate financial management (e.g. CEO, CFO) as financially literate (Agrawal and Chadha, 2003; Xie et al., 2003). Directors' independence is measured according to firms' disclosure in their 2002 proxy statement. Directors who are not blockholders and who are qualified as outsiders by management are considered independent, unless any other

relationship with the firm is otherwise disclosed in the proxy statement. To be able to differentiate between firms where no TGIL is expected and those firms where such is not the case, I build an interaction term equal to $AC*1$ if $EXCGWILL$ is greater than zero and 0 otherwise. Consistent with H_6 , I expect a positive association between TGILs and AC and a negative association between TGILs and $AC*POS$. I build a two-point score to capture the independence of the board of directors. Consistent with governance regulation, one mark is awarded if a majority of directors are independent, with independence being measured in the same manner as for the audit committee; and one mark is awarded if the CEO is not the chair of the board of directors or if there is an independent lead director. BOD is the sum of these two elements. To be able to differentiate between firms where no TGIL is expected and firms where such is not the case, I also build an interaction term equal to $BOD*1$ if $EXCGWILL$ is greater than zero and 0 otherwise.

Finally, three control variables are included in the model (OWN , $SIZE$ and $CLIST$). OWN is an indicator variable taking the value of one if no external shareholder controls more than 20 percent of outstanding votes (i.e. the firm is widely-held), 0 otherwise¹⁷. Ownership structure is included in the model because prior research shows that the extent of managerial opportunism differs between closely- and widely-held firms, and a high proportion of Canadian firms are closely-held as opposed to the United States or the United Kingdom where the opposite holds true. Hindley (1970) and Williamson (1967) predict that managers of widely-held firms have incentives to control the information released about firm performance so that the results are presented in the most favourable way. To achieve this objective, managers of widely-held firms are more likely to choose

¹⁷ Twenty percent is the level at which shareholders can have a significant influence over a firm's strategies and policies according to GAAP. Dhaliwal et al. (1982), Carlsaw (1988) and Craighead et al. (2004) use the same cutoff. The use of different cutoffs does not change the results.

accounting methods which result in “higher or early reported earnings and higher reported equity” (Dhaliwal et al., 1982, p. 43). Based on the above discussion, we should expect managers of widely-held firms to minimize TGILs and not recognize that prior acquisitions failed or will fail to realize the promised synergies, to avoid shareholders’ questions and concerns. However, despite its immediate impact on equity, overstating the TGIL also allows managers to protect current and future earnings. If managers of widely-held firms prefer to “enhance the income stream in order to generate an acceptable amount of profit from year to year” as suggested by Carslaw (1988, p.325), then all other things being equal, they might prefer to maximize the TGIL. Therefore, even though I expect the magnitude of TGILs to be associated with the ownership structure of the firm, I am unable to predict the direction of this association. Firm size is included as a control variable to proxy for various aspects of the firm. I measure firm size as the log of lagged total assets. I also control for the fact that a firm is cross-listed in the United States. A firm that is cross-listed in the United States must reconcile its Canadian GAAP figures to US GAAP in a note to the financial statements. Thus, its goodwill reporting choices could also be affected by “income statement” incentives. I make no prediction regarding the influence of size and cross-listing on TGILs.

3.6 Results

3.6.1 Descriptive Statistics

Table 5 reports the size and industry distribution of TGILs recorded by sample firms. In Panel A, industry membership is determined in accordance with TSX Indices as given by *Compustat Research Insight*. Panel A reveals that 24% of sample firms (78

firms) record a TGIL. On average, TGILs represent 1.49% (6.34%) of the total assets of sample (TGIL) firms. They result in sample (TGIL) firms writing-off an average 10.09% (42.80%) of their goodwill balance. Thus, according to these statistics, the adoption of the impairment approach effectively triggered the recognition of important impairment losses. Panel A also reveals that the number of firms recording a TGIL and the relative importance of these losses vary by industry. The late 90's were marked by a major merger and acquisitions wave that was mostly concentrated in the information technology and telecommunications industries. It was characterized by significant purchase premiums being paid partly because of the Internet bubble. Section 3062 was introduced after the bubble burst in 2000 and significant TGILs were expected in these industries as a result. Consistent with this expectation, Panel A of Table 5 reveals that the telecommunications, consumer discretionary (a significant number of media firms are included in this category), information technology and health care industries show the highest percentage of TGIL firms.

{Insert Table 5 – Panel A here}

In Panel B, I redefine industry membership according to SIC code in the same manner as Zang (2003). This allows for a comparison of the size and industry distribution of TGILs in Canada and in the United States (at least for the samples used in both studies). Although the industry distribution of TGILs differs, Panel B shows that the proportion of firms recording a TGIL is similar in both countries (24% in Canada vs. 30% in the United States). However, on average, Canadian losses represent a slightly lower percentage of total assets and goodwill. American sample (TGIL) firms write-off an average of 2.6% (8.8%) of their total assets. TGILs represent 13.6% (45.7%) of

sample (TGIL) firms' goodwill. These statistics indicate that even though the income statement is not affected by the TGILs recorded by Canadian firms, equity recognition does not seem to lead to higher or more frequent TGILs as the big bath hypothesis would suggest.

{Insert Table 5 – Panel B here}

Table 6 compares my expectations of whether sample firms should be recording a TGIL in the absence of reporting incentives and constraints with their actual behaviour. In the absence of reporting incentives and constraints, I expect that those firms for which the market value of equity exceeds the book value of equity (i.e. *EXCGWILL* is positive) will not record a TGIL, while those firms with a market value lower than the book value of equity (i.e. *EXCGWILL* is negative) will record a TGIL. The first row of Table 6 shows that there are 97 firms with a market value lower than the book value of equity. Among the 97 firms expected to record a TGIL, only 38 (39%) actually reported a TGIL. This provides some support for managers being able to exercise some discretion in delaying the recognition of existing goodwill impairment. The second row of Table 6 indicates that there are 234 firms with a market value exceeding the book value of equity. A total of 40 (17%) of these firms actually recorded a TGIL, consistent with big bath behaviour. Table 6 has to be interpreted with caution because it captures the impairment of *firm-wide* goodwill. Nevertheless, a likelihood-ratio Chi2 test rejects the null hypothesis of independence between *EXCGWILL* and *TGIL* ($p < 0.000$). Thus, overall, Table 6 supports the existence of incentives to both understate and overstate TGILs.

{Insert Table 6 here}

Table 7 presents disclosure statistics. Section 3062 imposes disclosure requirements on firms to make sure they share their private goodwill related information with investors. Four of the main requirements are to disclose 1) the goodwill balance separately on the balance sheet; 2) the facts and circumstances leading to the impairment and the amount of the impairment loss (in the case of the transitional test, firms have to confirm that they conducted the test and also discuss the result); 3) the changes in the aggregate carrying amount of goodwill during the period; and 4) the changes in the carrying amount of goodwill for each reporting unit or segment. I build a four-point disclosure score based on these four requirements and present the number of firms that met each requirement as well as their mean disclosure score. Sample firms are grouped according to whether or not they booked a TGIL, and a test of differences in means is done to compare their disclosure behaviour.

The first column of Table 7 shows that 86% of zero-TGIL firms and 91% of TGIL firms disclose the carrying amount of goodwill separately on the balance sheet. The two groups do not significantly differ ($p < 0.227$). The second column shows that 76% of zero-TGIL firms and 100% of TGIL firms confirm that they conducted the transitional impairment test and discuss its result. TGIL firms are significantly more forthcoming ($p < 0.000$). According to the third column of Table 7, 59% of zero-TGIL firms and 76% of TGIL firms disclose the changes in the aggregate carrying amount of goodwill. Once again, TGIL firms are significantly more forthcoming ($p < 0.007$). When it comes to disclosing the changes in the carrying amount of goodwill for each reporting unit or segment, the fourth column shows that only 25% of zero-TGIL firms and 41% of TGIL firms meet this requirement. The difference between the two groups is significant ($p <$

0.005). Finally, zero-TGIL firms' mean disclosure score is 2.45 whereas TGIL firms' is 3.08, with the difference between the two groups being significantly different from zero ($p < 0.000$). Overall, Table 7 shows that sample firms tend to disclose only general information about goodwill, making it difficult for outsiders to understand the changes in the carrying amount of goodwill at the reporting unit level. TGIL firms disclose significantly more information than zero-TGIL firms, potentially to mitigate the negative effects of recording a TGIL.

{Insert Table 7 here}

Table 8 presents descriptive statistics for the variables used in the multivariate tobit analysis. The table shows the mean and median values of the variables for firms recording a TGIL ($N = 78$), firms not reporting a TGIL ($N = 253$) and all sample firms ($N = 331$). The last two columns show the significance level of tests of differences in means and medians between TGIL and zero-TGIL firms. Consistent with my expectations, TGIL firms have a higher goodwill balance as of the adoption date than zero-TGIL firms ($p < 0.000$). The excess of the implied fair value of goodwill over its book value is lower for TGIL firms, suggesting that they benefit from lower leeway against TGILs ($p < 0.005$). TGIL firms split the opening balance of goodwill between more reporting units than zero-TGIL firms ($p < 0.002$). In terms of reporting incentives and disincentives, TGIL firms' ROE and ROA is more likely to be lower than the industry median ($p < 0.003$ and $p < 0.0019$). More of these firms experienced a change in CEO ($p < 0.011$). Firms with positive excess goodwill have a higher proportion of financially competent and independent directors on their audit committee ($p < 0.024$) and a more independent board of directors ($p < 0.008$). Finally, more TGIL firms are closely-held. All other

differences in means between the two groups are not significantly different from zero. Tests of differences in medians produce similar results, except for *ROE3* ($p < 0.056$) and *DEVLEV* ($p < 0.049$). Overall, univariate evidence is largely consistent with my predictions.

{Insert Table 8 here}

3.6.2 Multivariate Results

Tables 9 and 10 present the results of the multivariate tobit analysis of the determinants of TGILs. A conditional moments test rejects the null of normal errors. Therefore, reported z-statistics are based on robust standard errors. Table 9 reports results for the model that includes audit committee variables and Table 10 reports results for the model that includes board of directors variables. The first column of each table reports coefficients for the model that includes deviation from target ROE (*DEVROE*) while the second column reports coefficients for the model that includes deviation from target ROA and leverage (*DEVROA* and *DEVLEV*).

In both Tables 9 and 10, the economic impairment variables significantly explain the magnitude of TGILs except for the percentage of acquisitions financed with cash or debt between 1997 and 2001 (*CDEBT*). Consistent with my expectations, the coefficient on *GOODWILL* is positive and significant ($p < 0.000$, $p < 0.000$, $p < 0.000$ and $p < 0.000$) and the coefficient on *EXCGWILL* is negative and significant ($p < 0.061$, $p < 0.044$, $p < 0.055$ and $p < 0.039$). Also consistent with my expectations, *RUNITS* is significantly positive for three of the four model specifications ($p < 0.093$, $p < 0.055$ and $p < 0.073$). Finally, *ROE1* ($p < 0.007$, $p < 0.008$, $p < 0.007$ and $p < 0.009$) and *ROE3* ($p < 0.064$, $p <$

0.068, $p < 0.079$ and $p < 0.084$) are negative and significant. *CDEBT* is positive but not significant ($p < 0.852$, $p < 0.775$, $p < 0.931$ and $p < 0.857$). *OWN* is negative and significant ($p < 0.093$, $p < 0.084$, $p < 0.07$ and $p < 0.061$), suggesting that widely-held firms tend to minimize TGILs, potentially to avoid shareholders' questions and concerns about past acquisitions' performance. *SIZE* ($p < 0.202$, $p < 0.133$, $p < 0.161$ and $p < 0.105$) is not significant. Finally, the coefficient on *CLIST* is negative and significant ($p < 0.070$, $p < 0.046$, $p < 0.056$ and $p < 0.037$) suggesting that cross-listed firms record lower TGILs.

Most of the reporting incentives and disincentives variables are significant and in the predicted direction. Consistent with H_1 , *DEVROE* and *DEVROA* are positive and significant ($p < 0.090$ and $p < 0.085$, and $p < 0.049$ and $p < 0.039$). This suggests that firms with lower than target ROE and ROA record higher TGILs to smooth ROE and ROA towards the industry median. Similarly, *DEVLEV* is negative and significant ($p < 0.034$ and $p < 0.023$), suggesting that firms with higher than target leverage record lower TGILs to avoid a further deviation from the industry median. *CHANGE* is positive and significant ($p < 0.008$, $p < 0.017$, $p < 0.015$ and $p < 0.029$). Thus, consistent with H_2 , firms that experience a change in CEO record higher TGILs. H_3 is not supported as *PERBONUS* is positive but not significant ($p < 0.493$, $p < 0.474$, $p < 0.479$ and $p < 0.453$). This suggests that firms where a higher proportion of top paid executives' compensation is paid in bonus do not have incentive to record higher TGILs to protect future income from operations. Consistent with H_4 , *ITMEXERC* is negative and marginally significant ($p < 0.092$, $p < 0.073$, $p < 0.080$ and $p < 0.069$). Hence, firms where top executives hold a higher proportion of in the money exercisable stock options

record lower TGILs, suggesting that they might want to avoid a reduction in the value of their options. Finally, consistent with H₅, *FIN* is negative and significant ($p < 0.076$, $p < 0.085$, $p < 0.080$ and $p < 0.069$) supporting the assumption that firms that plan on raising new debt or equity capital prefer to minimize TGILs.

Finally, consistent with H₆, *AC* is positively associated with TGILs and the association is significant ($p < 0.010$ and $p < 0.019$) and *AC*POS* is negatively associated with TGILs and the association is also significant ($p < 0.011$ and $p < 0.020$). This result seems to indicate that financially literate and independent audit committee members monitor managers' goodwill reporting decisions so that recorded TGILs effectively represent the underlying economic value of goodwill. Similarly, consistent with H₇, *BOD* is positive and significant ($p < 0.016$ and $p < 0.014$) and *BOD*POS* is negative and significant ($p < 0.030$ and $p < 0.041$), suggesting that independent board of directors also play a role in ensuring that managers record TGILs that represent the underlying economic value of goodwill. Overall, my results suggest that TGILs are associated with managers' reporting incentives and disincentives and the constraints imposed by the audit committee and board of directors.

{Insert Tables 9 and 10 here}

3.6.3 Sensitivity Analyses

Some of the proxies for managers' reporting incentives (deviation from target ROE and ROA and in-the-money exercisable stock options) could also be seen as proxies for past accounting and stock performance and indeed qualify as economic determinants. I control for past ROE in the multivariate tobit model to try and address potential

endogeneity concerns with respect to these variables. However, firm performance can be measured in many different ways and there could be residual performance effects not captured by the *ROE1* and *ROE3* variables. To get some more comfort with respect to the *DEVROE* and *DEVROA* variables, I re-estimate the model using continuous variables not restricted to firms with lower than target ROE or ROA (*DEVROECONT* and *DEVROACONT*). If *DEVROECONT* and *DEVROACONT* are capturing firm performance rather than managerial incentives, then not only should firms with lower than target ROE or ROA record higher TGILs but also firms with higher than target ROE or ROA record lower TGILs (i.e. *DEVROECONT* and *DEVROACONT* should be negatively associated with TGILs). Results (untabulated) show that *DEVROECONT* is negative but not significant in both the models that include audit committee and board of directors variables ($p < 0.3775$ and $p < 0.3715$). Similarly, *DEVROACONT* is negative but not significant in both specifications ($p < 0.261$ and $p < 0.232$). All other results remain unchanged. This provides additional support for an existing incentive to record higher TGILs for firms with lower than target ROE and ROA.

To address potential endogeneity concerns with respect to the in-the-money exercisable stock options variable, I add market-based measures (i.e. stock returns) as explanatory variables for reported TGILs. In the absence of controls for market performance, *ITMEXERC* could capture past stock price performance and reflect the fact that better performing firms are less likely to suffer a decrease in the value of their goodwill. Furthermore, prior research (e.g. Francis et al., 1996; Zang, 2003 and Sellhorn, 2004) typically includes such measures considering that they may reflect more comprehensive measures of the firm's economics and capture market expectations of

future cash flows. However, it has also been shown that asset and goodwill write-offs are anticipated by the market and used as an input to the valuation in the years preceding the write-off (e.g. Elliott and Hanna, 1996; Francis et al., 1996; Hirschey and Richardson, 2002, 2003, and Chen et al., 2004). As such, market-based measures are likely to be endogenous themselves. Returns are calculated for both the year preceding (*RET1*) and the second and third year preceding the adoption (annualized) (*RET3*). Thirty observations are lost due to incomplete returns. I expect a negative association between past returns and TGILs. Results (untabulated) remain virtually similar when market-based measures are added to the model. However, contrary to my prediction, both *RET1* ($p < 0.910$, $p < 0.753$, $p < 0.847$ and $p < 0.915$) and *RET3* ($p < 0.280$, $p < 0.218$, $p < 0.341$ and $p < 0.258$) are positive and not significant. *OWN* remains negative but becomes not significant ($p < 0.180$, $p < 0.154$, $p < 0.161$ and $p < 0.124$).

3.7 Discussion and Conclusion

This chapter investigates the determinants of TGILs reported by Canadian firms following the adoption of new standards on goodwill in 2001. Since their adoption, the new standards have been criticized for leaving significant room for management interpretation and bias. Consequently, concerns have been raised over the standards' effectiveness in forcing firms to be more transparent with respect to the underlying value of goodwill. Canadian standards require that TGIL be charged to equity, rather than to net income as in the United States. Thus, unlike most studies interested in the determinants of accounting choices in general and asset and goodwill write-offs in

particular, this chapter provides evidence on whether and how those accounting choices that do not affect net income are influenced by managers' reporting incentives.

Equity recognition is of particular interest because it generates conflicting incentives for managers who have the unique opportunity to protect their future operating earnings by maximizing the TGIL (i.e. taking a bath) but must at the same time take into consideration the negative impact that the TGIL can have on the quality of their balance sheet and on the future cash flow expectations of market participants. Consistent with the existence of this conflict, the empirical results show that TGILs are associated with managers' incentives to both overstate and understate them. I find that firms accelerate the recognition of goodwill impairment losses to smooth the value of ROE and ROA towards the target industry median as well as when they experience a change in CEO. Firms delay the recognition of existing impairment losses when their leverage is higher than the target industry median, when the value of in-the-money exercisable stock options held by top executives is higher and when they issue new debt or equity capital in the year following the announcement of the completion of the transitional goodwill impairment test. I do not find support for the hypothesis that firms where top paid executives have a higher proportion of their compensation paid in bonus have incentives to maximize the transitional impairment loss to avoid future annual impairment losses and the resulting decrease in operating earnings. This results is consistent with Dechow et al. (1994) and Gaver and Gaver (1998) who show that executives' cash compensation is not negatively affected by restructuring expenses and nonrecurring accounting charges such as goodwill write-offs.

The results also show that independent board of directors and independent and financially competent audit committees act as a constraint on Canadian managers' transitional goodwill reporting choices to ensure that the economic value of goodwill is properly reflected in financial statements. In the aftermath of Enron, considerable efforts have been made by Canadian securities regulators to harmonize governance regulation with American requirements despite ferocious opposition to the adoption of rules on board of directors' and audit committee's composition and independence. The results of this chapter support the move towards a rules-based approach to corporate governance by demonstrating that independent directors can make a difference in constraining managerial opportunism.

Overall, the results of this chapter suggest that despite the limited attention they receive in the literature, managerial incentives can also influence those accounting choices that do not affect net income. The observed associations between TGILs and reporting incentives and disincentives mean that consistent with criticisms of the standards, the impairment approach has not been entirely successful in forcing firms to be more transparent with respect to the underlying economic value of goodwill. The power of the empirical analyses contained in this chapter is limited by the lack of public information at the reporting-unit level. Because of this, crude proxies have to be used to measure the actual economic impairment. Any measurement error in these proxies could bias my coefficients and the results of my hypotheses' tests.

As time passes and more data becomes available, future research should examine managers' reporting choices with respect to annual goodwill impairment losses. Also of potential interest is the impact of the introduction of the impairment approach on the

premiums paid by acquiring firms and on the purchase price allocation decisions that they subsequently make. With the adoption of the impairment approach, managers who overpay for their acquisitions have to almost immediately write-off these overpayments against their income from operations. Thus, it raises the question of whether they will reduce the premiums paid to avoid the subsequent write-off. SFAS 142/Section 3062 also requires the separate recognition of identifiable intangible assets and the amortization of definite life intangibles. As a result, it has been suggested that managers would maximize the amounts attributed to goodwill and indefinite life identifiable intangibles to avoid the recurring amortization expense (e.g. AIMR, 2002). However, whether such is the case remains to be answered empirically.

Chapter 4 – Value-Relevance and Timeliness

4.1 Introduction

When the Financial Accounting Standards Board (FASB) and the Canadian Accounting Standards Board (AcSB) jointly introduced revised standards on purchased goodwill in 2001, the main objective was to increase the relevance and reliability of the goodwill figure by forcing firms to better reflect its underlying economic value on their financial statements. This was to be achieved by 1) eliminating goodwill amortization charges that did not faithfully represent how the loss in the value of goodwill occurs; and 2) triggering a timely recognition of existing impairment losses in cases where the unamortized value of goodwill is greater than its fair value (FASB, 2001). As a first step towards achieving this objective, firms were required to submit their goodwill to a transitional impairment test and recognize existing unrecognized impairment losses (transitional goodwill impairment losses (TGILs)) as a cumulative effect of a change in accounting principles.

Significant controversy surrounded the adoption of SFAS 142/Section 3062. On one hand, critics were concerned that the fair value of goodwill could not be measured reliably enough to produce a relevant goodwill figure and warrant the move towards an impairment-only approach because goodwill is not a separable asset, there are limitations inherent to valuation models and estimating the fair value of goodwill requires substantial managerial discretion (e.g. Herz et al., 2001). On the other hand, it was unclear whether goodwill impairment losses could provide any timely information to market participants because 1) TGILs are catch-up adjustments to reflect the cumulative effect of using the impairment approach *for accounting purposes* for the first time; and 2) changes in the

economic value of goodwill are typically incorporated in equity market values as they occur. Motivated by the debate over the reliability of goodwill measurements following the introduction of SFAS 142/Section 3062 and the timeliness of goodwill impairment losses, this chapter investigates the relationship between 1) equity market values, and goodwill and goodwill impairment losses; and 2) transitional and annual goodwill impairment losses recorded by Canadian firms following the adoption of Section 3062, and past and contemporaneous stock returns.

I test for the relationship between equity market values, and goodwill and goodwill impairment losses recorded in the year in which the transitional goodwill impairment test is completed by altering the Ohlson valuation model to isolate goodwill, TGILs and AGILs from book value of equity and earnings, respectively. To the extent investors perceive goodwill as an asset, I expect a positive association between market value and goodwill. Similarly, to the extent investors perceive TGILs and AGILs as being sufficiently reliable measurements of a reduction in the value of goodwill to incorporate them in their valuation assessments, I expect a positive association between market value and TGILs and AGILs (TGILs and AGILs are expressed as negative numbers). Consistent with this prediction, I find a significant positive relationship between goodwill, reported TGILs and reported AGILs, and share price. This result holds after allowing for different coefficients on earnings for profit and loss firms.

Next, I explore the effect of reduced opportunities for management discretion and information asymmetry on the value-relevance of TGILs by altering the scaled valuation model in four ways. First, I distinguish firms with a majority of independent directors on the board and an independent chairman, expecting the latter to act as a constraint on

managerial opportunism and reduce reliability issues associated with managerial opportunism. I find that investors put a lower valuation weight on TGILs reported by those firms with an independent board of directors, consistent with investors perceiving the reduced opportunities for managerial discretion associated with better governance. Second, I distinguish firms that record a TGIL when financial information at the firm level indicates that they should (the Bear Sterns method). I find that investors put a higher valuation weight on TGILs recorded by firms with market value of equity lower than book value, i.e. firms that are expected to record a TGIL. Third, I distinguish firms with better goodwill disclosure. I do not find any evidence of investors putting a different valuation weight on TGILs reported by firms with better goodwill disclosure. Finally, given the low percentage of firms that disclose changes in the carrying amount of goodwill for each reporting unit or segment (28%) and the crucial nature of that information for investors to be able to estimate the fair value of goodwill at the reporting unit level, I distinguish between firms that disclose this information and firms that do not. I do not find any evidence of investors putting a different valuation weight on TGILs reported by firms that disclose the reporting unit allocation of goodwill.

The timeliness of annual and transitional goodwill impairment losses is tested by examining their association with past and contemporaneous stock returns. If decreases in the value of goodwill were incorporated in equity market values as they occurred and TGILs only represent catch-up adjustments to reflect the cumulative effect of using the impairment approach for accounting purposes for the first time, then returns should lead TGILs. If TGILs also provide new information to the market, I should observe a positive association between TGILs and adoption year returns as well. Finally, if the market was

completely unaware of the existence of the impairment and did not anticipate the loss, I should observe no association between TGILs and prior year returns and a positive association between TGILs and adoption year returns. Results suggest that TGILs only represent catch-up adjustments to reflect the cumulative effect of using the impairment approach for accounting purposes for the first time. If AGILs only represent the adoption year portion of goodwill impairment, then there should be a positive association between AGILs and adoption year returns, and no association between AGILs and prior year returns. However, if reliability concerns with respect to the measurement of goodwill impairment losses result in the delayed recognition of TGILs as AGILs, then I could also observe a positive association between AGILs and prior year returns. Results show a positive and significant association between prior and adoption year returns and AGILs.

The results of this chapter support standard setters' view that reliability concerns with respect to the measurement of the fair value of goodwill are not sufficient to render goodwill impairment losses valuation irrelevant. As such, they may prove to be useful in assessing the extent to which they met their objective in issuing SFAS 142/Section 3062. Whether the fair value of assets and liabilities can be measured with sufficient reliability to maintain their relevance for financial statement users also is at the heart of the debate that surrounds the move towards fair value accounting for more than a decade now. Together with the results of Aboody et al. (2004) for stock-based compensation expense and Barth et al. (1996) for financial instruments, the results of this chapter demonstrate that fair value measurements can be relevant even when the financial statement elements of interest are inherently bound to measurement error and subject to significant

management discretion. They support the notion that reliability is about faithful representation, not precision.

The results of this chapter also illustrate the role played by accounting in aggregating available financial information and the ability of market participants to impound declines in the value of goodwill in prices prior to the recognition of goodwill impairment losses in the financial statements. The adoption of SFAS 142/Section 3062 led to the recognition of transitional goodwill impairment losses that were already impounded in stock prices prior to the adoption year. However, reliability concerns with respect to the measurement of the transitional loss also seem to have resulted in a partially delayed recognition of TGILs as AGILs. Overall, the results indicate that the adoption of Section 3062 is likely to improve the timeliness of goodwill impairment losses by forcing firms to test goodwill for impairment every year.

This chapter contributes to the literature interested in the value-relevance of fair value measurements by providing evidence on the reliability, value-relevance and timeliness of the financial information on goodwill provided to the market after the adoption of SFAS 142/Section 3062. The empirical analyses contained in this chapter go beyond traditional value-relevance studies to examine the effect of reduced opportunities for management discretion and information asymmetry on the value-relevance of TGILs.

The rest of this chapter is organized as follows. Section 2 provides background information on accounting for goodwill and reviews prior research. Models and variables are presented in section 3. Results are presented in Section 4. Finally, Section 5 discusses the results and concludes.

4.2 Background

4.2.1 Accounting for Goodwill

Before the introduction of SFAS 142/Section 3062, firms were required to amortize goodwill over a period not exceeding forty years. They were asked to compare the book value of their goodwill to its net recoverable value if they had *any* indication that the *undiscounted* future cash flows generated by the subsidiary to which the goodwill was attributed could be *significantly and permanently reduced* (SFAS 121 and Section 1580). The resulting impairment loss was charged to net income, most often as an unusual item. Thus, the timing, measurement and presentation of goodwill write-offs could easily be managed: goodwill write-offs were fairly rare, they were usually substantial and they were most often recorded when firms were experiencing financial difficulties or entering important restructurings (Elliott and Shaw, 1988; Francis et al., 1996).

The decision to review existing standards on purchased goodwill was made concurrently by the FASB and the AcSB in 1999. SFAS 142/Section 3062 1) eliminates goodwill amortization and 2) requires that a two-step impairment test be performed on goodwill at the same date every year. The ultimate objective of the impairment test is to compare the fair value of goodwill for each reporting unit with its book value as if it were acquired again every year. Before conducting the impairment test for the first time, firms have to entirely allocate their goodwill balance between their different reporting units. Once this is done, the fair value of each reporting unit is compared to its book value. If there is excess **fair value**, there is no need to go further and the conclusion of the test (no impairment necessary) is disclosed in the notes to the financial statements. Conversely, if

there is excess **book value**, the fair value of the reporting unit is compared to the fair value of net assets excluding goodwill to obtain the fair value of goodwill. The latter is then compared with the book value of goodwill and any excess is recorded as an impairment loss (see Figure 1 and Appendix A for an example).

The provisions of SFAS 142/Section 3062 came into effect on January 1, 2002. They apply to financial years starting on or after this date although early adoption is allowed for firms with a fiscal year beginning on or after April 1, 2001, provided the first interim period financial statements have not been previously issued. A first transitional impairment test must be conducted before the end of the second quarter of the adoption year to retroactively apply the change in accounting policy. The amounts used in the transitional goodwill impairment test are measured as of the beginning of the year the new standard is initially applied to capture the loss in value that is attributable to past events. As a result, the TGIL recorded represents the cumulative effect of the change in accounting policy. In the United States, the transitional loss is charged to the income statement. In Canada, it is charged to opening retained earnings, without any restatement of the prior periods. In contrast, annual impairment losses are charged to income from operations in both countries.

SFAS 142/Section 3062 removes the “write-off recognition” choice by forcing firms to perform a goodwill impairment test every year and lowers the impairment threshold by requiring that the impairment loss be based on the fair value of goodwill (rather than its recoverable value). According to standard setters, this would improve the representational faithfulness of the goodwill figure and lead to a more timely recognition of existing impairment losses (FASB, 2001). However, concerns were expressed over

whether 1) the fair value of goodwill could be measured reliably enough to meet these objectives and 2) TGILs would provide any timely information to the market.

4.2.2 Reliability Concerns

Reliability concerns mainly arise from three sources. First, goodwill is not a separable asset. It is measured as a residual both at the time of the acquisition and when the impairment test is performed. As a result, any measurement error in computing the fair value of the reporting unit or its net assets affects the measurement of the fair value of goodwill and of the impairment loss. In addition, acquired goodwill must be split between the reporting units to which it relates. Because changes in acquisition goodwill cannot be distinguished from changes in post-combination internally generated goodwill, what is then measured at any time following the acquisition is the fair value of the aggregate goodwill of each reporting unit rather than the fair value of the goodwill relating to each acquisition (Herz et al., 2001).

Second, there is a significant potential for measurement error in computing the fair value of the reporting unit and its net assets. Standard setters favour the market value of the shares as the measurement basis for the fair value of the reporting unit. However, very few reporting units happen to have their shares traded and firms must often resort to present value techniques to assess the value of their reporting units. By nature, valuation is a complex and rather imprecise exercise. Significant assumptions are involved in forecasting future cash flows (or abnormal earnings) and the discount rate to be used. In addition, the fair value of the reporting unit can be influenced by the ability to take advantage of synergies (control premium), the market for the shares (marketability

discount) or the private information owned by managers on future cash flows, risk or the most appropriate discount rate. SFAS 142/Section 3062 forces firms to deal with these difficult valuation issues without really providing specific guidance as to how to interpret their requirements (Feldman, 2002).

Third, SFAS 142/Section 3062 has been criticized for leaving significant room for management interpretation, judgment and bias. According to King (2002), managers are basically “picking a number out of a hat”. Managerial discretion can be exercised both when goodwill is allocated to the different reporting units and the fair value of the reporting unit and its identifiable assets and liabilities is measured. It can result in managers being able to calculate both impairment and non-impairment of goodwill in the same period depending on the underlying assumptions they choose, thereby accelerating or delaying impairment recognition (Massoud and Raiborn, 2003).

Overall, the very nature of goodwill, limitations to valuation models and managerial discretion can reduce the reliability of the goodwill figure and of the resulting goodwill impairment losses. The first objective of this chapter is to determine whether the combined effects of these reliability problems are sufficient to render TGILs valuation irrelevant. Given the different sources of reliability concerns, limited information at the reporting unit level and limited footnote disclosures on the method(s) and inputs used to assess the fair value of reporting units, net assets and goodwill, it is also difficult for investors to make an external appraisal of the fair value of goodwill and assess the reasonableness of reported TGILs. The second objective of this chapter is to explore the effect of reduced opportunities for management discretion and information asymmetry on the value-relevance of TGILs.

4.2.3 Timeliness Concerns

According to Section 1000 of the *CICA Handbook*, to be timely, goodwill impairment losses must be communicated to investors before they lose their capacity to influence decisions. TGILs are catch-up adjustments to reflect the cumulative effect of using the impairment approach *for accounting purposes* for the first time. However, existing anecdotal and empirical evidence suggests that overpayments are typically written-off by the market in the year of acquisition and that changes in the economic value of goodwill are incorporated in equity market values as they occur (Jennings et al., 1996; Henning et al., 2000). Thus, for many, TGILs only are “an acknowledgement of what many people knew by looking at 2002’s depressed stock prices: that many 1990s megamergers haven’t lived up to expectations and so aren’t worth the prices the acquirers paid”, and they should be entirely impounded in stock prices prior to the adoption year (Tergesen, 2002). Still, TGILs have the potential to influence stock prices in the adoption year if the loss recorded differs from the one that was anticipated by the market. The new information could be related to the private information owned by the firm on the fair value of goodwill, added disclosures, or refinements in the measurement of the loss.

Provided TGILs are properly estimated and recognized, AGILs should only represent the adoption year portion of goodwill impairment. That is adoption year AGILs should only influence stock prices in the adoption year. However, it is also possible that reliability concerns with respect to the measurement of goodwill impairment losses result in part of the TGIL being recognized as an AGIL. In that case, AGILs would also appear to be partially impounded in stock prices in the years preceding the adoption. Given the

uncertainty about the timeliness of AGILs and TGILs, the third objective of this chapter is to investigate the timeliness of AGILs and TGILs recorded following the adoption of Section 3062.

4.2.4 Related Research

Related research can be divided in three groups. Given the contention that goodwill and goodwill amortization are typically ignored by the market, a first group of studies investigates the value-relevance of the goodwill figure and its amortization, both at the time of the acquisition and in future periods. According to Johnson and Petrone (1998), purchased goodwill can be disaggregated into going-concern, synergy, and residual goodwill¹⁸. At the time of the acquisition, Henning et al. (2000) show that investors value the different components of goodwill differently: they find a positive association between market values and going-concern and synergy goodwill, and a negative association between market values and residual goodwill, consistent with the market writing-off overpayments in the year of acquisition. In the years following the acquisition, Jennings et al. (1996) find that there is a strong positive association between equity market values and purchased goodwill, consistent with the hypothesis that the book value of goodwill continues to reflect over time the value of excess cash flows purchased at the moment of the acquisition.

¹⁸ The components of purchased goodwill can be defined as follows. Going-concern goodwill is the ability of the enterprise to earn, on a going-concern or stand-alone basis, a higher return on a collection of net assets than would be expected if those net assets were acquired separately. Synergy goodwill is the fair value of the synergies from combining the acquirer's and target's businesses and net assets. Finally residual goodwill is the sum of 1) the payments resulting from over- (under-) valuation of the consideration used and 2) the over- (under-) payment by the acquirer in the course of bidding (Johnson and Petrone, 1998).

In contrast, prior research does not provide consistent evidence of an association between equity market values and goodwill amortization. Jennings et al. (1996) only find weak evidence of a negative association between equity values and goodwill amortization. Vincent (1997) demonstrates that investors adjust accounting numbers for pooling and purchase firms to place them on an approximately equal basis. Lindenberg and Ross (1999) show that price-earnings ratios increase in response to goodwill amortization so that the increase is sufficient to offset goodwill amortization and leave stock prices unchanged. Finally, Moehrle et al. (2001) find that the relative informativeness of earnings before goodwill amortization and earnings before extraordinary items do not differ significantly, consistent with goodwill amortization not providing any information useful to investors' decisions.

A second group of studies examines the information content of goodwill impairment losses prior to and following the introduction of SFAS 142/Section 3062. These studies examine whether goodwill write-offs convey information to the market at the time they are announced. Hirschey and Richardson (2002) show that "simple" goodwill write-off announcements are accompanied by negative and significant cumulative abnormal returns (CARs) but obtain insignificant CARs for firms reporting contemporaneous positive earnings surprise; and negative and significant CARs for firms either reporting an operating loss or other information. They consider this evidence as consistent with the market interpreting goodwill write-offs in the context of other company information. Motivated by the relatively small magnitude of the abnormal returns in the announcement period as compared to the average magnitude of the goodwill write-offs, they further analyze pre- and post-announcement period returns.

They find that goodwill write-offs are preceded by large and significant negative abnormal returns, suggesting that investors partially anticipate the write-offs. They also show that the negative abnormal returns continue in the one year post-announcement period although they are of a smaller magnitude, consistent with some investors under-reacting to the announcement.

The information content of TGILs recorded as a result of the introduction of SFAS 142 in the United States is studied by Segal (2003) and Zang (2003). Both authors decompose the impairment losses into their anticipated and unanticipated components and only expect a negative and significant reaction to the unexpected component. To the extent SFAS 142 better reflects the economic loss in value of goodwill, Segal (2003) further expects a more negative reaction under SFAS 142 than SFAS 121. Consistent with their hypotheses, Segal (2003) and Zang (2003) find that the market does not significantly react to the expected portion of the impairment loss and that there is a negative and significant reaction to its unexpected portion. However, Segal (2003) does not find any significant difference between the market reactions under SFAS 121 and SFAS 142.

Finally, Chen et al. (2004) investigate the timeliness and valuation effects of goodwill and goodwill impairment losses (both transitional and annual) recognized under SFAS 142 in 2002. They find that TGILs are partially anticipated by the market, but that they also represent new information. AGILs primarily provide new information to the market, although they are partially impounded in price in 2001. Lastly, the value-relevance of goodwill improves following the adoption of SFAS 142, as demonstrated by an increase in the explanatory power of a valuation model based on goodwill as reported

in 2002 over one based on goodwill before either the transitional and/or annual impairment losses. This chapter differs from Chen et al. (2004) in at least two ways. First, I test for the value-relevance of goodwill *and* goodwill impairment losses using both a relative and absolute approach. Second, I explore the effect of reduced opportunities for management discretion and information asymmetry on the value-relevance of TGILs.

4.3 Methodology

4.3.1 Sample and Data

Sample firms are drawn from the January 2004 version of *Compustat Research Insight*. To enter the sample, firms must be listed on the Toronto Stock Exchange (TSX), have a positive goodwill balance as at the year-end preceding the adoption of Section 3062, and report in Canadian GAAP. Observations with no information available on the stock exchange, the goodwill balance, or the financial year-end in *Compustat* are completed manually. Sampling is based on the reported goodwill figure so that firms that record a TGIL as well as those that do not are considered. This leaves 417 firms. Financial and disclosure data is obtained from *Compustat Research Insight* as well as from the sample firms' annual reports, governance data is obtained from firms' proxy statements. Value-relevance tests are based on a sample of 341 firms (323 firms for the model including governance quality measures). Timeliness tests are based on a sample of 341 firms.

4.3.2 Models and Variables

4.3.2.1 Value-Relevance

Consistent with Ohlson (1995), the following ordinary least squares regression model is used to assess the value-relevance of goodwill and goodwill impairment losses recorded in the adoption year:

$$MVAL_i = \beta_0 + \beta_1 BV_i + \beta_2 NI_i + \beta_3 GWILL_i + \beta_4 TGIL_i + \beta_5 AGIL_i + \varepsilon_i \quad (2)$$

Where:

- MVAL* = Market value of equity at the end of the year in which the transitional goodwill impairment test is completed
- BV* = Book value of equity at the end of the year in which the transitional goodwill impairment test is completed minus goodwill at the end of that same year
- NI* = Earnings before extraordinary items for the year in which the transitional goodwill impairment test is completed plus the reported AGIL
- GWILL* = Goodwill at the end of the year in which the transitional goodwill impairment test is completed plus the reported TGIL and AGIL
- TGIL* = Reported TGIL, expressed as a negative number
- AGIL* = Reported AGIL for the year in which the transitional goodwill impairment test is completed, expressed as a negative number.

All variables are scaled by the number of common shares outstanding at the end of the year in which the transitional goodwill impairment test is completed. The model is estimated using robust regression. I calculate Cook's D statistic and exclude all observations with $D > 1$. The regression is then re-estimated with the coefficient tests being based on White's t-statistics. This approach is similar to Aboody et al. (2004). The basic Ohlson valuation model is altered to separate goodwill, transitional goodwill

impairment losses and annual goodwill impairment losses from book value and earnings, respectively. Consistent with prior research, I expect book value per share and earnings per share to be positively related to price.

The ending balance of goodwill is adjusted to exclude the effect of the reported TGIL and AGIL. Consistent with prior research on the value-relevance of goodwill, I expect a positive association between goodwill per share and price. The models include the TGIL as reported and expressed as a negative number. If investors perceive the TGIL as a reduction in the value of goodwill, then *TGIL* will be positively related to price. Finally, to the extent measurement error and managerial discretion with respect to TGILs can influence the magnitude of AGILs (and vice-versa), I also include reported AGILs in the model, expressed as a negative number. If investors perceive AGILs as a reduction in the value of goodwill, then *AGIL* will be positively related to price.

Next, I explore the effect of reduced opportunities for management discretion and information asymmetry on the value-relevance of TGILs by altering the valuation model in four ways. First, I try and distinguish firms where the potential for managerial opportunism is lower by using the *BOD* variable from Chapter 3 of this dissertation and building an interaction term between *TGIL* and *BOD*. If you recall, *BOD* is a two-point score to capture the independence of the board of directors and presumably, governance quality. Consistent with governance regulation, one mark is awarded if a majority of directors are independent and one mark is awarded if there either is an independent chair or lead director in cases where the CEO also is the chair. *BOD* is the sum of these two elements. The results of Chapter 3 suggest that an independent board of directors acts as a constraint on managerial opportunism with respect to reported TGILs. As such, it could

reduce reliability issues associated with managerial opportunism. A significant association between price and *TGIL*BOD* would suggest that investors perceive the reduced opportunities for managerial discretion associated with better governance, and value TGILs differently in the presence of an independent board of directors.

Second, I examine whether the set of information available to try and assess the fair value of goodwill influences the value-relevance of TGILs. From an investor's point of view, the potential for measurement error and managerial discretion with respect to reported TGILs could be exacerbated in the absence of detailed public information at the reporting unit level and footnote disclosures on the method(s) and inputs used to assess the fair value of reporting units, net assets and goodwill because they do not have sufficient information to assess the reasonableness of reported TGILs. Thus, the set of information available to estimate the fair value of goodwill and the magnitude of the TGIL could influence the perceived reliability, and value-relevance of reported TGILs.

To estimate the fair value of goodwill and the anticipated TGIL specialized valuation firms such as Bear and Sterns suggest that investors rely on financial information at the firm level. The firm is treated as a single reporting unit, as though it has been purchased in a business combination. The market value of equity is assumed to proxy for the fair value of the reporting unit. The fair value of net assets is assumed to be equal to their book value. The goodwill impairment test can then be simplified to the difference between the market value and the book value of stockholders' equity.

Consistent with this approach, I create an indicator variable called *EXPECT*. *EXPECT* takes on the value of 1 if the firm behaves as can be expected based on the Bear Sterns method, i.e. if the market value of equity is lower than book value and a non-zero TGIL

is reported or the market value of equity is higher than book value and a zero TGIL is reported; and 0 otherwise. I then build an interaction term between *TGIL* and *EXPECT* and include it in the valuation model. If investors value TGILs differently when the reported TGIL is consistent with available accounting and market information, then *TGIL*EXPECT* will be significantly associated with price.

Alternatively, investors could try to estimate the fair value of goodwill at the reporting unit level by relying on the information disclosed in the financial statements. To reduce information asymmetry between firms and investors, Section 3062 requires that firms disclose 1) the goodwill balance separately on the balance sheet; 2) the facts and circumstances leading to the impairment and the amount of the impairment loss (in the case of the transitional test, firms have to confirm that they completed the test and discuss the result); 3) the changes in the aggregate carrying amount of goodwill during the period; and 4) the changes in the carrying amount of goodwill for *each reporting unit or segment* during the period. I build a four-point disclosure score based on these four requirements (*DISC*) and create an interaction term between *TGIL* and *DISC* to examine whether increased disclosure influences investors' valuation assessments. Given the low percentage of firms that disclose changes in the carrying amount of goodwill for each reporting unit or segment (28%) and the crucial nature of that information for investors to be able to estimate the fair value of goodwill at the reporting unit level I also create an indicator variable called *RUNIT* that takes on the value of 1 if the firm discloses the reporting unit allocation and 0 otherwise, and build an interaction term between *TGIL* and *RUNIT*. If investors value TGILs differently in the presence of additional footnote

disclosures, then $TGIL*DISC$ and $TGIL*RUNIT$ will be significantly associated with price.

4.3.2.2 Timeliness

Consistent with Warfield and Wild (1992), the following ordinary least squares regressions are used to assess the timeliness of TGILs and AGILs:

$$TGIL_t = \beta_0 + \beta_1 RET_t + \beta_2 RET_{t-1} + \beta_3 RET_{t-2} + \varepsilon_t \quad (3)$$

$$AGIL_t = \beta_0 + \beta_1 RET_t + \beta_2 RET_{t-1} + \beta_3 RET_{t-2} + \varepsilon_t \quad (4)$$

Where:

$TGIL$	=	Reported TGIL, expressed as a negative number
$AGIL$	=	Reported AGIL, expressed as a negative number
RET_t	=	Cumulative annual returns for adoption year
RET_{t-1}	=	Cumulative annual returns for the year preceding the adoption year
RET_{t-2}	=	Cumulative annual returns for the second year preceding the adoption year

The models are estimated using robust regression. I calculate Cook's D statistic and exclude all observations with $D > 1$. The regressions are then re-estimated with the coefficient tests being based on White's t-statistics. If decreases in the value of goodwill were incorporated in equity market values as they occurred and TGILs only represent catch-up adjustments to reflect the cumulative effect of using the impairment approach for accounting purposes for the first time, then returns should lead TGILs. In other words, there should be a positive association between TGILs and prior year returns, and no association between TGILs and adoption year returns. If TGILs also provide new

information to the market, I should observe a positive association between TGILs and adoption year returns as well. Finally, if the market was completely unaware of the existence of the impairment and did not anticipate the loss, I should observe no association between TGILs and prior year returns and a positive association between TGILs and adoption year returns. If TGILs are properly estimated and recognized and AGILs only represent the adoption year portion of goodwill impairment, then there should be a positive association between AGILs and adoption year returns, and no association between AGILs and prior year returns. However, if reliability concerns with respect to the measurement of goodwill impairment losses result in part of the TGIL being recognized as an AGIL, then I could also observe a positive association between AGILs and prior year returns.

4.4 Results

4.4.1 Descriptive Statistics

Table 11 presents distributional statistics for the variables in the value-relevance and timeliness regression models. Table 11 – Panel A shows an average share price of 12.58\$ and an average book value per share before goodwill of 6.96\$. Sample firms record average earnings per share before the reported AGIL of 0.42\$. The average goodwill per share is 3.05\$ per share, i.e. 30.5% of the total book value per share. The average TGIL per share is 0.29\$, whereas the average AGIL per share is 0.08\$. Interestingly, the average TGIL is almost of the same magnitude as the average earnings per share, indicating that firms were able to avoid a significant hit on their earnings by charging the loss to opening retained earnings. The average board independence score is

1.24 out of 2 whereas the median score is 1, indicating that at least half the sample firms either have a majority of independent directors on their board of directors or an independent chair. Out of the 341 firms for which complete data is available in the scaled model, 237 behave as expected, i.e. record (do not record) a TGIL when the market value of equity is lower (higher) than book value (untabulated). The average disclosure score is 2.64 out of 4. However, only 96 firms disclose the reporting unit allocation of goodwill and the changes in the carrying amount of goodwill for each reporting unit or segment during the adoption year (untabulated).

Table 11 – Panel B shows average cumulative annual returns of 0.56%, 6.93% and 19.23% for the adoption year, the year preceding the adoption and the second year preceding the adoption, respectively. The average TGIL per share represents 3.63% of opening share price in the adoption year. Finally, the average AGIL per share represents 1.19% of opening share price in the adoption year.

{Insert Table 11 here}

Table 12 presents the Pearson correlation matrix for the variables in the value-relevance and timeliness regression models. Figures in bold denote significance at the 5% level. Table 12 – Panel A shows that *BV*, *NI* and *GWILL* respectively have correlations of 0.73 and 0.52 and 0.15 with *MVAL*. *TGIL* and *AGIL* are negatively related to *GWILL* ($\rho = -0.70$ and $\rho = -0.45$) by design. *TGIL* is also highly correlated with *TGIL*BOD* ($\rho = 0.95$), *TGIL*EXP* ($\rho = 0.92$), *TGIL*DISC* ($\rho = 0.95$) and *TGIL*RUNIT* ($\rho = 0.64$) by design. Similarly, *TGIL*BOD*, *TGIL*EXP*, *TGIL*DISC* and *TGIL*RUNIT* are highly correlated with each other. All other correlations between independent variables are below the 0.50 threshold. Table 12 – Panel B shows that *TGIL*

and *AGIL* are positively and significantly correlated ($p = 0.1742$). *TGIL* is positively correlated with RET_{t-1} and RET_{t-2} ($p = 0.1121$ and $p = 0.0489$). *AGIL* is positively correlated with RET_t , RET_{t-1} and RET_{t-2} ($p = 0.0945$, $p = 0.1053$ and $p = 0.0371$). All correlations are below the 0.50 threshold.

{Insert Table 12 here}

4.4.2 Multivariate Results

4.4.2.1 Value-Relevance

Table 13 presents the results of the OLS regression examining the value-relevance of goodwill and reported goodwill impairment losses in the adoption year. The model is significant ($p < 0.000$) with an R^2 of 65.14%. Consistent with my predictions, book value per share (*BV*) and earnings per share (*NI*) are positively associated with share price and the association is significant ($p < 0.000$ and $p < 0.004$). Table 13 also reveals a positive and significant association between pre-impairment goodwill per share (*GWILL*), *TGIL* per share (*TGIL*) and *AGIL* per share (*AGIL*), and share price ($p < 0.000$, $p < 0.006$ and $p < 0.000$). This result is consistent with investors perceiving goodwill as a valuable asset of the firm. It also suggests that they perceive *TGILs* and *AGILs* as being sufficiently reliable measures of a reduction in the value of goodwill to incorporate them in their valuation assessments¹⁹.

{Insert Table 13 here}

¹⁹ Results (untabulated) remain unchanged when book value of equity at the end of the adoption year is used as a scaler, except for *NI* which becomes negative and insignificant.

Table 14 displays the results of OLS regression models exploring the effect of reduced opportunities for management discretion and information asymmetry on the value-relevance of TGILs. The first column shows the results of the OLS model exploring the effect of reduced opportunities for management discretion by distinguishing firms with an independent board of directors. Consistent with my predictions, *BV*, *NI*, *GWILL* and *AGIL* are significantly and positively associated with share price ($p < 0.000$, $p < 0.004$, $p < 0.000$ and $p < 0.000$). *TGIL* is also significantly and positively associated with share price ($p < 0.000$) while *TGIL*BOD* is significantly and negatively associated with share price ($p < 0.015$). This result indicates that investors put a lower valuation weight on TGILs reported by firms with an independent board of directors. It is consistent with investors perceiving the reduced opportunities for managerial discretion associated with better governance.

The second column of Table 14 shows the results of the OLS model distinguishing between firms that behave as expected and firms that do not according to the Bear Stern's method. Consistent with my predictions, *BV*, *NI*, *GWILL* and *AGIL* are significantly and positively associated with share price ($p < 0.000$, $p < 0.004$, $p < 0.000$ and $p < 0.000$). *TGIL* and *TGIL*EXPECT* are also positively associated with share price and the association is significant ($p < 0.040$ and $p < 0.003$). This result is consistent with investors putting a higher valuation weight on TGILs recorded by firms with a market value of equity lower than book value, i.e. firms that are expected to record a TGIL.

The third and fourth columns of Table 14 show the results of the OLS models distinguishing firms with better goodwill disclosure, and firms that disclose the reporting unit allocation of goodwill and the changes in the carrying amount of goodwill for each

reporting unit or segment during the adoption year. Consistent with my predictions, *BV*, *NI*, *GWILL* and *AGIL* are significantly and positively associated with share price in both models ($p < 0.000$, $p < 0.011$, $p < 0.000$ and $p < 0.001$ in the disclosure model, and $p < 0.000$, $p < 0.005$, $p < 0.000$ and $p < 0.000$ in the reporting unit allocation model). *TGIL* and *TGIL*DISC* are positively associated with share price. However, only the association between *TGIL* and share price is significant ($p < 0.028$ and $p < 0.615$) indicating that investors do not put a different valuation weight on TGILs reported by firms with better goodwill disclosure. *TGIL* and *TGIL*RUNIT* are also positively associated with share price, but only the association between *TGIL* and share price is significant ($p < 0.008$ and $p < 0.598$). Again, this result is consistent with investors not valuing TGILs reported by firms that disclose the reporting unit allocation of goodwill and the changes in the carrying amount of goodwill for each reporting unit or segment during the adoption year differently. Taken together, results suggest that the information disclosed on goodwill has little effect on investors' valuation assessments.

{Insert Table 14 here}

Table 15 presents the results of the Davidson-MacKinnon J test comparing the explanatory power of the valuation models based on goodwill as reported in the adoption year and goodwill before either the transitional and/or annual impairment losses. The Davidson-MacKinnon J test of nonnested models tests whether the alternative model has explanatory power over and above the null model by including predicted values from the alternative model in the null model. If the predicted values are significant, then the model of the null hypothesis is rejected. If the predicted values are not significant, then the model of the null hypothesis cannot be rejected. The test must be done on the

reversed hypotheses. It is impossible to get a clear answer if the test leads to the acceptance or rejection of both models. Table 15 shows that *GWILLEND* and *GWILLPRE* are both positively and significantly associated with share price ($p < 0.000$ and $p < 0.000$). Model 1 including goodwill as reported in the adoption year has an R^2 of 63.81% while Model 2 including goodwill before either the transitional and/or annual goodwill impairment losses has an R^2 of 62.02%. The J test accepts Model 1 and rejects Model 2, indicating that the increase in explanatory power is significant. The significant increase in explanatory power suggests that the value-relevance of goodwill has increased following the adoption of Section 3062.

{Insert Table 15 here}

4.4.2.2 Timeliness

Table 16 presents the results of the OLS models examining the timeliness of TGILs and AGILs. Column (1) of Table 16 presents the results of the model examining the timeliness of reported TGILs while column (2) presents the results of the model examining the timeliness of reported AGILs. Column (1) shows a positive and significant association between reported TGILs and cumulative annual returns for the second year preceding the adoption ($p < 0.012$), and the year preceding the adoption ($p < 0.026$), and a negative and insignificant association between reported TGILs and cumulative annual returns for the adoption year ($p < 0.704$). This result suggests that the adoption of SFAS 142/Section 3062 led to the recognition of impairment losses that were already impounded in prices, i.e. that TGILs represent catch-up adjustments to reflect the

cumulative effect of using the impairment approach *for accounting purposes* for the first time.

Column (2) shows a positive and significant association between reported AGILs and cumulative annual returns for the second year preceding the adoption ($p < 0.030$), the year preceding the adoption ($p < 0.023$) and the adoption year ($p < 0.020$). Once again, this result suggests that returns led the recognition of AGILs, i.e. that AGILs were impounded in price prior to the adoption of SFAS 142/Section 3062. However, the significant association between AGILs and adoption year returns suggests that AGILs were only partially impounded in prices and that they also provided new information to the market. This seems to indicate that AGILs do not only represent the adoption year portion of goodwill impairment and that reliability concerns with respect to the measurement of goodwill impairment losses resulted in the partially delayed recognition of TGILs as AGILs. Overall, the evidence presented in Table 16 is consistent with the adoption of SFAS 142/Section 3062 improving the timeliness of goodwill impairment losses by forcing firms to test goodwill for impairment every year.

{Insert Table 16 here}

4.4.3 Sensitivity Analysis

A relatively high proportion of sample firms (31%) have negative earnings. Prior research shows that persistence differs across positive and negative earnings so that restricting the coefficient on earnings to be the same across the two groups can result in model misspecification (Hayn, 1995; Clarkson et al., 2004). To assess whether my results are influenced by model misspecification, I re-estimate the model for profit and

loss firms separately. Table 17 presents the results of this analysis. Both models are significant ($p < 0.000$ and $p < 0.000$). The profit model has an R^2 of 91.54% while the loss model has an R^2 of 65.91%. Book value per share (*BV*) and earnings per share (*NI*) are positive and significant for both profit and loss firms ($p < 0.000$ and $p < 0.000$ for *BV*, and $p < 0.000$ and $p < 0.013$ for *NI*). Coefficients on *GWILL*, *TGIL* and *AGIL* are also positive and significant for both groups ($p < 0.000$ and $p < 0.000$ for *GWILL*, $p < 0.044$ and $p < 0.000$ for *TGIL*, and $p < 0.000$ and $p < 0.026$ for *AGIL*). Therefore, my results do not seem to be affected by model misspecification.

{Insert Table 17 here}

4.5 Discussion and Conclusion

This chapter investigates the relationship between 1) equity market values and goodwill and goodwill impairment losses; and 2) annual and transitional goodwill impairment losses recorded by Canadian firms following the adoption of Section 3062 and past and contemporaneous stock returns. Standard setters introduced SFAS 142/Section 3062 to increase the relevance and reliability of the goodwill figure by forcing firms to better reflect its fair value on their financial statements. However, in the debate that surrounded the adoption of SFAS 142/Section 3062, concerns were raised that the fair value of goodwill could not be measured reliably enough to produce a relevant goodwill figure and warrant an impairment-only approach. In addition, it was unclear whether goodwill impairment losses could provide timely information to investors.

To investigate whether reliability issues arising from the nature of the goodwill asset, inherent limitations of valuation models and managerial discretion are sufficient to

render goodwill and goodwill impairment losses valuation irrelevant, I test for the relationship between share price/market value, and goodwill, TGILs and AGILs recorded in the year in which the transitional goodwill impairment test is completed. To the extent that investors perceive goodwill as an asset, I expect a positive association between stock price/market value and goodwill. Similarly, to the extent that investors perceive TGILs and AGILs as being sufficiently reliable measurements of a reduction in the value of goodwill to incorporate them in their valuation assessments, I expect a positive association between stock price/market value and TGILs and AGILs (TGILs and AGILs are expressed as negative numbers). Consistent with this prediction, I find a significant positive relationship between reported goodwill, TGILs and AGILs, and share price.

I also investigate the effect of reduced opportunities for management discretion and information asymmetry on the value-relevance of TGILs by examining whether investors put a different valuation weight on TGILs reported by 1) firms with a majority of independent directors on the board and an independent chairman; 2) firms with a market value of equity lower than book value (i.e. firms that are expected to record a TGIL); 3) firms with better goodwill disclosure; and 4) firms that disclose changes in the carrying amount of goodwill for each reporting unit or segment. I find that investors put a lower valuation weight on TGILs reported by firms with an independent board of directors and a higher valuation weight on TGILs recorded by firms with market value of equity lower than book value. However, I do not find any evidence of investors putting a different valuation weight on TGILs reported by firms with better goodwill disclosure or firms that disclose the reporting unit allocation of goodwill.

The timeliness of AGILs and TGILs is tested by examining their association with past and contemporaneous stock returns. If decreases in the value of goodwill were incorporated in equity market values as they occurred and TGILs only represent catch-up adjustments to reflect the cumulative effect of using the impairment approach for accounting purposes for the first time, then returns should lead TGILs. If TGILs also provide new information to the market, I should observe a positive association between adoption year returns and TGILs as well. Finally, if the market was completely unaware of the existence of the impairment and did not anticipate the loss, I should observe no association between prior year returns and TGILs and a positive association between adoption year returns and TGILs. Results suggest that TGILs only represent catch-up adjustments to reflect the cumulative effect of using the impairment approach for accounting purposes for the first time. As for AGILs, if they only represent the adoption year portion of goodwill impairment, then there should be a positive association between AGILs and adoption year returns, and no association between AGILs and prior year returns. However, if reliability concerns with respect to the measurement of goodwill impairment losses result in the delayed recognition of TGILs as AGILs, then I could also observe a positive association between AGILs and prior year returns. Results show a positive and significant association between prior and adoption year returns and AGILs.

Overall, the results of this chapter suggest that the adoption of Section 3062 has increased the value-relevance of goodwill reported by Canadian firms. This evidence is consistent with Chen et al. (2004) for the United States. Also consistent with Chen et al. (2004), they indicate that the adoption of Section 3062 is likely to improve the timeliness of goodwill impairment losses by forcing firms to test goodwill for impairment every

year. Consistent with standard setters' views, the adoption of Section 3062 therefore seems to improve the quality of goodwill related accounting information.

The results of this chapter must be interpreted with caution because value-relevance tests generally are joint tests of relevance and reliability. It is difficult, if not impossible, to test the relevance and reliability of an accounting amount separately (Barth et al., 2001). While results indicate TGILs and AGILs are reliable and relevant, I am unable to identify the trade-off point between the two attributes.

Chapter 5 – Discussion

The standard setters' goal in setting accounting standards is to enhance the usefulness of the information reported in financial statements to investors and creditors. For accounting information to be useful, it must be both relevant and reliable. However, relevance and reliability are often opposed and trade-offs are required in reaching decisions about standard-setting issues. In addition, users' needs and preferences with respect to the ideal trade-off point may differ. Hence, accounting regulators and researchers spend a significant amount of time investigating the appropriateness of existing and potential trade-offs. The focus on newly adopted standards on goodwill taken in this dissertation is consistent with this approach.

One of the primary challenges in accounting for goodwill is to reach an acceptable level of reliability in depicting the pattern in which the value of goodwill decreases (FASB, 2001). Prior to the adoption of SFAS 142/Section 3062, goodwill was amortized over a period not exceeding forty years. It was tested for impairment *at the firm level* if there was any indication that its net recoverable value had fallen below book value. Goodwill impairment losses were rather infrequent. The ending balance of goodwill and goodwill charges were fairly predictable. Goodwill amortization was preferred under the assumption that the amount amortized in any given period was only a rough estimate of the decrease in goodwill, but that financial statement users could be expected to understand the limitations of goodwill amortization (FASB, 2001). Indeed, both anecdotal and empirical evidence demonstrate that market participants made their own assessments of the expected future benefits to be derived from goodwill and typically ignored goodwill amortization (e.g. Moehrle et al., 2001).

In contrast, SFAS 142/Section 3062 eliminates goodwill amortization and requires that goodwill be tested for impairment at the same date every year. An impairment loss is recognized if the two-step impairment test *at the reporting unit level* shows that the implied fair value of goodwill is lower than book value. Goodwill impairment losses become more frequent and the ending balance of goodwill and goodwill charges less predictable. Standard setters now argue that the impairment-only approach increases the relevance and reliability of the goodwill figure by better representing how the loss in the economic value of goodwill occurs even though measures of goodwill impairment may be less precise than other income items (FASB, 2001). Whether such is the case has fuelled considerable debate.

First, even though early drafts of SFAS 142/Section 3062 required companies to disclose the estimates and assumptions made in determining the fair value of goodwill, disclosure requirements were significantly reduced in the final standard (Association for Investment Management & Research (AIMR), 2002). This caused Abraham Briloff to declare: "I labored for 30 years to get rid of pooling accounting, and now I am sorry I did", and the AIMR to fear that investors would have difficulty predicting and interpreting when write-offs will occur (AIMR, 2002). Chapter 2 uses the acquisition of Vidéotron by Quebecor Media in 2000 to illustrate the set of information available to external financial statement users to try and assess the fair value of goodwill and the reasonableness of recognized goodwill impairment losses. The adoption of Section 3062 by Quebecor on January 1, 2002 triggered the recognition of a transitional goodwill impairment loss of 1,960.0 million dollars or 42.6% of the remaining balance of goodwill, one of the largest in Canada. When I use the information available to try and assess the

reasonableness of the reported loss, I obtain an estimated transitional goodwill impairment loss lower than the reported loss. However, because of the limitations imposed by the absence of detailed information on the method(s) and inputs used by Quebecor to assess the fair value of its segments, net assets and goodwill, I am unable to reconcile the observed difference. Thus, my analysis of the Vidéotron transaction demonstrates how the absence of public information at the reporting unit level and the lack of disclosure requirements can limit financial statement users' ability to assess the reasonableness of reported goodwill impairment losses and potentially facilitate managerial opportunism. It supports criticisms regarding insufficient disclosure requirements.

Second, critics were concerned about the potential for management interpretation, judgment and bias both at the time of a merger and in future periods. They were worried about managers' ability to defeat the standards' purpose by relying on the new recommendations as a justification for making reporting decisions that can mislead financial statement users regarding the economic value of goodwill. Chapter 3 investigates whether and why managers make use of the available discretion to influence the magnitude of TGILs and the constraints they face in so doing. The empirical results show that TGILs are associated with managers' incentives to both overstate and understate them, after controlling for economic impairment. They are consistent with the results of Riedl (2004) who finds that firms are applying more discretion following the implementation of SFAS 121 in the United States even though SFAS 121 was intended to provide more structure on the determination and reporting of asset impairments. They also suggest that consistent with criticisms of the standards, the impairment approach has

not been entirely successful in forcing firms to be more transparent with respect to the underlying economic value of goodwill.

Chapter 3 also shows that independent board of directors and independent and financially competent audit committees act as a constraint on Canadian managers' transitional goodwill reporting choices to ensure that the economic value of goodwill is better reflected in financial statements. Standard setters are interested in understanding managers' reporting choices in order to determine how the discretion afforded by accounting standards may be exploited. Perhaps as crucial to them as identifying the optimal level of discretion is the understanding of the constraints managers face in so doing. In a similar manner, regulators are interested in understanding the effectiveness of various governance mechanisms in constraining managerial opportunism in order to identify the proper level of regulation. In the aftermath of Enron, considerable efforts have been made by Canadian securities regulators to harmonize governance regulation with American requirements despite ferocious opposition to the adoption of rules on board of directors' and audit committee's composition and independence. Chapter 3 shows that it is possible to limit managerial opportunism even in the presence of substantial discretion. It supports the move towards a rules-based approach to corporate governance by demonstrating that independent directors can make a difference in constraining managerial opportunism.

Third, critics were worried that the combined effects of managerial discretion, the inseparable nature of the goodwill asset, and the significant potential for measurement error in computing the fair value of the reporting unit and its assets would harm the reliability of the goodwill figure to the point where it would become valuation irrelevant.

Chapter 4 investigates whether such is the case, and explores the effect of reduced opportunities for management discretion and information asymmetry on the value-relevance of TGILs. The results indicate that investors perceive goodwill as an asset, and TGILs and AGILs as sufficiently reliable measurements of a reduction in the value of goodwill to incorporate them in their valuation assessments. They support standard setters' view that reliability concerns with respect to measurement of the fair value of goodwill are not sufficient to render goodwill impairment losses valuation irrelevant.

I explore the effect of reduced opportunities for management discretion and information asymmetry on the value-relevance of TGILs by examining whether investors put a different valuation weight on TGILs reported by 1) firms with a majority of independent directors on the board and an independent chairman; 2) firms with a market value of equity lower than book value (i.e. firms that are expected to record a TGIL); 3) firms with better goodwill disclosure; and 4) firms that disclose changes in the carrying amount of goodwill for each reporting unit or segment. I find that investors put a lower valuation weight on TGILs reported by firms with an independent board of directors and a higher valuation weight on TGILs recorded by firms with a market value of equity lower than book value. However, I do not find any evidence of investors putting a different valuation weight on TGILs reported by firms with better goodwill disclosure or firms that disclose the reporting unit allocation of goodwill. Given the rather general information on goodwill typically disclosed in the notes to financial statements and the low proportion of firms that actually provide the reporting unit allocation of goodwill (28%), this result seems to indicate that investors choose to rely on information available at the firm level in their valuation assessments. Specifically, they perceive the reduced

opportunities for managerial discretion associated with better governance and they grant more credibility to TGILs recorded by firms who are expected to do so.

Finally, because 1) TGILs are catch-up adjustments to reflect the cumulative effect of using the impairment approach for accounting purposes for the first time; and 2) changes in the economic value of goodwill are typically incorporated in equity market values as they occur, it was unclear whether goodwill impairment losses could provide any timely information to market participants. Chapter 4 also investigates the timeliness of reported AGILs and TGILs by examining the association between reported impairment losses and past and contemporaneous stock returns. I find that TGILs were impounded in prices prior to the adoption year and that AGILs were partially impounded in prices and also provided new information to the market. Thus, the adoption of SFAS 142/Section 3062 is likely to improve the timeliness of goodwill impairment losses by forcing firms to test goodwill for impairment every year.

Overall, I interpret the empirical evidence contained in this dissertation as consistent with SFAS 142/Section 3062 improving the quality of the financial information on goodwill provided in the financial statements. Even though the magnitude of reported TGILs is inherently bound to measurement error and appears to be subject to managerial discretion, TGILs provide value-relevant information to investors. Furthermore, the adoption of SFAS 142/Section 3062 successfully triggered the recognition of existing unrecognized goodwill impairment losses that were already impounded in stock prices. Still, the results indicate that further improvements could be gained by extending disclosure requirements to include estimates and assumptions made in determining the fair value of goodwill.

Chapter 6 – Conclusion

The objective of this dissertation is to investigate the causes and consequences of the goodwill reporting choices made by Canadian firms following the adoption of revised standards on goodwill in 2002. The new standards (SFAS 142/Section 3062) eliminate goodwill amortization. They require that goodwill be subjected to a transitional impairment test in the adoption year as well as to annual impairment tests in subsequent years. Standard setters reviewed existing standards with the objective of improving the relevance and reliability of the goodwill figure. However, significant controversy surrounded the adoption of SFAS 142/Section 3062. Consistent with criticisms of the standards, this dissertation seeks to answer the following research questions: 1) Do managers make use of the available discretion to influence the magnitude of reported TGILs? Why? What are the constraints they face in so doing?; 2) Are reliability concerns with respect to the measurement of reported TGILs sufficient to render goodwill and goodwill impairment losses valuation irrelevant?; 3) How do reduced opportunities for management discretion and information asymmetry influence the value-relevance of reported TGILs?; and 4) Do AGILs and TGILs provide timely information to market participants?

Managers benefit from considerable discretion in allocating the opening balance of goodwill to the reporting units, and assessing the fair value of the reporting unit as a whole, the identifiable assets and liabilities that constitute this reporting unit, and goodwill. Whether they make use of available discretion to influence the magnitude of reported TGILs is of interest to standard setters because it allows them to determine how the discretion afforded by SFAS 142/Section 3062 may be exploited. In addition, TGILs

are charged to opening retained earnings rather than the income statement in Canada. Equity recognition has the potential to generate conflicting incentives for managers who have the unique opportunity to protect their future operating earnings by maximizing the TGIL (i.e. taking a bath) but must at the same time take into consideration the negative impact that the TGIL can have on the quality of their balance sheet and on the future cash flow expectations of market participants. Consistent with the existence of this conflict, the empirical results show that TGILs are associated with managers' incentives to both overstate and understate them. However, the results also show that independent board of directors and independent and financially competent audit committees act as a constraint on Canadian managers' transitional goodwill reporting choices to ensure that the economic value of goodwill is properly reflected in financial statements.

Whether the fair value of assets and liabilities can be measured with sufficient reliability to maintain their relevance to financial statement users is at the heart of the debate that surrounds the move towards fair value accounting for more than a decade now. The results of Chapter 4 indicate that investors perceive goodwill as an asset, and TGILs and AGILs as sufficiently reliable measurements of a reduction in the value of goodwill to incorporate them in their valuation assessments. They support standard setters' view that reliability concerns with respect to the measurement of the fair value of goodwill are not sufficient to render goodwill impairment losses valuation irrelevant. Together with the results of Aboody et al. (2004) for stock-based compensation expense and Barth et al. (1996) for financial instruments, the results of Chapter 4 demonstrate that fair value measurements can be relevant even when the financial statement elements are inherently

bound to measurement error and subject to significant management discretion. They support the notion that reliability is about faithful representation, not precision.

Whether reduced opportunities for managerial discretion and the set of information available to investors influence their valuation assessments is of interest because it can help regulators and standard setters understand the consequences of governance regulation decisions and disclosure requirements on financial statement users. Chapter 4 shows that investors put a lower valuation weight on TGILs reported by firms with an independent board of directors and a higher valuation weight on TGILs recorded by firms with a market value of equity lower than book value. However, there is no evidence of investors putting a different valuation weight on TGILs reported by firms with better goodwill disclosure or firms that disclose the reporting unit allocation of goodwill. The results indicate that investors perceive the reduced opportunities for managerial discretion associated with better governance. They support the move towards a rules-based approach to corporate governance by demonstrating that investors perceive the difference independent directors can make in constraining managerial opportunism. They also show that investors choose to rely on information available at the firm level and ignore information provided at the reporting unit level in their valuation assessments, supporting the need for increased goodwill disclosure.

Finally, investigating the timeliness of reported goodwill impairment losses provides the opportunity to study the role played by accounting in aggregating available financial information and the ability of market participants to impound declines in the value of goodwill in prices prior to the recognition of goodwill impairment losses in the financial statements. The results indicate that TGILs were impounded in stock prices in

the years prior to the adoption of SFAS 142/Section 3062. AGILs were partially impounded in stock prices in the years prior to the adoption of impairment standards, but also provided new information in the adoption year. They suggest that forcing firms to test goodwill for impairment every year is likely to improve the timeliness of goodwill impairment losses.

The empirical analyses contained in this dissertation must be interpreted with caution for a number of reasons. First, the power of the empirical analyses of the determinants and timeliness of reported TGILs is limited by the lack of public information at the reporting unit level. Because of this, crude proxies have to be used to measure economic impairment and predict the expected portion of reported TGILs. Any measurement error in these proxies could bias my coefficients and the results of my hypotheses' tests. Second, value-relevance tests generally are joint tests of relevance and reliability. It is difficult, if not impossible, to separately test the relevance and reliability of an accounting amount (Barth et al., 2001). While results indicate that goodwill and goodwill impairment losses are reliable and relevant, I am unable to identify the trade-off point between the two attributes.

As time passes and more data becomes available, future research should examine managers' reporting choices with respect to annual goodwill impairment losses, the impact of the decisions made upon adoption of the standards on the future stream of goodwill impairment losses, as well as the value-relevance and timeliness of annual goodwill impairment losses. Also of potential interest is the impact of the introduction of the impairment approach on the premiums paid by acquiring firms and on the purchase price allocation decisions that they subsequently make. With the adoption of the

impairment approach, managers who overpay for their acquisitions have to almost immediately write-off these overpayments against their income from operations. Thus, it raises the question of whether they will reduce the premiums paid to avoid the subsequent write-off. SFAS 142/Section 3062 also requires the separate recognition of identifiable intangible assets and the amortization of definite life intangibles. As a result, it has been suggested that managers would maximize the amounts attributed to goodwill and indefinite life identifiable intangibles to avoid the recurring amortization expense (e.g. AIMR, 2002). However, whether such is the case remains to be answered empirically.

References

- Aboody, D., and R. Kasznik, 2000, CEO Stock Option Awards and the Timing of Corporate Voluntary Disclosures, *Journal of Accounting and Economics* 29, 73-100.
- Aboody, D., M. Barth and R. Kasznik, 2004, SFAS No. 123 Stock-Based Compensation Expense and Equity Market Values, *The Accounting Review* 79, 251-275.
- Agrawal, A., and S. Chadha, 2003, Corporate Governance and Accounting Scandals, Working Paper (University of Alabama).
- AIMR, 2002, A Closer Look: Goodwill and FAS 142, *The Financial Journalist*.
- Alciatore, M., C. Callaway Dee, P. Easton, and N. Spear, 1998, Asset Write-Downs: A Decade of Research, *Journal of Accounting Literature* 17, 1-39.
- André, P., W. Ben Hamar and J.-F. L'Her, 2000, Business Combinations and Value Creation, *Gestion - Revue Internationale de Gestion* 25, 158-174.
- Balsam, S., I. Haw, and S. B. Lilien, 1995, Mandated Accounting Changes and Managerial Discretion, *Journal of Accounting and Economics* 20, 3-30.
- Barth, M., W. Beaver and W. Landsman, 1996, Value-Relevance of Banks' Fair Value Disclosures Under SFAS No. 107, *The Accounting Review* 71, 513-537.
- Barth, M., W. Beaver and W. Landsman, 2001, The Relevance of the Value Relevance Literature for Financial Accounting Standard Setting: Another View, *Journal of Accounting and Economics* 31, 77-104.
- Beatty, A. and J. Weber, 2005, The Importance of Accounting Discretion in Mandatory Accounting Changes: An Examination of the Adoption of SFAS 142, Working Paper (Ohio State University and Sloan School of Management).
- Beatty, A., K. Ramesh, and J. Weber, 2002, The Importance of Accounting Changes in Debt Contracts: The Cost of Flexibility in Covenant Calculations, *Journal of Accounting and Economics* 33, 205-227.
- Bédard, J., S. Chtourou and L. Courteau, 2004, The Effect of Audit Committee Expertise, Independence, and Activity on Aggressive Earnings Management, *Auditing* 23, 13-37.
- Blue Ribbon Committee, 1999, Report and Recommendations of the Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees, (New York).
- Broadcaster, 2000, Rogers/Videotron Merger Faces Hurdle, *Broadcaster* 59, 8.

- Broadcaster, 2000, Videotron Head Slams Quebecor Proposal, *Broadcaster* 59, 6.
- Cablecaster, 2000, Court Action Postponed [Caisse Injunction on Videotron Takeover by Rogers], *Cablecaster* 12, 6.
- Cablecaster, 2000, Videotron Merger Update, *Cablecaster* 12, 10.
- Cablecaster, 2000, Quebecor Wins Videotron, *Cablecaster* 12, 9.
- Cablecaster, 2001, Videotron Cuts [Made by New Owner Quebecor], *Cablecaster* 13, 10.
- Canadian Institute of Chartered Accountants, 2005, Section no. 1000: Financial Statement Concepts, in *The CICA Handbook* (CICA, Toronto).
- Canadian Institute of Chartered Accountants, 1974, Section no. 1580: Business Combinations, in *The CICA Handbook* (CICA, Toronto).
- Canadian Institute of Chartered Accountants, 1998, Section no. 1701: Segment Disclosures, in *The CICA Handbook* (CICA, Toronto).
- Canadian Institute of Chartered Accountants, 2001, Section no. 1581: Business Combinations, in *The CICA Handbook* (CICA, Toronto).
- Canadian Institute of Chartered Accountants, 2001, Section no. 3062: Goodwill and Other Intangible Assets, in *The CICA Handbook* (CICA, Toronto).
- Carslaw, C., 1988, Anomalies in Income Numbers: Evidence of Goal Oriented Behavior, *The Accounting Review* 63, 321-328.
- Chen, C., M. Kohlbeck and T. Warfield, 2004, Goodwill Valuation Effects of the Initial Adoption of SFAS 142, Working Paper (University of Wisconsin-Madison).
- Cheng, Q. and T. Warfield, 2005, Equity Incentives and Earnings Management, *The Accounting Review* 80, 441-476.
- Clarkson, P., Y. Li and G. Richardson, 2004, The Market Valuation of Environmental Capital Expenditures by Pulp and Paper Companies, *The Accounting Review* 79, 329-353.
- Cole, S., and P. White, 2003, Accounting for Goodwill, *CA Magazine* 136, 41-42.
- Craighead, J., M. Magnan and L. Thorne, 2004, The Impact of Mandated Disclosure on Performance-Based CEO Compensation, *Contemporary Accounting Research* 21, 369-396.

- Davis, H., and Y. Peles, 1993, Measuring Equilibrium Forces of Financial Ratios, *The Accounting Review* 68, 725-747.
- Dechow, P., M. Huson, and R. Sloan, 1994, The Effect of Restructuring Charges on Executives' Cash Compensation, *The Accounting Review* 69, 138-156.
- Dechow, P., Sloan, R. and A. Sweeney, 1996, Causes and Consequences of Earnings Manipulation: An Analysis of Firms Subject to Enforcement Actions by the SEC, *Contemporary Accounting Research* 13, 1-36.
- Deloitte and Touche, 2002, *TMT Quarterly*, Winter, 12 pages.
- Dhaliwal, D., G. Salamon, and E. Smith, 1982, The Effect of Owner Versus Management Control on the Choice of Accounting Methods, *Journal of Accounting and Economics* 4, 41-53.
- Efendi, J., Srivastava, A. and E. Swanson, 2005, Why Do Corporate Managers Misstate Financial Statements? The Role of In-the-Money Options and Other Incentives, Working Paper (Cal Poly State and Texas A&M University).
- Elliott, J. A., and J. D. Hanna, 1996, Repeated Accounting Write-Offs and the Information Content of Earnings, *Journal of Accounting Research* 34, 135-155.
- Elliott, J. A., and W. H. Shaw, 1988, Write-Offs as Accounting Procedures to Manage Perceptions, *Journal of Accounting Research* 26, 91-119.
- Fairfield, P., S. Whisenant and T. Lombardi Yohn, 2003, Accrued Earnings and Growth: Implications for Future Profitability and Market Mispricing, *The Accounting Review* 78, 353-371.
- Feldman, S. J., 2002, Calculating Goodwill Impairment: Valuation Issues Raised by Financial Accounting Statement 142, (BizownerHQ & Bentley College, Waltham, MA).
- Financial Accounting Standards Board (FASB), 1995, Statement No. 121: Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed Of, (FASB, Norwalk).
- Financial Accounting Standards Board (FASB), 2001, Statement No. 142: Goodwill and Other Intangible Assets, (FASB, Norwalk).
- Francis, J., J. D. Hanna, and L. Vincent, 1996, Causes and Effects of Discretionary Asset Write-Offs, *Journal of Accounting Research* 34, 117-134.
- Gaver, J. J., and K. M. Gaver, 1998, Relation between Nonrecurring Accounting Transactions and CEO Cash Compensation, *The Accounting Review* 235-253.

- Ghosh, A., 2001, Does Operating Performance Really Improves Following Corporate Acquisitions?, *Journal of Corporate Finance* 7, 151-178.
- Greene, W. H., 2003. *Econometric Analysis* (Prentice Hall, Upper Saddle River, New Jersey).
- Gujarati, D., 1995, Basic Econometrics (McGraw-Hill, New York, New York).
- Gujarathi, M. R., and R. E. Hoskin, 1992, Evidence of Earnings Management by the Early Adopters of SFAS 96, *Accounting Horizons* 6, 18-32.
- Hand, J. R.M., and T. R. Skantz, 1998, The Economic Determinants of Accounting Choices: The Unique Case of Equity Carve-Outs Under SAB 51, *Journal of Accounting and Economics* 24, 175-203.
- Harbert, T., 2002, Goodwill Hunting: Companies Roll the Dice on Goodwill Impairment Charges, *Electronic Business* 27.
- Hayn, C., 1995, The Information Content of Loss, *Journal of Accounting and Economics* 20, 125-154.
- Healy, P.M., and J. M. Wahlen, 1999, A Review of the Earnings management Literature and its Implications for Standard Setting, *Accounting Horizons* 13, 365-383.
- Henning, S. L., W. H. Shaw, and T. Stock, 2002, The Amount and Timing of Goodwill Write-Offs and Revaluations: Evidence from U.S. and U.K. Firms, Working Paper (Office of the Chief Accountant, SEC, Southern Methodist University and Ohio University).
- Henry, D. and F. Jespersen, 2002, Mergers Why Most Big Deals Don't Pay Off, *Business Week* 3803, 60-66.
- Herz, R. H., T. E. Iannaconi, L. A. Maines, K. Palepu, S. G. Ryan, K. Schipper, C. M. Schrand, D. J. Skinner, and L. Vincent, 2001, Equity Valuation Models and Measuring Goodwill Impairment, *Accounting Horizons* 15, 161-170.
- Hindley, B., 1970, Separation of Ownership and Control in the Modern Corporation, *Journal of Economic Issues* 13, 185-221.
- Hirschey, M., and V. J. Richardson, 2002, Information Content of Accounting Goodwill Numbers, *Journal of Accounting and Public Policy* 21, 173-191.
- Hirschey, M., and V. J Richardson, 2003, Investor Underreaction to Goodwill Write-Offs, *Financial Analysts Journal* 59; 75-85.

- Jennings, R., J. Robinson, R. Thompson and L. Duvall, 1996, The Relation Between Accounting Goodwill Numbers and Equity Values, *Journal of Business Finance & Accounting* 23, 513-534.
- Johnson, I. T, and K. R. Petrone, 1998, Is Goodwill an Asset?, *Accounting Horizons* 293-303.
- Karleff, I., 2003, Accounting Rules Favour Canada v. U.S. - A Fox Guarding Chickens, *Financial Post* (Toronto).
- King, R., 2002, Goodwill: How Low Do You Dare to Go?; Asset Write-downs Could Affect Future Growth Prospects, Experts Warn, *The Net Economy*.
- Klein, A., 2002, Audit Committee, Board of Director Characteristics, and Earnings Management, *Journal of Accounting and Economics* 33, 375-400.
- Lang, M. and R. Lundholm, 2000, Voluntary Disclosure and Equity Offerings: Reducing Information Asymmetry or Hyping the Stock?, *Contemporary Accounting Research* 17, 623-662.
- Lee, Y., K. Petroni and M. Shen, 2004, Cherry Picking, Financial Reporting Quality, and Comprehensive Income Reporting Choices: The Case of Property-Liability Insurers, Working Paper (Michigan State University).
- Leftwich, R., 1983, Accounting Information in Private Markets: Evidence from Private Lending Agreements, *The Accounting Review* 58, 23-43.
- Legoria, J., Cagwin, D. and K. Sellers, 2000, Earnings Management in Anticipation of Debt Financing, *Accounting Enquiries* 9, 1-46.
- Lev, B., 1969, Industry Averages as Targets for Financial Ratios, *Journal of Accounting Research* 7, 290-299.
- Lev, B., 1992, Information Disclosure Strategy, *California Management Review* 9-31.
- L'Her, J.-F. and M. Magnan, 2000, Explanatory Factors Accounting for Waves of Business Amalgations, *Gestion – Revue Internationale de Gestion* 25, 119-136.
- Lindenberg, E., and M. Ross, 1999, To purchase or to pool: Does it matter?, *Journal of Applied Corporate Finance* 12, 32-47.
- Loughran, T., and A.M. Vijh, 1998, Do Long-Term Shareholders Benefit From Corporate Acquisitions?, *The Journal of Finance* 52, 1765-1790.

- Mann, W., 2004, Selecting Stocks Using ROE, The Motley Fool, <http://www.fool.com/news/commentary/2004/commentary040428bm.htm>
- Massoud, M. F., and C. A. Raiborn, 2003, Accounting for Goodwill: Are We Better Off?, *Review of Business* 24, 26-32.
- McNichols, M., 2000, Research Design Issues in Earnings Management Studies, *Journal of Accounting and Public Policy* 19, 313-347.
- Moehrle, S., J. Reynolds-Moehrle and J. Wallace, How Informative Are Earnings Numbers That Exclude Goodwill Amortization?, *Accounting Horizons* 15, 243-256.
- Nissim, D. and S. Penman, 2001, Ratio Analysis and Equity Valuation: From Research to Practice, *Review of Accounting Studies* 6, 109-154.
- Nissim, D. and S. Penman, 2003, Financial Statement Analysis of Leverage and How It Informs About Profitability and Price-to-Book Ratios, *Review of Accounting Studies* 8, 531-560.
- O'Brien, G., 2000, It's Toronto Buying Montreal: Rogers Bid for Videotron Sparks Nasty Political Battle, *Cablecaster* 12, 9.
- Ohlson, J. A., 1995, Earnings, Book Value and Dividends in Equity Valuation, *Contemporary Accounting Research* 11, 661-688.
- Ou, J., 1990, The Information Content of Nonearnings Accounting Numbers as Earnings Predictors, *Journal of Accounting Research* 28, 144-163.
- Ou, J. and S. Penman, 1989, Financial Statement Analysis and the Prediction of Stock Returns, *Journal of Accounting and Economics* 11, 295-329.
- Richardson, S., Tuna, I. and M. Wu, 2003, Predicting Earnings Management: The Case of Earnings Restatements, Working Paper (University of Pennsylvania and Hong Kong University of Science and Technology).
- Riedl, E. J., 2004, An Examination of Long-Lived Asset Impairments, *The Accounting Review* 79, 823-852.
- Schneider, C., 2001, Four Ways to Say Goodbye to Goodwill Amortization, CFO.com.
- Segal, B., 2003, Goodwill Write-Downs and the Adoption of SFAS No. 142, Working Paper (New York University).

- Sellhorn, T., 2004, Goodwill Impairment and Financial Reporting Incentives: An Empirical Investigation of Transitional Write-Offs upon Adoption of SFAS 142, Working Paper (Ruhr-Universität, Bochum).
- Silva, P., M. Hobby and M. Yee, 2001, Cox Communications, Yale School of Management, 10 pages.
- Smith, C. and J. Zimmerman, 1976, Valuing Employee Stock Options Plans Using Option Pricing Models, *Journal of Accounting Research* 14, 357-364.
- Strong, J. S., and J. R. Meyer, 1987, Asset Writedowns: Managerial Incentives and Security Returns, *The Journal of Finance* XLII, 643-663.
- Tedesco, A., 2000, Rogers Extends the Reach of Cable Net: By Merging with Videotron, Rogers Hopes to Take on Bell Canada, *Network World Canada* 10, 1.
- Teoh, S., Welch, I. and T. Wong, 1998, Earnings Management and the Underperformance of Seasoned Equity Offerings, *Journal of Financial Economics* 50, 63-99.
- Vincent, L., 1997, Equity Valuation Implications of Purchase versus Pooling Accounting, *Journal of Financial Statement Analysis* 2, 5-20.
- Walker, M. and P. Wang, 2003, Towards an Understanding of Profitability Analysis within the Residual Income Valuation Framework, *Accounting and Business Research* 33, 235-246.
- Warfield, T. and J. Wild, 1992, Accounting Recognition and the Relevance of Earnings as an Explanatory Variable for Returns, *The Accounting Review* 67, 821-842.
- Watts, R.L., and J.L. Zimmerman, 1990, Positive Accounting Theory: A Ten Year Perspective, *The Accounting Review* 65, 131-156.
- Williamson, O.E., 1967, A Dynamic Stochastic Theory of Managerial Behavior, in A. Philipps and O. Williamson, ed.: *Prices: Issues in Theory, Practice and Public Policy* (University of Pennsylvania Press, Philadelphia).
- Wu, C., and K. Ho, 1997, Financial Ratio Adjustment: Industry-Wide Effects or Strategic Management?, *Review of Quantitative Finance and Accounting* 9.
- Xie, B., W. N. Davidson, and P. J. DaDalt, 2003, Earnings Management and Corporate Governance: The Role of the Board and The Audit Committee, *Journal of Corporate Finance* 9, 295-316.
- Yermack, D., 1997, Good Timing: CEO Stock Option Awards and Company News Announcements, *The Journal of Finance* LII, 449-476.

Zang, Y., 2003, Discretionary Behavior with Respect to the Adoption of SFAS 142 and the Behavior of Security Prices, Working Paper (University of California, Berkeley).

Zucca, L. J., and D. R. Campbell, 1992, A Closer Look at Discretionary Writedowns of Impaired Assets, *Accounting Horizons* 30-41.

Figure 1 – The Impairment Test

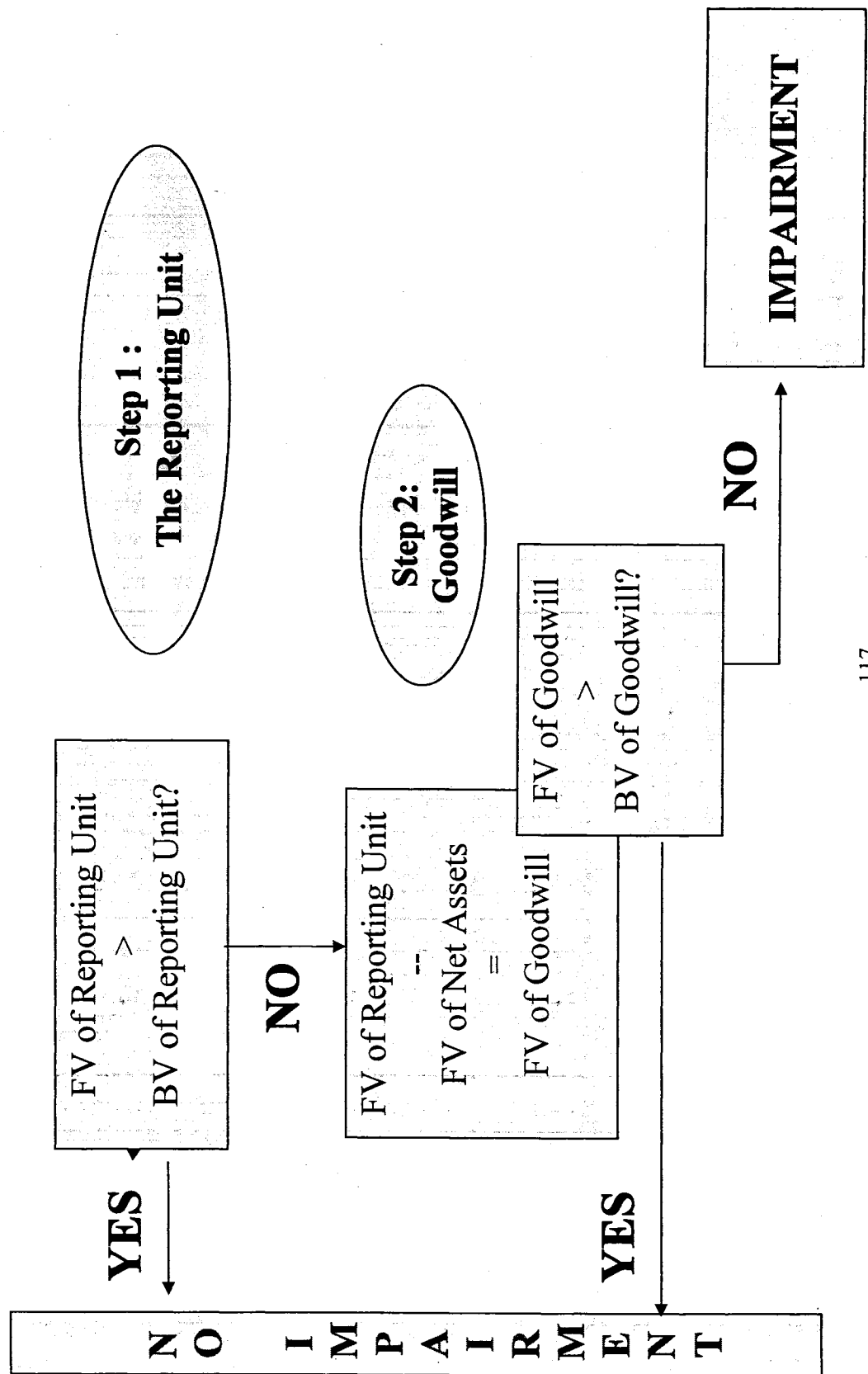


Table 1
Chronology of Events

<u>Date</u>	<u>Event</u>	<u>Vidéotron's Share Price</u>
February 1		29.00\$
February 7	A preliminary merger agreement is signed between Vidéotron and Rogers.	41.00\$
February 14	The definitive merger agreement between Vidéotron and Rogers is signed. Each Vidéotron share is to be exchanged for 0.925 Non-Voting Class B Share of Rogers, for a total deal value of 5.6 billion dollars. TVA is excluded	40.45\$
February 14	Jean-Paul Scraire, head of the CDPQ announces that the transaction is not complete and that he wants more details on TVA's future before approving the transaction.	40.45\$
March 24	The CDPQ gains a temporary injunction preventing Vidéotron's shareholders from voting on the Rogers' bid.	44.50\$
March 27	Quebecor and the CDPQ announce a joint 5.88 billion hostile takeover bid (49\$ a share) for Vidéotron, including TVA.	40.50\$
March 31	Quebecor and the CDPQ provide more details on their offer. Vidéotron's board rejects it.	39.95\$
April 10	The Chagnon family asks the court to examine the contentious shareholder agreement to decide whether it constitutes a veto.	37.00\$
June 12	The Chagnon family accuses the CDPQ of withholding key legal documents, court hearings are delayed until September.	37.10\$
August 9	Quebecor and the CDPQ announce a revised all-cash offer of 45\$ per share for a total deal value of 4.9 billion dollars.	40.00\$
September 12	Vidéotron's board approves the deal with Quebecor Media and agrees to pay Rogers a 241 million break-up fee.	43.70\$
October 23	The acquisition is completed.	44.25\$
December 4	Vidéotron's shares stop trading.	45.00\$

Table 2
Value per Subscriber and the Cable Television Segment

	<u>Cable Television Segment</u>	<u>Cogeco</u>	<u>Shaw</u>	<u>Rogers</u>
Number of subscribers	1,500,000	879,000	2,135,125	2,286,400
Market value – December 31, 2001		521.36 M\$	7,458.52 M\$	5,730.16 M\$
Value per subscriber		593.12\$	3,493.25\$	2,506.21\$
Average value per subscriber	2,197.52\$			
Cable Television Segment value based on the average value per subscriber	3,296.28 M\$			

Table 3
Estimated Transitional Goodwill Impairment Loss

Step 1: The Reporting Unit	
<i>Compare the book value of the reporting unit to its established fair value.</i>	
Established fair value of the Cable Television segment (271.9 million EBITDA * 12.1)	3,289.9
Book value of Vidéotron including goodwill (according to purchase price allocation)	<u>4,854.4</u>
Difference	<u>(1,564.5)</u>
Conclusion: Fair value is lower than book value, go to step 2.	
Step 2: Goodwill	
<i>Calculate the implied fair value of goodwill and compare the book value of goodwill to its implied fair value.</i>	
Fair value of the Cable Television segment	3,289.9
Fair value of Vidéotron's net assets other than goodwill (according to purchase price allocation)	<u>14.4</u>
Implied fair value of goodwill	3,275.5
Book value of goodwill	<u>4,604.2</u>
Estimated transitional goodwill impairment loss for the Cable Television segment	<u>1,328.7</u>
Conclusion: The expected transitional goodwill impairment loss is estimated at 1,328.7 million dollars.	

Table 4
Sample Selection

Canadian firms listed in <i>Compustat Research Insight (January 2004 version)</i>	1,620
(-) firms not listed on the TSX	(394)
(-) firms with a goodwill balance of zero as at the end of 2001	(570)
(-) firms for which it is impossible to complete the data on stock exchange, goodwill or year-end not available in Compustat (acquisitions, bankrupt, etc.)	(239)
Canadian firms listed on the TSX, with a positive goodwill balance as at the adoption year year-end	417
(-) firms reporting in US GAAP	(23)
(-) firms with incomplete data	(54)
(-) firms with negative book value	(9)
Final sample	<u>331</u>

Table 5 - Panel A
Descriptive Statistics – TGIL by Industry*

Industry Group**	Number		TGIL/Total Assets (mean)		TGIL/Goodwill (mean)	
	All	TGIL firms	All	TGIL firms	All	TGIL firms
Energy	19	3 (16%)	0.82%	5.22%	10.61%	67.17%
Materials	30	7 (23%)	0.79%	3.38%	11.03%	47.28%
Industrials	66	18 (27%)	0.91%	3.33%	10.80%	39.61%
Consumer Discretionary	56	18 (32%)	1.40%	4.36%	8.71%	27.10%
Consumer Staples	30	1 (3%)	0.04%	1.12%	2.76%	82.92%
Health Care	19	5 (26%)	2.27%	8.63%	17.32%	65.80%
Financials	40	5 (13%)	0.57%	4.57%	5.98%	47.80%
Information Technology	57	15 (26%)	3.61%	13.70%	14.27%	54.22%
Telecommunications	10	5 (50%)	4.40%	8.79%	14.05%	28.09%
Utilities	4	1 (25%)	0.001%	0.00%	0.05%	0.22%
Total	331	78 (24%)	1.49%	6.34%	10.09%	42.80%

* This table reports the size and industry distribution of TGILs recorded by the 331 sample firms.

**Industry membership is determined according to TSX Indices, as given by *Compustat*.

Table 5 - Panel B
Descriptive Statistics – TGIL by Industry – Comparison with Zang (2003)*

Industry Group**	Number			TGIL/Total Assets (mean)			TGIL/Goodwill (mean)				
	All		TGIL firms	All		TGIL firms	All		TGIL firms		
	This study	Zang (U.S.)	This study	Zang (U.S.)	This study	Zang (U.S.)	This study	Zang (U.S.)	This study		
Agriculture & Food	18	14	1 (6%)	2 (14%)	0.06%	1.5%	1.12%	10.1%	5.8%	82.92%	40.5%
Mining & Construction	4	17	0 (0%)	7 (41%)	0.00%	7.4%	0.00%	18.0%	19.8%	0.00%	48.2%
Textiles & Publishing	30	68	7 (23%)	25 (37%)	1.21%	2.8%	5.18%	7.7%	11.7%	40.28%	31.7%
Chemicals	8	34	3 (38%)	13 (38%)	1.39%	2.8%	3.70%	7.4%	18.6%	35.30%	48.7%
Pharmaceuticals	9	20	2 (22%)	4 (20%)	2.26%	4.0%	10.18%	20.0%	9.7%	57.66%	48.6%
Extractive	12	12	2 (17%)	2 (17%)	1.21%	1.2%	7.28%	7.3%	5.0%	54.19%	29.9%
Durable Manufacturers	69	248	19 (28%)	81 (33%)	1.61%	2.7%	5.86%	8.4%	13.26%	48.16%	45.9%
Transportation	31	50	10 (32%)	16 (32%)	1.57%	2.4%	4.88%	7.6%	8.44%	26.17%	50.0%
Utilities	8	12	2 (25%)	3 (25%)	0.12%	0.5%	0.48%	2.1%	2.07%	8.26%	14.7%
Retail	34	107	7 (21%)	23 (21%)	0.37%	1.9%	1.80%	9.0%	9.30%	45.18%	67.1%
Banking/Fin. services	40	44	5 (13%)	13 (30%)	0.57%	1.0%	4.57%	3.6%	5.98%	47.80%	37.7%
Services	23	111	8 (35%)	40 (36%)	2.21%	3.9%	6.37%	10.7%	12.05%	34.65%	39.8%
Computers	45	94	12 (27%)	18 (19%)	3.63%	1.5%	13.63%	8.1%	13.73%	51.47%	55.2%
Total	331	831	78 (24%)	247 (30%)	1.49%	2.6%	6.34%	8.8%	10.09%	42.80%	45.7%

* This table compares the size and industry distribution of TGILs for the sample of 331 Canadian firms considered in this dissertation and the sample of 831 U.S. firms used by Zang (2003).

** To facilitate comparisons with Zang (2003), industry membership is redefined by SIC code as follows: Agriculture and Food (0100-0999 and 2000-2111); Mining & Construction (1000-1999, excluding 1300-1399); Textiles and Printing/Publishing (2200-2799); Chemicals (2800-2824, 2840-2899); Pharmaceuticals (2830-2836); Extractive (2900-2999; 1300-1399); Durable Manufacturers (3000-3999, excluding 3570-3579 and 3670-3679); Transportation (4000-4899); Utilities (4900-4999); Retail (5000-5999); Banking and Financial Services (6000-6999); Services (7000-8999 excluding 7370-7379), and Computers (7370-7379, 3570-3579, 3670-3679)(Frankel, Johnson and Nelson, 2001).

Table 6
Expected TGILs vs. Reported TGILs*

	Zero-TGIL firms (N=253)	TGIL firms (N=78)	Total (N = 331)
Negative <i>EXCGWILL</i> (MVE < BVE)	59 (61%)	38 (39%)	97
Positive <i>EXCGWILL</i> (MVE > BVE)	194 (83%)	40 (17%)	234
Likelihood-ratio Chi2 (p-value)			17.52 (0.000)

* This table compares my expectations of whether sample firms should be recording a TGIL in the absence of reporting incentives and constraints with their actual behaviour.

Table 7
Disclosure*

	Total on balance sheet	Facts and circumstances and amount of the loss	Changes in aggregate goodwill	Changes in goodwill by segment or reporting unit	Mean score on 4
Total (N = 331)	288 (87%)	270 (82%)	208 (63%)	94 (28%)	2.60
Zero-TGIL firms (N = 253)	217 (86%)	192 (76%)	149 (59%)	62 (25%)	2.45
TGIL firms (N = 78)	71 (91%)	78 (100%)	59 (76%)	32 (41%)	3.08
Test of differences in means	0.229	0.000	0.007	0.005	0.000

* This table shows the number of firms that disclosed the information required by Section 3062, as well as their mean disclosure score out of 4.

Table 8
Descriptive Statistics – Variables*

Variable**	TGIL firms (N = 78)		Zero-TGIL firms (N=253)		Both (N=331)		Test of differences	
	Mean	Median	Mean	Median	Mean	Median	Means P > t	Medians P > X
TGIL	0.0634	0.0357	0.0000	0.0000	0.0149	0.0000		
GOODWILL	0.1969	0.1417	0.1225	0.0707	0.1400	0.0791	0.000	0.006
EXCGWILL	0.1569	0.0181	0.4855	0.2348	0.4080	0.1413	0.005	0.001
RUNITS	2.7051	2.0000	2.1779	2.0000	2.3021	2.0000	0.002	0.044
ROEI	-0.1009	0.0437	1.5786	0.0758	1.1828	0.0623	0.586	0.056
ROE3	-0.0482	0.0690	0.0241	0.0928	0.0070	0.0826	0.108	0.256
CDEBT	0.5834	0.7050	0.5586	0.6429	0.5645	0.6667	0.628	0.477
DEVROE	0.7821	1.0000	0.6008	1.0000	0.6435	1.0000	0.003	0.010
DEVROA	0.6538	1.0000	0.5020	0.0000	0.5378	1.0000	0.019	0.007
DEVLEV	0.3718	0.0000	0.4506	0.0000	0.4320	0.0000	0.221	0.049
CHANGE	0.3974	0.0000	0.2490	0.0000	0.2840	0.0000	0.011	0.016
PERBONUS	0.1844	0.1376	0.1961	0.1685	0.1933	0.1591	0.638	0.098
ITMEXERC	0.3979	0.0158	0.7080	0.1063	0.6350	0.0653	0.197	0.163
FIN	0.2436	0.0000	0.2846	0.0000	0.2749	0.0000	0.480	0.573
AC	0.4842	0.5000	0.4592	0.3333	0.4651	0.4000	0.510	0.731
AC*POS	0.2667	0.0000	0.3635	0.3333	0.3406	0.3333	0.024	0.106
BOD	1.2821	1.0000	1.2253	1.0000	1.2387	1.0000	0.541	0.967
BOD*POS	0.6667	0.0000	0.9565	1.0000	0.8882	1.0000	0.008	0.087
OWN	0.3590	0.0000	0.4941	0.0000	0.4622	0.0000	0.034	0.050
SIZE	19.0360	18.8017	18.8309	18.5913	18.8792	18.6719	0.537	0.349
CLIST	0.2308	0.0000	0.2530	0.0000	0.2477	0.0000	0.693	0.805

*This table provides descriptive statistics for the variables used in the multivariate tobit analysis, as well as the results of tests of differences in means and medians between TGIL and zero-TGIL firms.

**Variable definitions:

- TGIL = Reported transitional goodwill impairment loss deflated by lagged total assets
- GOODWILL = Opening balance of goodwill deflated by lagged total assets
- EXCGWILL = Difference between the MV and the BV of the firm in t-1 deflated by lagged total assets
- RUNITS = Number of reporting units among which the opening balance of goodwill is split
- ROEI = ROE in t-1
- ROE3 = Annualized ROE for t-3 and t-2
- CDEBT = Percentage of acquisitions financed entirely with cash and/or debt in the 5 years preceding the test
- DEVROE = 1 if pre-TGIL ROE is lower than industry median, 0 otherwise
- DEVROA = 1 if pre-TGIL ROA is lower than industry median, 0 otherwise
- DEVLEV = 1 if pre-TGIL D/E is higher than industry median, 0 otherwise
- CHANGE = 1 if there is a change in CEO in t-1 or t, 0 otherwise
- PERBONUS = Average percentage of top paid executives' compensation paid in bonus for the adoption year
- ITMEXERC = Average value of in the money exercisable stock options for the top paid executives as at the end of fiscal year t divided by their year t total annual compensation
- FIN = 1 if the firm raised new debt or equity capital in the year following the announcement of the transitional impairment test being completed, 0 otherwise
- AC = Proportion of financially literate and independent directors on the audit committee in t
- AC*POS = AC*1 if EXCGWILL > 0, 0 otherwise
- BOD = Score on 2 with 1 mark being awarded if a majority of directors are independent and 1 mark being awarded if the CEO is not the chair of the board OR if there is an independent lead director
- BOD*POS = BOD*1 if EXCGWILL > 0, 0 otherwise
- OWN = 1 if no external shareholder controls more than 20 percent of outstanding votes, 0 otherwise
- SIZE = Natural logarithm of lagged total assets
- CLIST = 1 if the firm is cross-listed in the United States, 0 otherwise

Table 9
Determinants of Transitional Goodwill Impairment Losses*

Variable**	R _H	Pred	Model including deviation from ROE		Model including deviation from ROA and leverage	
			Coeff.	P > z***	Coeff.	P > z***
GOODWILL		+	0.2783	0.000	0.2735	0.000
EXCGWILL		-	-0.0251	0.061	-0.0265	0.044
RUNITS		+	0.0080	0.093	0.0100	0.055
ROE1		-	-0.0003	0.007	-0.0003	0.008
ROE3		-	-0.0354	0.064	-0.0323	0.068
CDEBT		-	0.0040	0.852	0.0061	0.775
DEVROE	H ₁	+	0.0237	0.090		
DEVROA	H ₁	+			0.0289	0.049
DEVLEV	H ₁	-			-0.0329	0.034
CHANGE	H ₂	+	0.0391	0.008	0.0349	0.017
PERBONUS	H ₃	+	0.0007	0.493	0.0029	0.474
ITMEXERC	H ₄	-	-0.0060	0.092	-0.0065	0.073
FIN	H ₅	-	-0.0247	0.076	-0.0230	0.085
AC	H ₆	+	0.0738	0.010	0.0637	0.019
AC*POS	H ₆	-	-0.0702	0.011	-0.0615	0.020
OWN		?	-0.0285	0.093	-0.0296	0.084
SIZE		?	0.0063	0.202	0.0072	0.133
CLIST		?	-0.0361	0.070	-0.0390	0.046
INTERCEPT			-0.2218	0.040	-0.2182	0.040
N				331		331
Prob > Chi2				0.000		0.000
McFadden's Adjusted R ²				41.7%		43.9%

* This table presents the results of the multivariate tobit regression examining the determinants of the magnitude of reported TGILs in Canada. Parameter estimates are based on the following model: $TGIL_i = \alpha_0 + \lambda_1 GOODWILL_i + \lambda_2 EXCGWILL_i + \lambda_3 RUNITS_i + \lambda_4 ROE1_i + \lambda_5 ROE3_i + \lambda_6 CDEBT_i + \beta_7 DEVROE_i (DEVROA_i, DEVLEV_i) + \beta_8 CHANGE_i + \beta_9 PERBONUS_i + \beta_{10} ITMEXERC_i + \beta_{11} FIN + \beta_{12} AC_i + \beta_{13} AC*POS_i + \beta_{14} OWN_i + \beta_{15} SIZE_i + \beta_{16} CLIST_i + IND_i + \epsilon_i$

** Variable definitions:

- TGIL = Reported transitional goodwill impairment loss deflated by lagged total assets
GOODWILL = Opening balance of goodwill deflated by lagged total assets
EXCGWILL = Difference between the MV and the BV of the firm in t-1 deflated by lagged total assets
RUNITS = Number of reporting units among which the opening balance of goodwill is split
ROE1 = ROE in t-1
ROE3 = Annualized ROE for t-3 and t-2
CDEBT = Percentage of acquisitions financed entirely with cash and/or debt in the 5 years preceding the test
DEVROE = 1 if pre-TGIL ROE is lower than industry median, 0 otherwise
DEVROA = 1 if pre-TGIL ROA is lower than industry median, 0 otherwise
DEVLEV = 1 if pre-TGIL D/E is higher than industry median, 0 otherwise
CHANGE = 1 if there is a change in CEO in t-1 or t, 0 otherwise
PERBONUS = Average percentage of top paid executives' compensation paid in bonus for the adoption year
ITMEXERC = Average value of in the money exercisable stock options for the top paid executives as at the end of fiscal year t divided by their year t total annual compensation
FIN = 1 if the firm raised new debt or equity capital in the year following the announcement of the transitional impairment test being completed, 0 otherwise
AC = Proportion of financially literate and independent directors on the audit committee in t
AC*POS = AC*1 if EXCGWILL > 0, 0 otherwise
OWN = 1 if no external shareholder controls more than 20 percent of outstanding votes, 0 otherwise
SIZE = Natural logarithm of lagged total assets
CLIST = 1 if the firm is cross-listed in the United States, 0 otherwise

*** One-tailed if directional prediction, two-tailed otherwise. Z-statistics are based on robust standard errors.

Table 10
Determinants of Transitional Goodwill Impairment Losses*

Variable**	R _H	Pred	Model including deviation from ROE		Model including deviation from ROA and leverage	
			Coeff.	P > z***	Coeff.	P > z***
GOODWILL		+	0.2742	0.000	0.2702	0.000
EXCGWILL		-	-0.0272	0.055	-0.0279	0.039
RUNITS		+	0.0070	0.123	0.0090	0.073
ROE1		-	-0.0003	0.007	-0.0003	0.009
ROE3		-	-0.0327	0.079	-0.0298	0.084
CDEBT		-	0.0018	0.931	0.0038	0.857
DEVROE	H ₁	+	0.0243	0.085		
DEVROA	H ₁	+			0.0312	0.039
DEVLEV	H ₁	-			-0.0358	0.023
CHANGE	H ₂	+	0.0352	0.015	0.0312	0.029
PERBONUS	H ₃	+	0.0022	0.479	0.0050	0.453
ITMEXERC	H ₄	-	-0.0065	0.080	-0.0068	0.069
FIN	H ₅	-	-0.0268	0.065	-0.0253	0.070
BOD	H ₇	+	0.0268	0.016	0.0271	0.014
BOD*POS	H ₇	-	-0.0225	0.030	-0.0205	0.041
OWN		?	-0.0304	0.070	-0.0318	0.061
SIZE		?	0.0067	0.161	0.0075	0.105
CLIST		?	-0.0376	0.056	-0.0400	0.037
INTERCEPT			-0.2287	0.035	-0.2248	0.020
N				331		331
Prob > Chi2				0.000		0.000
McFadden's Adjusted R ²				40.8%		44.1%

* This table presents the results of the multivariate tobit regression examining the determinants of the magnitude of reported TGILs in Canada. Parameter estimates are based on the following model: $TGIL_t = \alpha_0 + \lambda_1 GOODWILL_t + \lambda_2 EXCGWILL_t + \lambda_3 RUNITS_t + \lambda_4 ROE1_t + \lambda_5 ROE3_t + \lambda_6 CDEBT_t + \beta_7 DEVROE_t (DEVROA_t, DEVLEV_t) + \beta_8 CHANGE_t + \beta_9 PERBONUS_t + \beta_{10} ITMEXERC_t + \beta_{11} FIN_t + \beta_{12} BOD_t + \beta_{13} BOD*POS_t + \beta_{14} OWN_t + \beta_{15} SIZE_t + \beta_{16} CLIST_t + IND_t + \varepsilon_t$

** Variable definitions:

- TGIL = Reported transitional goodwill impairment loss deflated by lagged total assets
- GOODWILL = Opening balance of goodwill deflated by lagged total assets
- EXCGWILL = Difference between the MV and the BV of the firm in t-1 deflated by lagged total assets
- RUNITS = Number of reporting units among which the opening balance of goodwill is split
- ROE1 = ROE in t-1
- ROE3 = Annualized ROE for t-3 and t-2
- CDEBT = Percentage of acquisitions financed entirely with cash and/or debt in the 5 years preceding the test
- DEVROE = 1 if pre-TGIL ROE is lower than industry median, 0 otherwise
- DEVROA = 1 if pre-TGIL ROA is lower than industry median, 0 otherwise
- DEVLEV = 1 if pre-TGIL D/E is higher than industry median, 0 otherwise
- CHANGE = 1 if there is a change in CEO in t-1 or t, 0 otherwise
- PERBONUS = Average percentage of top paid executives' compensation paid in bonus for the adoption year
- ITMEXERC = Average value of in the money exercisable stock options for the top paid executives as at the end of fiscal year t divided by their year t total annual compensation
- FIN = 1 if the firm raised new debt or equity capital in the year following the announcement of the transitional impairment test being completed, 0 otherwise
- BOD = Score on 2 with 1 mark being awarded if a majority of directors are independent and 1 mark being awarded if the CEO is not the chair of the board OR if there is an independent lead director
- BOD*POS = BOD*1 if EXCGWILL > 0, 0 otherwise
- OWN = 1 if no external shareholder controls more than 20 percent of outstanding votes, 0 otherwise
- SIZE = Natural logarithm of lagged total assets
- CLIST = 1 if the firm is cross-listed in the United States, 0 otherwise

*** One-tailed if directional prediction, two-tailed otherwise. Z-statistics are based on robust standard errors.

Table 11
Descriptive Statistics*

<u>Variable**</u>	<u>Mean</u>	<u>Median</u>	<u>Minimum</u>	<u>Maximum</u>
Panel A: Value-Relevance				
<i>MVAL</i>	12.5843	7.3500	0.0200	220.0000
<i>BV</i>	6.9568	3.5787	-95.0299	330.0482
<i>NI</i>	0.4193	0.2800	-23.2000	13.4100
<i>GWILL</i>	3.0547	0.7685	0.0000	142.9860
<i>TGIL</i>	-0.2891	0.0000	-18.3108	0.0000
<i>AGIL</i>	-0.0837	0.0000	-3.8874	0.0000
<i>BOD</i>	1.2446	1.0000	0.0000	2.0000
<i>TGIL*BOD</i>	-0.3603	0.0000	-18.3108	0.0000
<i>TGIL*EXPECT</i>	-0.1939	0.0000	-18.3108	0.0000
<i>DISC</i>	2.6372	3.0000	0.0000	4.0000
<i>TGIL*DISC</i>	-0.8806	0.0000	-72.6271	0.0000
<i>TGIL*RUNIT</i>	-0.1044	0.0000	-18.1568	0.0000
Panel B : Timeliness				
<i>TGIL</i>	-0.0363	0.0000	-1.6659	0.0000
<i>AGIL</i>	-0.0119	0.0000	-0.5178	0.0000
<i>RET_t</i>	0.0056	-0.0194	-0.9869	4.2381
<i>RET_{t-1}</i>	0.0693	0.0000	-0.9592	3.1556
<i>RET_{t-2}</i>	0.1923	-0.0355	-0.9660	29.0000

* This table presents descriptive statistics for the variables included in the value-relevance and timeliness models.

** Variable definitions (all variables are scaled by the number of common shares outstanding at the end of the year in which the transitional goodwill impairment test is completed for the value-relevance tests and all per share amounts are scaled by share price at the beginning of the period for the timeliness tests):

- MVAL* = Market value of equity at the end of the year in which the transitional goodwill impairment test is completed
- BV* = Book value of equity at the end of the year in which the transitional goodwill impairment test is completed minus goodwill at the end of that same year
- NI* = Earnings before extraordinary items for the year in which the transitional goodwill impairment test is completed plus the reported AGIL
- GWILL* = Goodwill at the end of the year in which the transitional goodwill impairment test is completed plus the reported TGIL and AGIL
- TGIL* = Reported TGIL, expressed as a negative number
- AGIL* = Reported AGIL for the year in which the transitional goodwill impairment test is completed, expressed as a negative number
- BOD* = Score on 2 with 1 mark being awarded if a majority of directors are independent and 1 mark being awarded if the CEO is not the chair of the board OR if there is an independent lead director
- TGIL*BOD* = Interaction term between *GOV* and reported TGIL
- TGIL*EXPECT* = Reported TGIL * 1 if $MV < BV$ and a TGIL is reported or $MV > BV$ and no TGIL is reported; 0 otherwise
- DISC* = Four point disclosure score with 1 mark being awarded if 1) the goodwill balance

is disclosed separately on the balance sheet; 2) the facts and circumstances leading to the impairment and the amount of the impairment loss are disclosed in a note; 3) the changes in the aggregate carrying amount of goodwill during the period are disclosed in a note; and 4) the changes in the carrying amount of goodwill for each reporting unit or segment are disclosed in a note.

<i>TGIL*DISC</i>	=	Interaction term between <i>DISC</i> and reported <i>TGIL</i>
<i>TGIL*RUNIT</i>	=	<i>TGIL</i> * 1 if the discloses the changes in the carrying amount of goodwill for each reporting unit or segment in a note; 0 otherwise
<i>TGIL</i>	=	Reported <i>TGIL</i> , expressed as a negative number
<i>AGIL</i>	=	Reported <i>AGIL</i> , expressed as a negative number
<i>RET_t</i>	=	Cumulative annual return for adoption year
<i>RET_{t-1}</i>	=	Cumulative annual return for the year preceding the adoption year
<i>RET_{t-2}</i>	=	Cumulative annual return for the second year preceding the adoption year

Table 12
Pearson Correlation Matrix*

Panel A: Value-Relevance												
	<i>MVAL</i>	<i>BV</i>	<i>NI</i>	<i>GWILL</i>	<i>TGIL</i>	<i>AGIL</i>	<i>BOD</i>	<i>TGIL*</i> <i>BOD</i>	<i>TGIL*</i> <i>EXP</i>	<i>DISC</i>	<i>TGIL*</i> <i>DISC</i>	<i>TGIL*</i> <i>RNIT</i>
<i>MVAL</i>	1.00											
<i>BV</i>	0.73	1.00										
<i>NI</i>	0.52	0.37	1.00									
<i>GWILL</i>	0.15	-0.17	0.12	1.00								
<i>TGIL</i>	0.01	0.16	0.13	-0.70	1.00							
<i>AGIL</i>	0.01	0.08	-0.03	-0.45	0.33	1.00						
<i>BOD</i>	0.07	0.05	0.11	-0.03	0.01	0.00	1.00					
<i>TGIL*</i> <i>BOD</i>	-0.02	0.13	0.09	-0.64	0.95	0.31	-0.05	1.00				
<i>TGIL*</i> <i>EXP</i>	0.04	0.17	0.17	-0.66	0.92	0.24	0.04	0.79	1.00			
<i>DISC</i>	-0.03	-0.08	-0.02	0.14	-0.08	-0.20	-0.01	-0.08	-0.04	1.00		
<i>TGIL*</i> <i>DISC</i>	-0.01	0.20	0.03	-0.83	0.95	0.41	0.01	0.91	0.87	-0.12	1.00	
<i>TGIL*</i> <i>RNIT</i>	-0.01	0.22	-0.08	-0.85	0.64	0.43	0.01	0.57	0.64	-0.14	0.82	1.00

Panel B: Timeliness					
	<i>TGIL</i>	<i>AGIL</i>	<i>RET_t</i>	<i>RET_{t-1}</i>	<i>RET_{t-2}</i>
<i>TGIL</i>	1.0000				
<i>AGIL</i>	0.1742	1.0000			
<i>RET_t</i>	-0.0200	0.0945	1.0000		
<i>RET_{t-1}</i>	0.1121	0.1053	0.0171	1.0000	
<i>RET_{t-2}</i>	0.0489	0.0371	-0.1208	-0.0315	1.0000

* This table presents correlations between the variables included in the value-relevance and timeliness models. Figures in **bold** denote significance at the 5% level.

** Variable definitions (all variables are scaled by the number of common shares outstanding at the end of the year in which the transitional goodwill impairment test is completed for the value-relevance tests and all per share amounts are scaled by share price at the beginning of the period for the timeliness tests):

- MVAL* = Market value of equity at the end of the year in which the transitional goodwill impairment test is completed
- BV* = Book value of equity at the end of the year in which the transitional goodwill impairment test is completed minus goodwill at the end of that same year
- NI* = Earnings before extraordinary items for the year in which the transitional goodwill impairment test is completed plus the reported *AGIL*
- GWILL* = Goodwill at the end of the year in which the transitional goodwill impairment test is completed plus the reported *TGIL* and *AGIL*
- TGIL* = Reported *TGIL*, expressed as a negative number
- AGIL* = Reported *AGIL* for the year in which the transitional goodwill impairment test is completed, expressed as a negative number
- BOD* = Score on 2 with 1 mark being awarded if a majority of directors are independent and 1 mark being awarded if the CEO is not the chair of the board OR if there is an independent lead director
- TGIL*BOD* = Interaction term between *GOV* and reported *TGIL*
- TGIL*EXPECT* = Reported *TGIL* * 1 if $MV < BV$ and a *TGIL* is reported or $MV > BV$ and no *TGIL* is reported; 0 otherwise
- DISC* = Four point disclosure score with 1 mark being awarded if 1) the goodwill balance

is disclosed separately on the balance sheet; 2) the facts and circumstances leading to the impairment and the amount of the impairment loss are disclosed in a note; 3) the changes in the aggregate carrying amount of goodwill during the period are disclosed in a note; and 4) the changes in the carrying amount of goodwill for each reporting unit or segment are disclosed in a note.

<i>TGIL*DISC</i>	=	Interaction term between <i>DISC</i> and reported <i>TGIL</i>
<i>TGIL*RUNIT</i>	=	<i>TGIL</i> * 1 if the discloses the changes in the carrying amount of goodwill for each reporting unit or segment in a note; 0 otherwise
<i>TGIL</i>	=	Reported <i>TGIL</i> , expressed as a negative number
<i>AGIL</i>	=	Reported <i>AGIL</i> , expressed as a negative number
<i>RET_t</i>	=	Cumulative annual return for adoption year
<i>RET_{t-1}</i>	=	Cumulative annual return for the year preceding the adoption year
<i>RET_{t-2}</i>	=	Cumulative annual return for the second year preceding the adoption year

Table 13
Value-Relevance of Goodwill, TGILs and AGILs*

Variable**	Predicted Sign	Coefficient	P > t ***
<i>BV</i>	+	0.9660	0.000
<i>NI</i>	+	1.2567	0.004
<i>GWILL</i>	+	1.5144	0.000
<i>TGIL</i>	+	2.9722	0.006
<i>AGIL</i>	+	4.6249	0.000
<i>Intercept</i>	+	2.9006	0.000
N			337
R ²			65.14%
F-statistic (p-value)			22.380 (0.000)

* This table presents the results of the ordinary least square regression examining the value-relevance of goodwill and reported goodwill impairment losses in Canada. Parameter estimates are based on the following model: $MVAL_i = \beta_0 + \beta_1 BV_i + \beta_2 NI_i + \beta_3 GWILL_i + \beta_4 TGIL_i + \beta_5 AGIL_i + \varepsilon_i$

** Variable definitions (all variables are scaled by common shares outstanding at the end of the adoption year):

- MVAL* = Market value of equity at the end of the year in which the transitional goodwill impairment test is completed
- BV* = Book value of equity at the end of the year in which the transitional goodwill impairment test is completed minus goodwill at the end of that same year
- NI* = Earnings before extraordinary items for the year in which the transitional goodwill impairment test is completed plus the reported AGIL
- GWILL* = Goodwill at the end of the year in which the transitional goodwill impairment test is completed plus the reported TGIL and AGIL
- TGIL* = Reported TGIL, expressed as a negative number
- AGIL* = Reported AGIL for the year in which the transitional goodwill impairment test is completed, expressed as a negative number.

***One-tailed if directional prediction, two-tailed otherwise. t-statistics are based on robust standard errors.

Table 14
Value-Relevance of TGILs – Additional Analyses

Variable**		Governance Quality (1)		Behaves as Predicted (2)		Disclosure Score (3)		Discloses Reporting Unit Allocation (4)	
		Coeff.	P > t ...	Coeff.	P > t	Coeff.	P > t	Coeff.	P > t
<i>BV</i>	+	0.9671	0.000	0.9573	0.000	0.9097	0.000	0.9682	0.000
<i>NI</i>	+	1.2495	0.004	1.2971	0.004	1.8085	0.011	1.2479	0.005
<i>GWILL</i>	+	1.5543	0.000	1.4842	0.000	1.4656	0.000	1.5189	0.000
<i>TGIL</i>	+	6.2879	0.001	1.7061	0.040	2.3393	0.028	2.8946	0.008
<i>AGIL</i>	+	4.4345	0.000	5.0506	0.000	4.2452	0.001	4.5025	0.000
<i>BOD</i>	?	-0.3072	0.706						
<i>TGIL*BOD</i>	?	-2.0648	0.015						
<i>TGIL*EXPECT</i>	?			3.0613	0.003				
<i>DISC</i>	?					-0.1071	0.833		
<i>TGIL*DISC</i>	?					0.2452	0.615		
<i>TGIL*RUNIT</i>	?							0.7294	0.598
<i>Intercept</i>	+	3.3478	0.001	3.0786	0.000	3.3055	0.020	2.8998	0.000
N			319		337		334		335
R ²			66.22%		65.84%		66.06%		65.10%
F-statistic			20.98		20.74		24.12		22.67
(p-value)			(0.000)		(0.000)		(0.000)		(0.000)

* This table presents the results of the ordinary least square regression examining the value-relevance of goodwill and reported goodwill impairment losses in Canada. Parameter estimates are based on the following models:

$$(1) MVAL_i = \beta_0 + \beta_1 BV_i + \beta_2 NI_i + \beta_3 GWILL_i + \beta_4 TGIL_i + \beta_5 AGIL_i + \beta_6 BOD_i + \beta_7 TGIL*BOD_i + \varepsilon_i$$

$$(2) MVAL_i = \beta_0 + \beta_1 BV_i + \beta_2 NI_i + \beta_3 GWILL_i + \beta_4 TGIL_i + \beta_5 AGIL_i + \beta_6 TGIL*EXPECT_i + \varepsilon_i$$

$$(3) MVAL_i = \beta_0 + \beta_1 BV_i + \beta_2 NI_i + \beta_3 GWILL_i + \beta_4 TGIL_i + \beta_5 AGIL_i + \beta_6 DISC_i + \beta_7 TGIL*DISC_i + \varepsilon_i$$

$$(4) MVAL_i = \beta_0 + \beta_1 BV_i + \beta_2 NI_i + \beta_3 GWILL_i + \beta_4 TGIL_i + \beta_5 AGIL_i + \beta_6 TGIL*RUNIT_i + \varepsilon_i$$

** Variable definitions (all variables are scaled by the number of common shares outstanding at the end of the year in which the transitional goodwill impairment test is completed):

MVAL = Market value of equity at the end of the year in which the transitional goodwill impairment test is completed

BV = Book value of equity at the end of the year in which the transitional goodwill impairment test is completed minus goodwill at the end of that same year

NI = Earnings before extraordinary items for the year in which the transitional goodwill impairment test is completed plus the reported AGIL

GWILL = Goodwill at the end of the year in which the transitional goodwill impairment test is completed plus the reported TGIL and AGIL

TGIL = Reported TGIL, expressed as a negative number

AGIL = Reported AGIL for the year in which the transitional goodwill impairment test is completed, expressed as a negative number

- BOD* = Score on 2 with 1 mark being awarded if a majority of directors are independent and 1 mark being awarded if the CEO is not the chair of the board OR if there is an independent lead director
- TGIL*BOD* = Interaction term between *GOV* and reported TGIL
- TGIL*EXPECT* = Reported TGIL * 1 if $MV < BV$ and a TGIL is reported or $MV > BV$ and no TGIL is reported; 0 otherwise
- DISC* = Four point disclosure score with 1 mark being awarded if 1) the goodwill balance is disclosed separately on the balance sheet; 2) the facts and circumstances leading to the impairment and the amount of the impairment loss are disclosed in a note; 3) the changes in the aggregate carrying amount of goodwill during the period are disclosed in a note; and 4) the changes in the carrying amount of goodwill for each reporting unit or segment are disclosed in a note.
- TGIL*DISC* = Interaction term between *DISC* and reported TGIL
- TGIL*RUNIT* = TGIL * 1 if the discloses the changes in the carrying amount of goodwill for each reporting unit or segment in a note; 0 otherwise

***One-tailed if directional prediction, two-tailed otherwise. t-statistics are based on robust standard errors.

Table 15
Change in Value-Relevance*

Variable**	Predicted Sign	Goodwill at the end (1)		Goodwill before all 2002 impairment losses (2)	
		Coefficient	P > t ***	Coefficient	P > t
<i>BV</i>	+	0.9433	0.000	0.9030	0.000
<i>NI</i>	+	1.4152	0.006	1.7593	0.002
<i>GWILLEND</i>	+	1.3371	0.000		
<i>GWILLPRE</i>	+			1.0970	0.000
<i>Intercept</i>	+	2.8485	0.000	3.1345	0.000
N			337		337
R ²			63.81%		62.02%
F-statistic (p-value)			36.63 (0.000)	-	35.64 (0.000)
Davidson-MacKinnon J test****					
H ₀ : (1)	p < 0.3229, accept (1)				
H ₁ : (2)					
H ₀ : (2)	p < 0.0143, reject (2)				
H ₁ : (1)					
Conclusion : Accept (1), reject (2)					

* This table presents the results of the ordinary least square regression examining the value-relevance of goodwill in Canada. Parameter estimates are based on the following models:

$$(1) MVAL_i = \beta_0 + \beta_1 BV_i + \beta_2 NI_i + \beta_3 GWILLEND_i + \varepsilon_i$$

$$(2) MVAL_i = \beta_0 + \beta_1 BV_i + \beta_2 NI_i + \beta_3 GWILLPRE_i + \varepsilon_i$$

** Variable definitions (all variables are scaled by the number of common shares outstanding at the end of the year in which the transitional goodwill impairment test is completed):

MVAL = Market value of equity at the end of the year in which the transitional goodwill impairment test is completed

BV = Book value of equity at the end of the year in which the transitional goodwill impairment test is completed minus goodwill at the end of that same year

NI = Earnings before extraordinary items for the year in which the transitional goodwill impairment test is completed plus the reported AGIL

GWILLEND = Goodwill at the end of the year in which the transitional goodwill impairment test is completed

GWILLPRE = Goodwill at the end of the year in which the transitional goodwill impairment test is completed plus the reported TGIL and AGIL

***One-tailed if directional prediction, two-tailed otherwise. t-statistics are based on robust standard errors.

**** The Davidson-MacKinnon J test of nonnested models tests whether the alternative model has explanatory power over and above the null model by including predicted values from the alternative model in the null model. If the predicted values are significant, then the model of the null hypothesis is rejected. If the predicted values are not significant, then the model of the null hypothesis cannot be rejected. The test must be done on the reversed hypotheses. It is impossible to get a clear answer if the test leads to the acceptance or rejection of both models.

Table 16
Timeliness of TGILs*

Variable**	TGIL (1)		AGIL (2)	
	Coefficient	P > t ***	Coefficient	P > t
RET_t	-0.0027	0.704	0.0073	0.020
RET_{t-1}	0.0271	0.026	0.0102	0.023
RET_{t-2}	0.0134	0.012	0.0048	0.030
<i>Intercept</i>	-0.0361	0.000	-0.0127	0.000
N		339		339
R ²		1.67%		2.50%
F-statistic (p-value)		2.08 (0.103)		2.84 (0.038)

*This table presents the results of the ordinary least square regression examining the timeliness of TGILs in Canada. Parameter estimates are based on the following models:

$$(1) TGIL_t = \beta_0 + \beta_1 RET_t - \beta_2 RET_{t-1} + \beta_3 RET_{t-2} + \varepsilon_t$$

$$(2) AGIL_t = \beta_0 + \beta_1 RET_t - \beta_2 RET_{t-1} + \beta_3 RET_{t-2} + \varepsilon_t$$

** Variable definitions (all per share amounts are scaled by share price at the beginning of the period):

TGIL = Reported TGIL, expressed as a negative number

AGIL = Reported AGIL, expressed as a negative number

RET_t = Cumulative annual return for adoption year

RET_{t-1} = Cumulative annual return for the year preceding the adoption year

RET_{t-2} = Cumulative annual return for the second year preceding the adoption year

***One-tailed if directional prediction, two-tailed otherwise. t-statistics are based on robust standard errors.

Table 17
Value-Relevance of TGILs – Sensitivity Analysis *

Variable**	Predicted Sign	Profit firms		Loss firms	
		Coefficient	P > t ***	Coefficient	P > t ***
<i>BV</i>	+	0.4319	0.000	0.7295	0.000
<i>NI</i>	+	5.4050	0.000	0.1735	0.013
<i>GWILL</i>	+	0.7714	0.000	1.0376	0.000
<i>TGIL</i>	+	2.0829	0.044	1.0786	0.000
<i>AGIL</i>	+	5.1009	0.000	1.7470	0.026
<i>Intercept</i>	+	3.5789	0.000	1.0515	0.001
N			203		113
R ²			91.54%		65.91%
F-statistic (p-value)			1321.04 (0.000)		27.800 (0.000)

* This table presents the results of the ordinary least square regression examining the value-relevance of goodwill and reported goodwill impairment losses in Canada. Parameter estimates are based on the following model: $MVAL_i = \beta_0 + \beta_1 BV_i + \beta_2 NI_i + \beta_3 GWILL_i + \beta_4 TGIL_i + \beta_5 AGIL_i + \varepsilon_i$

** Variable definitions (all variables are scaled by the number of common shares outstanding at the end of the year in which the transitional goodwill impairment test is completed):

- MVAL* = Market value of equity at the end of the year in which the transitional goodwill impairment test is completed
- BV* = Book value of equity at the end of the year in which the transitional goodwill impairment test is completed minus goodwill at the end of that same year
- NI* = Earnings before extraordinary items for the year in which the transitional goodwill impairment test is completed plus the reported AGIL
- GWILL* = Goodwill at the end of the year in which the transitional goodwill impairment test is completed plus the reported TGIL and AGIL
- TGIL* = Reported TGIL, expressed as a negative number
- AGIL* = Reported AGIL for the year in which the transitional goodwill impairment test is completed, expressed as a negative number

***One-tailed if directional prediction, two-tailed otherwise. t-statistics are based on robust standard errors.

Appendix A
The Impairment Test - A Numerical Example

Let us assume that firm A has three reporting units, Unit A, Unit B and Unit C.

	Unit A	Unit B	Unit C
A) Balance Sheet Information			
Current Assets	\$100	\$250	\$450
Fixed Assets	\$500	\$550	\$750
Goodwill	\$150	\$100	\$350
	<u> </u>	<u> </u>	<u> </u>
Total Assets and Book Value of Equity	<u> </u> <u> </u>	<u> </u> <u> </u>	<u> </u> <u> </u>

B) Fair Value Information

The fair value of each reporting unit was established using the discounted cash flows method

\$800	\$850	\$1 250
<u> </u>	<u> </u>	<u> </u>

C) The Impairment Test

Step 1 : The Reporting Unit

Compare the book value of the reporting unit to its established fair value

Established fair value of reporting unit	\$800	\$850	\$1 250
Book value of reporting unit	\$750	\$900	\$1 550
	<u> </u>	<u> </u>	<u> </u>
Difference	<u> </u> \$50	<u> </u> -\$50	<u> </u> -\$300

Conclusion

No impairment

Go to step 2

Go to step 2

Step 2 : Goodwill

Calculate the implied fair value of goodwill

Fair value of reporting unit	\$850	\$1 250
Fair value of net assets other than goodwill (as established)	\$750	\$1 050
	<u> </u>	<u> </u>
Implied fair value of goodwill	<u> </u> \$100	<u> </u> \$200

Compare the book value of goodwill to its implied fair value

Implied fair value of goodwill	\$100	\$200
Book value of goodwill	\$100	\$350
	<u> </u>	<u> </u>
Difference	<u> </u> \$0	<u> </u> -\$150

Conclusion

No impairment

Impairment loss