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LETTER FROM THE EDITOR

This edition of *The Journal of Business Valuation* features papers presented at the 2013 CICBV Eastern Regional Conference held in Ottawa, ON and the 2013 CICBV Western Regional Conference held in Whistler, BC, the winning paper from the 2013 Ian R. Campbell Research Competition as well as member-submitted papers and articles from other well-respected authors.

The topics included in this edition are at the forefront of the North American Valuation profession both in theory and practice. Readers are reminded that the papers contained in *The Journal of Business Valuation* are not the opinions of the Institute, but rather of the authors who submitted papers for this journal.

I hope you will find this edition both interesting and educational.

I would like to thank all the authors who submitted papers for consideration and the Institute's volunteers and staff who made this edition possible.

Gord McFarlane, CA, CBV
Editor

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VALUING RESTRICTED SHARES AND RESTRICTED SHARE UNITS: A CRITICAL RE-EXAMINATION*

*by Ephraim Stulberg, CPA, CA, CBV, CFF***

Introduction

Restricted shares and restricted share units ("RSUs")[1] commonly form an important part of the wealth of individuals employed by public corporations in executive- and management-level positions. Valuation professionals are often called upon to value such shares for a variety of purposes, such as in connection with the division of net family property upon the breakdown of marriage or to assist companies in pricing a new equity issue. In this article, I suggest that a commonly used approach to value restricted shares — known as the "Protective Put Option Method" — is incorrect from both a theoretical and practical standpoint. I proceed to analyze various alternative methodologies that might be used in its stead.

1. The Protective Put Option Method

Restricted shares differ from the "regular" shares purchased and sold by members of the public in two major respects, each of which should impact value:

1. The shares vest over a period of time, and may not be sold until they vest; and,
2. Some or all of the shares may be forfeited upon the termination of the shareholder's employment.

The conceptual treatment of the risk of termination is relatively straightforward; the valuator need simply discount the value of the restricted stock by the cumulative probability of termination.[2] Statistics for average employee tenure are sometimes available from companies.

The restriction on the sale of the shares, by contrast, is a more complex aspect to value or discount. Based on our observation, it is common practice for valuators to discount restricted shares based on the notional cost of "insuring" the value of the shares as at the Valuation Date by purchasing a "put option"[3] with a strike price equal to the Valuation Date share price and an expiration date coincident with the date of the termination of the restriction or vesting period. By

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* This article is based in part on a series of articles published in the newsletter *Money and Family Law*, published by Carswell.

** Manager, Matson, Driscoll and Damico Ltd.

1 Restricted shares are shares issued to an individual that cannot be sold for a period of time.

Restricted share units are notional rights, or "units," granted to an individual that are convertible into a certain number of shares of company stock based on the market price of the stock at the time of issuance of the units.

In this article I do not differentiate between restricted shares and restricted share units.

2 A similar procedure is used in the valuation of employee stock options. See John C. Hull and Alan White, "How to Value Employee Stock Options," *Financial Analysts Journal*, 60:1, pp. 114-119.

3 A put option is a contract that gives the holder the right — but not the obligation — to sell his or her shares at a particular price, known as the "strike price."

purchasing a put option, the holder of the restricted shares would be guaranteed to be able to sell the shares upon expiry of the restriction period for no less than the strike price.

For example, suppose Jim owns 1,000 restricted shares of ABC Corp. at the Valuation Date. If the market price of an unrestricted share of ABC Corp. on the Valuation Date was $50 and the price to purchase a "put option" with a strike price of $50 at the end of one year was $10, then the discount to be applied in valuing a restricted share of ABC Corp. would be $10/$50 = 20% per year of restriction.

This approach appears to have been first suggested in a 1993 article by David Chaffee, and has found support from a number of other authors.[4] It has also been used by various public companies to value share-based payments for accounting purposes.[5]

Below, I note two significant objections to this approach. One objection is theoretical, while the other is practical in nature. Based on these objections, I conclude that the "Protective Put Option Method" is not an appropriate method for valuing restricted shares.

A. Over-insurance

As several academic studies have concluded, conceptually the "Protective Put Option Method" overestimates the appropriate discount to be applied to restricted stock.[6] The objection is as follows:

Consider Jim and his 1,000 shares of ABC Corp. from our example above. The "Protective Put Option Method" implicitly argues that Jim would be indifferent between holding either: a) 1,000 unrestricted shares of ABC, or b) the combination of 1,000 restricted shares of ABC plus a put option with an exercise price equal to the current market price on the unrestricted share. Expressed as an equation, it argues that:

(1) Unrestricted shares = Restricted shares + Put

Or, rearranging:

(2) Unrestricted shares – Put = Restricted shares

This equation is incorrect. To illustrate the problem, consider that an investor who holds the unrestricted shares is faced with two choices. He can either sell the shares, in which case he foregoes any future benefit of price increases, while also avoiding the risk of price declines; or he can hold the shares, in which case he will benefit from any rise in the share price, but will also suffer a loss if the share price declines.

The investor holding the combination of the restricted shares and the put option, on the other hand, will benefit from any increase in the share price between the Valuation Date and the date at which the restriction ends; should the stock decline in value, however, this investor is protected from any downside risk. The holder of the package consisting of restricted shares plus the put option is clearly in a better position than the holder of the unrestricted shares: he retains all of the benefits of owning the shares (i.e. the potential for price increases), while avoiding all of the downside. As explained by one recent critic of the approach:

> This method … is dubious because the fair market value of a package amounting to a security plus an insurance policy against downside risk is not the fair market value of the security alone …. In

4 David Chaffee, "Option Pricing as a Proxy for Discount for Lack of Marketability in Private Company Valuations," *Business Valuation Review*, 1993, pp. 182-188.

See also James A. DeBresser, "Valuing Restricted Stock," *Business Valuation Digest*, 5:2 (November 1999).

5 For example, see the 2009 10-K report of Boise Inc. (pp. 34-35).

6 See, for instance, David Tabak, "A CAPM-based Approach to Calculating Illiquidity Discounts," NERA Economic Consulting, Working Paper, 2002; Robert Comment, "Revisiting the Illiquidity Discount for Private Companies: A New (and 'Skeptical') Restricted Stock Study," *Journal of Applied Corporate Finance*, 24:1 (Winter 2012); Aswath Damodaran, "Marketability and Value: Measuring the Illiquidity Discount," Working Paper, 2005.

short, while buying a put option will mitigate the consequences of a minimum holding period, it can be a great overkill.[7]

B. Practical Limitations

The other objection to the "Protective Put Option Method" is practical. The method is based on an artificial construct. It argues that, if the restricted share carried with it insurance against price decreases, it would be the equivalent of an unrestricted share; it therefore follows that the "value to owner"[8] of the restricted share is the same as that of the unrestricted share, minus the cost of this insurance. But what if such insurance is simply unavailable? The "Protective Put Option Method" is silent on how the owner of a restricted share would value his or her shares in such a situation. And this situation is very common.

While equity options are available for a large number of public companies, most such options are of a relatively short duration. While the Chicago Board Options Exchange has, in the past decade or two, introduced long term option contracts called LEAPS for various individual equity securities,[9] often it may be impossible to purchase options of sufficient duration to actually carry out the type of hedge contemplated by the "Protective Put Option Methodology."

There are other reasons why such a hedge may not be feasible. For example, the *Canada Business Corporations Act* (s. 130) prohibits any employee of a corporation subject to that Act from short selling company stock, buying a put option or selling a call option. Moreover, some corporations have policies that prevent employees from hedging their holdings of company stock, be they restricted or unrestricted shares. For example, Procter and Gamble "prohibits pledging, collars, short sales, hedging investments and other derivative transactions involving Company stock."[10]

2. How To Discount Properly Using Hedges

In the previous section, we argued that the method commonly used to value restricted shares, known as the "Protective Put Option Method," is flawed. We noted that the purchase of a Protective Put would over-insure the holder of the restricted share, protecting him or her from the downside risk of the stock while preserving the upside potential; as a result, the holder of a put option and a restricted share is in a much better position than the holder of a corresponding unrestricted share.

In this section, we present several alternatives for approaching the issue of restricted share valuation through the use of hedging strategies. None of what follows should be construed as practical or legal advice; individuals contemplating implementing these hedging strategies should consult their financial and/or legal advisors.

A. Methods

The purchase of put options to insure the downside risk of the restricted stock is a case of "over-insurance." However, there are several other ways in which executives and senior employees can hedge and effectively "lock-in" the value of their shares, removing the risks associated with trading restrictions. These include:

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7 Comment, *supra*, note 6.

8 We define the term "value to owner" as the amount that the holder of the restricted shares would be willing to pay not to be deprived of the benefits of ownership of the restricted shares.

We employ this term, rather than the term "fair market value," as the term "fair market value" (as defined by Canadian courts) applies only to assets that can be bought and sold.

9 http://www.cboe.com/products/leaps.aspx.

10 See the discussion in Bebchuk and Fried, "How to Tie Equity Compensation to Long-Term Results," *Journal of Applied Corporate Finance*, 22(1), Winter 2010.

- Zero cost collars;
- Short selling; and,
- Equity swaps.

Some of these transactions may be completed through a regular discount brokerage account; others may require the involvement of an investment bank or other financial intermediary.

Zero cost collars

This method consists of purchasing a put option on the restricted shares and simultaneously selling, or "shorting," a call option on the same shares. The put option protects the holder of the restricted stock by giving him or her the right (but not the obligation) to sell the stock at the strike price; even if the market price drops, the owner will be protected. At the same time, by selling a call option that gives the purchaser of the option the right (but not the obligation) to buy the stock at a specific price, the owner of the restricted stock foregoes any potential benefit in the event the market price increases.

The protection afforded by such a "collar" (as this combination of put and hold options is commonly known) is best illustrated with an example. Recall Jim, the owner of 1,000 restricted shares in ABC Corp., with a market price of $50 per share on the Valuation Date. He buys a put option and sells a call option, both with a strike price of $50. If the market price of ABC Corp. at the end of the restriction period is $70, the call option will be exercised and Jim will need to sell the stock to the option holder for $50; if, on the other hand, the price at the end of the restriction period is only $30, Jim can exercise his put option and force the counterparty to buy the stock for the $50 strike price. Jim is thus fully protected against fluctuations in the market price of his restricted stock, and no matter the market price at the end of the restriction period, he will be able to dispose of his shares for proceeds of $50 per share.

It should be noted that Jim will still face the disadvantage of not being able to access the value of his restricted shares; he will lose out on the "time value of money" of his shares, since there is more value to receiving the $50 share price today rather than at the end of the restriction period. To account for this, we would argue that the proper relationship between unrestricted and restricted stock is as follows:

(3) Unrestricted shares, discounted to PV = Restricted shares + Put – Call

Or, again rearranging:

(4) Unrestricted shares, discounted to PV + Call – Put = Restricted shares

However, based on what is known in finance theory as "put-call parity," the call option that Jim sells will be worth more than the put option; in fact, the difference between the price of the call option and the put option is precisely equal to the disadvantage associated with having to hold the restricted stock and being unable to monetize it. In other words, if a zero cost collar strategy is

feasible, it would not be appropriate to apply any discount to the restricted stock (other than any incremental transactions costs associated with the purchase and sale of the options).[11]

Short selling

This method involves borrowing unrestricted shares (typically from a financial institution) and selling them on the market; the borrower agrees to return the borrowed shares at a later date. The lender of the stock is compensated by a portion of the interest earned on the "margin" or collateral posted by the short seller; costs are typically in the range of 1% of the value "shorted" (i.e. borrowed).[12]

Continuing with Jim and his 1,000 restricted shares in ABC Corp., Jim may decide to hedge his risk by borrowing 1,000 unrestricted shares of ABC Corp. and selling them for $50 per share on the Valuation Date. If the value of ABC Corp. shares increases, any appreciation in Jim's restricted shares will be offset by the increase in his liability relating to the 1,000 shares that he borrowed and must ultimately return; conversely, any decline in the value of ABC shares will be offset by a reduction in his liability when it comes time to return the 1,000 borrowed shares. In many respects, Jim has effectively sold his restricted shares on the Valuation Date, and indeed under U.S. tax laws, Jim will be liable to pay capital gains taxes immediately upon this "monetization" of his restricted shares.[13]

Once again, in the event that short selling is feasible, the only discount that would need to be applied to restricted stock would be the transaction costs involved in completing the short sale.

Equity swaps

In an equity swap, the owner of the restricted shares would enter into a contract to exchange the future returns on the restricted shares with the cash flows from another investment vehicle.

For example, Jim may decide to enter into a contract with an investment bank whereby he agrees to trade the future returns on his 1,000 restricted shares of ABC Corp. in exchange for a particular fixed or variable interest rate, or for the returns on the TSX 300. As a result, Jim is no longer exposed to any risk of fluctuation in ABC's specific share price.

As with the zero-cost collar and short selling techniques described above, if this type of transaction is possible, then the discount to be applied in valuing the restricted stock would simply be equal to the transaction costs associated with using this technique.

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11 "Put-call parity" argues that:

$$C - P = S - DxS$$

where "C" is the value of a call option, "P" is the value of a put option, "S" is the current stock price, and "DxS" is the current stock price receivable at the end of the option holding period, discounted to present value.

Rearranging, we get:

$$P = C - S + DxS$$

Substituting into equation (4) above, we get:

$$DxS + C - (C - S + DxS) = \text{Restricted shares}$$

Or:

$$S = \text{Restricted shares}$$

That is, the restricted shares are worth the same as the current market price of unrestricted shares.

12 See Gene D'Avolio, "The Market for Borrowing Stock," *Journal of Financial Economics*, 66 (2002), pp. 271-306.

13 See David Shizer, "Frictions as a Constraint on Tax Planning," Columbia Law School Working Paper (2001).

B. Prevalence/Drawbacks

How prevalent are these hedging transactions? Bettis et al.[14] show that a large number of executives are using such strategies to hedge a significant portion of their restricted stock. In their review of 2,042 insider hedging transactions from 1996 to 2006, they find that insiders who engage in such transactions tend to hedge a mean of approximately 30% of their total company shareholdings by way of collars, forward contracts or equity swaps.

However, although these hedging strategies nicely overcome the problem of "over-insurance" inherent in the Protective Put Option Methodology, they are not always feasible. As noted above, the *Canada Business Corporations Act* (s. 130) prohibits any employee of a corporation subject to that Act from short selling company stock, buying a put option or selling a call option. The U.S. Securities and Exchange Commission also prohibits insiders from short selling their company stock. Some corporations have policies that prevent employees from hedging their holdings of company stock, be they restricted or unrestricted shares.

More generally, hedging in the manners described above is often not cost-effective for smaller holdings of restricted shares, or for shares of small market capitalization firms or firms that trade on over-the-counter markets. Long term call and put options are available for the shares of large companies on the Chicago Board Option Exchange ("CBOE"), making a "zero cost collar" strategy potentially cost-effective. Short selling of large capitalization stocks is also reasonably easy. However, investment banks will typically not accept transactions if the amount of stock involved — and the corresponding fees they can charge for the transaction — are too paltry. In the study by Bettis et al., the median dollar amount of stock hedged by executives ranged from approximately $2 million to $8 million. While published data on the fees charged by investment banks to carry out these hedging transactions is unavailable, studies indicate that the minimum value of restricted shares for which such a transaction would be economical is approximately $1 million, and that transactions costs are in the range of 3% of the value of the assets being hedged.[15] Meanwhile, shares of small and illiquid firms are generally not available for short selling at all.

Thus, for all the potential benefits the hedging strategies described above appear to offer, in many cases they will not be feasible.

C. Interim Conclusion

In the context of matrimonial litigation, in the event that one spouse owns a significant amount of restricted shares, it may be worthwhile for the other spouse and his or her legal or financial advisors to investigate the feasibility of hedging the value of those shares through one of the techniques identified above.

In the event that hedging proves possible — that is, if the holdings of restricted shares are significant, the shares are those of a large capitalization company, and there are no legal or contractual restrictions on hedging transactions — then the discount to be applied in valuing the restricted shares at the Valuation Date would simply be equal to transaction costs involved in setting up the hedge. This discount will likely be significantly smaller than the discount that would be arrived at using the Protective Put Option Method.

If, on the other hand, hedging is not a practical option, then it makes no sense to speak of the shareholder's indifference between a package of the restricted stock and a hedging instrument

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14 See Carr Bettis, John Bizjak and Swaminathan Kalpathy, "Why do insiders hedge their ownership? An Empirical Examination," SSRN Working Paper (May 2011).

See also the discussion in Bebchuk and Fried, "How to Tie Equity Compensation to Long-Term Results," *Journal of Applied Corporate Finance*, 22(1), Winter 2010.

15 See David Shizer, "Frictions and Tax-Motivated Hedging: An Empirical Exploration of Publicly-Traded Exchangeable Securities," *Washington University Journal of Law and Policy*, 13 (2003); Shizer, "Frictions as a Constraint on Tax Planning," Columbia Law School Working Paper (2001).

on the one hand and the unrestricted stock on the other. In such cases, an alternative valuation method would be appropriate. The following section explores several other methods.

3. Other Methods

A. Empirical Models: Restricted Stock Studies

One possible method involves the use of "restricted stock studies." Restricted stock studies examine the sale to accredited investors of public company securities that have not been registered with the SEC or other securities regulator. Such shares cannot be sold by the purchasers for a given period of time.[16] By comparing the price at which such restricted shares are sold under these "private placements" with the observed market price of comparable unrestricted shares on the stock exchange at the time of the sale, a "restricted stock discount" can be estimated.

Such restricted stock studies have long been used by valuators to approximate the "Discount for Lack of Marketability," also known as the "illiquidity discount," that is applied in private company valuations. While several objections have been raised with respect to such applications — private company shares differ in many ways from restricted shares of public companies — at first glance it would seem that data on the observed discounts on the issuance of restricted stock would be an appropriate basis for determining a discount to apply in valuing restricted stock. A summary of many of the commonly cited restricted stock studies is provided below in Table 1.[17]

Table 1: Summary of Restricted Stock Studies

Summary of Restricted Stock Studies					
	Period Studied		Number of Observations	Discount	
Study Author	From	To		Mean	Median
Bajaj, Denis, Ferris and Sarin	1990	1995	88	22.2%	n/a
Bruce Johnson	1991	1995	72	20.0%	n/a
Columbia Financial Advisors	1996	1997	23	21.0%	14.0%
Columbia Financial Advisors	1997	1998	15	13.0%	9.0%
FMV Opinions Inc.	1980	1997	243	22.1%	20.1%
FMV Opinions Inc.	1980	2005	n/a	22.0%	n/a
FMV Opinions Inc.	1997	2005	n/a	21.6%	n/a
FMV Opinions Inc.	2002	2005	n/a	14.6%	n/a
LiquiStat	2005	2006	61	32.8%	34.6%
Management Planning Inc.	1980	2000	259	27.4%	24.8%
Management Planning Inc.	2000	2007	1,600	14.6%	n/a
Michael Maher	1969	1973	34	35.4%	33.0%
Milton Gelman	1968	1970	89	33.0%	33.0%
Robert Moroney	1968	1972	146	35.6%	33.0%
Robert Trout	1968	1972	60	33.5%	n/a
SEC Institution Investor	1966	1969	398	25.8%	23.6%

16 The restriction period in the U.S. prior to 1997 was 2 years, and is currently 6 months.

17 Table based on Dennis Bingham and K.C. Conrad, "An Analysis of Discount for Lack of Marketability Models and Studies," *Business Appraisal Practice*, 2011 (Third Quarter).

Summary of Restricted Stock Studies					
	Period Studied		Number of Observations	Discount	
Study Author	From	To		Mean	Median
Standard Research Consultants	1978	1982	28	n/a	45.0%
Trugman Valuation Associates	2007	2008	80	18.1%	14.4%
Willamette Management	1981	1984	33	n/a	31.2%
William Silber	1981	1984	69	33.8%	35.0%

However, such studies are subject to significant limitations. Bajaj et al.[18] note that the observed discounts contain a significant degree of variation. More crucially, they observe that discounts on private placements of stock may relate to factors other than restrictions on resale per se, such as the commitment of the purchasers to provide future capital, or to serve the company in an advisory capacity; such factors may not be relevant to the restricted shares being valued, which may have been issued by a large public corporation and not by the sort of small, undercapitalized firm that often forms the subject of restricted stock studies. By failing to consider private placements of "unrestricted" stock alongside those of restricted stock, and by ignoring other factors that may have affected the magnitude of observed discounts, restricted stock studies conflate the discount due to restrictions on resale with discounts due to other factors.

Recognizing these issues, Bajaj et al. apply a statistical approach called "multiple regression analysis," and find that the discount relating solely to restriction on the resale of the shares is approximately 7%.

Following on the results of Bajaj, in a detailed study of almost 1,000 private placements of both restricted and unrestricted stock, Comment[19] has shown just how different are the firms that typically issue restricted stock in private placements from those that commonly issue restricted shares to key executives and management. While the latter firms include many of the leading corporations listed on the NYSE or TSX, the former are comprised predominantly of very small firms that are only listed "over-the-counter" and are very thinly traded. Comment's chief conclusions are that the majority of the discount observed in studies of restricted stock is the result of factors unrelated to restrictions on resale, such as:

i. The relatively poor financial position of the issuing company, and hence its disadvantaged bargaining position when it comes to issuing new equity; and,
ii. The fact that the observed market price for unrestricted shares of these companies (against which the restricted stock discount is calculated) is itself unrepresentative of the fair market value of those shares, due to those shares being thinly traded.

In summary, restricted stock studies can be useful in estimating a discount to be applied to restricted shares or restricted share units. But they must be used with caution, and the valuator must make certain that the restricted shares being valued are similar to those upon which the restricted stock study is based.

B. Theoretical Models

At this point, it is worthwhile to step back and examine why it is that restricted shares ought to be worth less than their unrestricted counterparts. It has long been a commonplace of valuation theory that, all else being equal, liquid assets are more valuable than illiquid assets. Yet the reasons

18 Mukesh Bajaj, David J. Denis, Stephen P. Ferris and Atulya Sarin, "Firm Value and Marketability Discounts," 27 *J. Corp. Law* 89 (Fall 2001).
19 *Supra*, note 6.

why this should be so are not so readily apparent.[20] In my view, the inability to sell restricted shares carries with it three main drawbacks which a purchaser or acquirer of such stock would consider in pricing the stock.

1. **Informed selling** — The holder of restricted stock faces the risk that the market price of his or her shares may decline, and that by the time the restriction period ends he or she may not be able to sell the shares at their Valuation Date price.

   In many ways, this risk is no different than that faced by a holder of unrestricted stock — such investors also face the risk that their investments will decline in value. In general, then, I would argue that any discount related to this factor would be minimal. However, there may be certain individuals who have access to information that would allow them to profit — legally — by selling their shares. To the extent that these individuals may be prevented from doing so due to restrictions on the resale of their shares, a discount would be required.

2. **Diversification** — A second reason that restricted stock may be worth less to its owner than the market price of its unrestricted counterpart is that the holder of restricted stock is often forced to hold a significant portion of his or her net worth in a single company's stock.

   Asset valuation models, such as the Capital Asset Pricing Model ("CAPM"), generally assume that market prices of financial assets are set based on the required rate of return of fully diversified investors, and that this rate of return reflects only systematic risk (i.e. general risks that affect all assets at the same time).

   To the extent that the share price of the stock reflects only this systematic risk, the value of the restricted shares to the employee — who is likely under-diversified as a result of his need to hold a significant percentage of his wealth in the stock of a single company — may be significantly different than the quoted stock price.

3. **Utility** — Finally, unrestricted stock is more valuable than restricted stock for the simple reason that it can readily be converted into cash, which can be used to purchase goods and services. Restricted stock cannot be sold directly; while it has value, the value cannot be accessed immediately.

Below, we explore different theoretical models that estimate the discount to be applied to restricted stock based on these factors.

Informed Selling

Longstaff[21] presents a model that values the maximum possible discount that would be required, based on perfect knowledge of the trajectory of the restricted share's price. Using a mathematical formula for a "look-back" call option (i.e. an option that gives the holder the right to sell a particular stock at its peak price during a given time interval), Longstaff shows that the impact of the inability of a shareholder to trade the share based on inside knowledge is a function of the volatility of the share price and the duration of the restriction period. For a five-year restriction period, Longstaff calculates maximum discounts ranging from 19% to 65%, based on the volatility typically observed in large capitalization stocks.

The relevance of Longstaff's findings is open to question. The ability of executives and other insiders to achieve excess returns due to their superior knowledge of their companies has been

20 For an overview, see Yaakov Amihud, Haim Mendelson and Lasse Heje Pedersen, "Liquidity and Asset Prices," *Foundations and Trends in Finance*, 1:4 (2005), pp. 269-364.

21 Francis A. Longstaff, "How much can marketability affect security value?," *The Journal of Finance*, 50:5 (1995).

demonstrated to be very limited.[22] It seems unlikely that the inability to sell based on special information should carry with it much of a discount.

Diversification

Executives and senior managers of corporations may be required to hold a significant portion of their wealth in their company's stock. This can have an impact on the value of that stock to these shareholders. Most valuation models assume that public stock market prices are set based on the risks faced by fully diversified investors, who hold no more than a small fraction of their overall wealth in any particular company, and who are therefore not exposed to any of the "company-specific" or "idiosyncratic" risk of the company. An individual holding a significant portion of his or her wealth in a single company, by contrast, will be exposed to a portion of that company's idiosyncratic risk, and ought to require a higher rate of return (or discount rate) as compensation for that risk.

CAPM-Based

This insight has been used by several authors in analyzing how executives value their restricted shares. In separate studies, Meulbroek and Tabak[23] show how the standard CAPM formula can be manipulated to derive the value of shares to a partially or wholly undiversified investor. The methodology is essentially the same as that later popularized by Peter Butler under the rubric "Total Beta."[24] Under this model, the discount to restricted shares relative to their unrestricted counterparts is a factor of:

- The percentage of the shareholder's wealth that is concentrated in the company stock;
- The volatility of the company stock;
- The degree of correlation between the company stock and the market index; and,
- The duration of the restriction period.

To cite a numerical example from Meulbroek's study, assuming a shareholder held 25% of her wealth in restricted shares of a single large company on the NYSE, with volatility of 45% and a correlation with the market of 0.35, and using an equity risk premium of 7.5%, then the discount on the restricted shares would be 9% for a 3-year restriction period.

One of the common objections to the CAPM is that actual stock market returns have been significantly different than predicted by the model.[25] While a thorough discussion of this topic would stray significantly beyond the parameters of this article, it seems probable that those who reject the CAPM on empirical grounds will also take issue with the modified CAPM model proposed by Tabak and Meulbroek for the same reasons.

Option Pricing Models

One way to view restricted stock is as a European call option with strike price equal to zero: the holder of the restricted stock can "exercise" the option at the end of the restriction period and

22 See Josef Lakonishok and Inmoo Lee, "Are Insider Trades Informative?," *Review of Financial Studies* 14:1 (Spring 2001).

23 Lisa K. Meulbroek, "The efficiency of equity-linked compensation: Understanding the full cost of awarding executive stock options," *Financial Management* 30:2 (Summer 2001), pp. 5-44; David Tabak, "A CAPM-based Approach to Calculating Illiquidity Discounts," NERA Economic Consulting, Working Paper, 2002.

A similar approach to discounting for lack of diversificaiton is taken by Frank Kerins, Janet Kiholm Smith and Richard Smith, "Opportunity Cost of Capital for Venture Capital Investors and Entrepreneurs," *Journal of Financial and Quantitative Analysis,* 39:2 (June 2004).

24 See, amongst other papers, Peter Butler and Keith Pinkerton, "Company-Specific Risk – A Different Paradigm: A New Benchmark," *Business Valuation Review*, Spring 2006, pp. 22-28.

25 For a review of the literature, See Eugene F. Fama and Kenneth R. French, "The Capital Asset Pricing Model: Theory and Evidence," *Journal of Economic Perspectives*, Volume 18, Number 3 (Summer 2004).

obtain the stock without paying anything for it.[26] In a recent study that makes use of both theory and empirical data, Abudy and Benninga[27] use the binomial option pricing formula to value employee stock options and restricted shares. They argue that the "Up" and "Down" state prices used in the binomial option pricing model (i.e. the "payoffs" at each of the nodes of the tree) should be different for investors who are under-diversified:

> Non-diversification expresses itself in the individual having a more-than-optimal amount in the Up states and less-than-optimal amount in the Down states…if it were possible to diversify, the individual would transfer some of her consumption from the Up to the Down state.

Abudy and Benninga estimate the adjustment factor that holders of employee stock options apply to the "Up" and "Down" states of their options based on the apparently suboptimal early exercise of these options by employees of a wide variety of Israeli companies, with payoffs well below those predicted by option pricing models. They explain this early exercise as reflecting the lower value that employees ascribe to the potential payoff on their options in the "Up" state. Abudy and Benninga estimate the implied adjustment factors used by option-holders for a variety of industries.

The Abudy-Benninga model can be easily used to value restricted shares in a variety of industries. Using their simple spreadsheet model, restricted shares of a firm with annual volatility of 30% and an "adjustment factor" of 0.18 (the average calculated by Abudy-Benninga across all industries) carry a discount of approximately 10% per year.

Utility

The models of Meulbroek and Tabak do not consider the issue of utility.[28] Kahl et al.[29] present an alternative model that incorporates the factors enumerated by the above studies, but also considers the fact that restricted stock holders cannot utilize their restricted stock by openly selling it in order to purchase goods or services.

The discounts calculated by Kahl et al. are greater than those computed based on the Meulbroek and Tabak models. It is important to note, however, that in an extreme case in which the inability to sell the restricted stock has no impact on the owner's utility — i.e. the owner has absolutely no need to sell the stock anytime soon in order to fund his or her consumption of goods or services — the Meulbroek/Tabak model would present a proper measure of the discount to be applied to the restricted stock.

Conclusion

This article has surveyed a number of possible approaches to valuing restricted shares in the absence of hedging. The common thread running through these options is that the appropriate discount will vary depending on a number of parameters. It is important for the valuator to fully understand the data and rationale behind the methodology he or she chooses to employ in discounting restricted stock.

Restricted shares in large, stable firms that represent a small fraction of the shareholder's wealth will carry with them lower discounts than will shares in small, volatile companies that form a significant portion of their owner's overall holdings. Restricted shares that can be hedged should

26 Note that, viewed this way, absent any consideration of either diversification or utility, such an option will be deep "in the money," and will have value equal to its intrinsic value; that is, a restricted share will be worth the same as an unrestricted share.

27 Menachem Abudy and Simon Benninga, "Valuing employee stock options and restricted stock in the presence of market imperfections," KPMG International Global Valuation Institute Research Report, 2012.

28 As an empirical model, the Abudy-Menninga approach implicitly considers the issue of utility as well as underdiversification.

29 Matthias Kahl, Jun Liu and Francis A. Longstaff, "Paper millionaires: how valuable is stock to a stockholder who is restricted from selling it," *Journal of Financial Economics* 67 (2003), 385–410.

carry little or no discount; shares that cannot be hedged should be discounted to reflect the shareholder's under-diversification and disutility using one of the methods outlined above.

2

CLASSIFIED STOCK AND MARKET VALUATION: THE CONTEMPORARY CANADIAN EXPERIENCE

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Academic researchers have examined the market valuation of voting rights in dual and multiple share class firms starting with the research by Lease, McConnell, and Mikkelson (1984). The overall picture that emerges from these studies is that shares of stock with superior voting rights sell at a premium over those with inferior voting rights, and that corporate insiders tend to concentrate their personal holdings in the shares with superior voting rights. These conclusions are important as corporate control accounts for a significant portion of a firm's value and the value of corporate control is embodied in the superior voting rights. This topic has been addressed in both the strategic management and the financial economics literature. The strategic management perspective emphasizes factors of management control, e.g., mode, method, and form, in determining the economic value. The financial economics perspective states that the total economic value and its partitioning between superior and inferior voting rights are determined by market characteristics. While the two have different frames of reference and emphasize different determinants, they both address the question of market valuation.

Continuing research has demonstrated the powerful role of shareholder rights. This stream of research finds that the strength of shareholder rights at a company is associated with many variables: stock returns, valuations, operating performance, the frequency of mergers, and pay-for-performance sensitivity (Gompers, Ishii and Metrick (2004); Chi (2005); Fahlenbrach (2005), Core and Rusticus (2006); Masulis, Wang, and Xie (2007); Bebchuk and Cohen (2005)). However, most of this research has ignored the most prevalent and perhaps extreme example of accumulating and preserving shareholder rights: dual-class stock. About 6% of the publicly traded companies in Canada, the U.S., and the UK have more than one class of common stock.

In the typical dual-class company, there is a publicly traded "inferior" class of stock with one vote per share and a "superior" class of stock with ten votes per share. The superior class is typically owned mostly by insiders of the firm and causes a significant wedge between their voting and cash-flow rights. In many cases, this wedge is sufficient to provide insiders with a majority of the votes despite their claims to only a minority of the economic value.

On average, researchers find that insiders have approximately 60% of the voting rights and 40% of the cash-flow rights in dual-class firms. For almost 40% of the dual-class firms, insiders have more than half of the voting rights (thus providing effective control) but less than half of the cash-flow rights.

While the regulations providing shareholder protection in Canada are fairly similar to those in the U.S., the significant number of dual class and single class closely-held ownership structures in Canada may make the corporate valuation effects different from the U.S. In our sample of Canadian companies, the median voting control of management is 22.1% versus 14.4% for the sample of U.S. companies reported in Holderness et al. (1999). The security laws in Canada

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provide equal protection to non-controlling shareholders similar to the U.S. Evidence of the similarity between Canada and the U.S., in terms of minority shareholder protection, is also provided in La Porta et al. (1999). In this article, we identify and analyze a comprehensive list of Canadian dual-class companies from 2004–2012.

This study re-examines and extends several of the issues raised in prior studies by using the price histories of 38 Canadian dual-class firms. Investigation is limited to firms with at least two of the differential voting stock classes quoted on the Toronto Stock Exchange between 2004 and 2012. This study addresses the following two questions: (a) Does a voting rights premium exist for the sample firms during the period 2004-2012? (b) If so, does the premium for firms in the most recent period of 2010-2012 conform to the voting rights premium profile from 2004-2009, or do they present a specific context for the valuation analyst?

The basic price statistic used throughout this study, consistent with the results presented in the Lease, McConnell, and Mikkelson (1984) and Levy (1983) research, is a temporally stable voting rights premium (hereafter "VRP," defined as the extent to which the ratio of superior voting ("SV") and restricted voting ("RV") share prices exceeds 1.0) is found to be significant. In the sample of firms, a higher price (averaging 13.2%) is almost always paid for SV shares than for RV shares.

This paper is organized as follows: three theoretical explanations of the VRP, which have been presented in the academic literature, are presented and discussed in the next section, with the conclusion that no clear and persistent relationship between dual-class structure and firm value is founded in any of these theories. The data sources and sample selection criteria are described in the third section, and empirical results of the paper are presented in the fourth section. The final section briefly summarizes the results.

Theoretical Explanations of the VRP

Researchers have investigated the logic behind the nature and importance of control in the firm for several decades. Coase's seminal article, "The Nature of the Firm" in 1937, provides a description of how firm authority is allocated and the interactions between owners and managers. Berle and Means, "The Modern Corporation and Private Property" (1968, reprinted from 1933) emphasized the separation of ownership and control may lead managers to pursue their own objectives at the owners' expense. Other classic articles addressing the central issue about the separation of ownership and control address: incomplete contracts and the risk for opportunism (Williamson (1975), Klein et al. (1978)); the integration decision between entities owned and managed by the same person, the property rights approach (Grossman and Oliver (1986), Hart and Moore (1990)); the observation that internal capital markets provide greater monitoring incentives than an external capital market (Alchian and Demsetz (1972), Mirrlees (1976); and that ownership and capital structures can mitigate these agency costs (Jensen and Ruback (1983), Holmstrom (1979)). Much of the subsequent theoretical literature builds on Jensen and Meckling's insight by spelling out different kinds of agency costs and other mechanisms by which such agency costs can be mitigated (cf. Fama and Jensen (1983)).

Since control is ultimately based on majority voting power, it seems logical that shares of a stock class with SV rights should have higher market values than shares of another, otherwise identical, stock class with RV rights. (The value of voting rights is examined, in other contexts, by Bhagat and Brickley (1984), Brickley, Lease, and Smith (1988), Easterbrook and Fischel (1983), and Fama and Jensen (1983).)

However, such logic cannot explain the VRPs that Lease, McConnell, and Mikkelson (1984) and Levy (1983) document. Also reviewed are several studies which examine the market prices of marginal (i.e., non-control bloc) shares of SV and RV stock. The VRP described endures for long periods of time and presumably involves trades between investors who are not in a position to reap the direct pecuniary and non-pecuniary benefits of control. Lease, McConnell, and Mikkelson

(1984) make the obvious, but critically important, point that in order for marginal SV shares to sell at a premium over RV shares in the open market, ownership of the SV shares must convey some rights to cash flows which ownership of RV shares does not convey. Neither they nor subsequent authors have been able to identify what these rights entail.

First, the rationale for a stable VRP was suggested initially by Lease, McConnell, and Mikkelson (1984) and subsequently reiterated by Stulz (1988), and DeAngelo and DeAngelo (1985). This idea involves the possibility that a given firm may be the target in a takeover attempt and that a higher price will be paid for the SV shares. The differential price can be viewed as a premium paid by a bidder to those shareholders who alone have the power to sell control of the company. DeAngelo and DeAngelo (1985) show that a higher price is in fact paid for SV shares in four of the cases they examine. A rational capital market can be expected to capitalize the discounted value of these "extra merger premiums" into the current market price of the SV stock. The idea that the VRP represents the discounted expectation of a higher tender offer price for SV shares in a takeover attempt will be formally called the Extra Merger Premium Hypothesis. According to this hypothesis, the VRP for any firm will be related to the probability that this firm will become a takeover target, and if the firm is a target, the likelihood that a higher price will be paid for the SV shares.

Second, there is a body of theoretical and empirical research that relates the value of a firm to its ownership structure — in particular, to the fraction of voting equity owned by a firm's managers. The original theoretical articles by Leland and Pyle (1977) and Jensen and Meckling (1976) predict a positive relationship between firm value and insider holdings. This Ownership Structure Hypothesis attempts to explain how insider ownership of the two share classes influences the relative valuation of the two classes. In this model, the full entrenchment-induced valuation effect of concentrated insider SV shareholdings is expressed as a discount in the value of the RV shares relative to what their value would be if they had full voting rights. Insider shareholdings of RV shares would lower this discount by lessening their incentives to exploit their insider positions at the expense of the effectively disenfranchised RV shareholders. Conversely, insider SV shareholdings increase these predatory incentives.

A third hypothesis is the Shapley/Shubik "Voting Power" hypothesis as developed in Rydqvist (1987) and Robinson and White (1987). In the context of a dual-class firm, this hypothesis yields predictions that are very similar to those of the Extra Merger Premium and the Ownership Structure hypotheses. When control of a corporation is potentially contestable, marginal (non-control bloc) SV shares should sell at a premium to RV shares since a control premium would only be paid to BV shareholders. On the other hand, when control is securely held by one or a tight group of shareholders, the VRP should be small or zero.

In sum, this research shows how the separation of ownership and control lead to significant agency costs. Based on this paradigm, corporate control has significant value (Stultz (1988), Nathan and O'Keefe (1989)) and this value has been empirically observed when a firm exhibiting a separation of ownership and control, e.g., a widely held and therefore diffuse ownership undergoes a change-of-control transaction, e.g., an acquisition or leveraged buyout (Finnerty and Douglas (2004), Walkling and Edmister (1985), Slusky and Caves (1991)). The most common valuation premiums and discounts relate to the degree of ownership control, or the lack of it (i.e., non-controlling ownership interest status), and in the valuation literature these premiums are generally referred to as control premiums.

The theoretical work on this topic finds no clear relationship between dual-class structure and firm value (Grossman and Hart (1988); Harris and Raviv 1988)), so researchers must turn to the data. Our analysis is an attempt to estimate these relationships using a contemporary, comprehensive panel of Canadian dual-class firms. Given the great similarity among the three theoretical hypotheses enumerated above, direct tests of individual predictions will not be done. Instead, the results of this study are evaluated by the empirical results of a parsimonious model.

Since prior studies on the valuation of dual class stock have differed along methodological dimensions, we also examined three methodological artefacts: liquidity, ownership structure, and size.

For each of the companies in this study, the two share classes examined are financially equivalent securities with respect to cash flows of the firm. Thus all dividend payments, capital distributions, and cash distributions subsequent to firm liquidation must be the same for both SV shareholders and RV shareholders. There is, however, no reason to expect that the two share classes will have the same marketability (liquidity) or that they will have identical financial risk in the portfolio sense. If there are significant liquidity differences between the two share classes, the observed VRP could be either increased or attenuated, depending upon which class is more liquid. We operationalize this variable as the trading volume of SV shares versus RV shares.

Under the dual class structure, there are two groups of outside or minority shareholders. One group of outside shareholders consists of those who hold a non-controlling interest in the superior voting shares and the second group comprises those who hold restricted shares. Thus, under the dual class structure, shareholder agency costs, which reflect shareholder disagreement and monitoring costs, will arise among these groups of shareholders. It can be argued that the more stakeholder groups a company has, the larger are the agency problems and costs. Amoako-Adu and Smith (2001) discuss some of the recent shareholder disagreements among the various interest groups under the dual class structure in Canada. In light of the trade-off between the benefits of shareholder and manager interest alignment and agency costs, it is an empirical question as to how concentrated control per se affects corporate value. We operationalize this variable as the ratio of SV shares to RV shares.

Within the many contexts of business valuation (e.g., cost of equity estimation models — Capital Asset Pricing Model (CAPM)), reference is made to the 'size effect', the general idea that smaller size is associated with higher risk and, therefore, higher required rates of return. To help quantify the size effect in terms of its impact on the VRP, empirical data is broken down into decile groups by size, as measured by the aggregate market value of the common equity of each firm. Size is also recognized as a proxy for acquisition-likelihood, since Palepu (1986) and Singh (1975) find firm size to be a consistently significant predictor of takeover probability. We operationalize this variable as the market capitalization of SV shares to RV shares.

Empirically, one would expect that the market capitalization ratio of SV shares to RV shares and the nominal ratio of SV shares to RV shares would be correlated. Indeed, this sample demonstrates this correlation. We do not attempt to explain this correlation, but recognize that there are plausible reasons for this effect. For reference, both ratios are provided.

Data

To be included in the sample for this study, a company must meet the following criteria:

1. It must have at least two classes of ordinary common stock outstanding at some time between 2004 and 2012 that differ only with respect to voting rights. The classes must have identical claims to dividends and other cash flows from the corporation and must rank equivalently in the event of liquidation.
2. At least two of the stock classes must be publicly traded on the Toronto Stock Exchange so that sufficient price data for the different share classes are generated.
3. Price data for both SV and RV shares must be available for at least 12 months.
4. Sufficient data concerning the firm's capitalization and voting rights must be available.

The sample yields a data set of 38 companies.

Empirical Results

The basic price statistic used throughout this study is the ratio of the price of the SV share to the RV share (VRP).

For a given company, this measure is

$PR_{jt} = P_{sjt}/P_{ijt}$

And

$\underline{PR}_{j} = \text{sum } PR_{jt}/T_{j}$

Where

PR_{jt} = price ratio for company j, month t;
$\underline{PR}_{j}$ = mean price ratio for company j, entire sample period;
P_{sjt} = price of SV share, company j, month t;
P_{ijt} = price of RV share, company j, month t; and
T_{j} = total number of months of data for company j.

The VRP for a given company is the amount the price ratio exceeds unity. If the price ratio is less than one, then a voting rights discount occurs. Similar statistics also are calculated for the sample as a whole, both for a given year and for the entire period 2004-2012.

A simple application of Cluster Analysis (Tabachnik and Fidell (2012)) shows three distinct time periods within which the VRP are correlated. Simply, Cluster Analysis is used to summarize patterns of correlations among observed variables. This analysis partitions the data into three time periods, 2004-2006, 2007-2009, and 2010-2012. Statistics are generated for these subsets of the sample and reported in the presentation tables.

The distribution of a price ratio, however, is not normally distributed, so using this ratio for statistical tests of significance would bias the results. Therefore, the natural log of the price ratio for parametric testing *(t-test)* of the null hypothesis that the log of the price ratio is statistically different from zero is used. (For a full discussion of the statistical issues relevant to comparing the equality of price pairs, see Ang, Blackwell, and Megginson (1989).) Following Tabachnik and Fidell (2012), we used Wilcoxon signed-rank tests. None of the paper's results are materially affected by the choice of statistical test. Strictly speaking, using ratios or even logarithms of ratios to test for price differences is incorrect, because the distribution of a ratio of two random variables may be bimodal. Further, the distribution of such a variable is known to follow a Cauchy distribution, which has no moments. To avoid these problems, the price differences can be tested rather than the price ratios. If requested, the authors can reproduce this study for publication under this premise.

The VRP, 2004-2012

Summary information on the 38 companies in the basic sample is presented in Table 1. There are 3,060 monthly price pair observations or an average of 81 months of data for each company. The mean price ratio for firms ranges from 0.965 to 3.177 and is significantly greater than 1.0 (at the 5 percent significance level) for all companies except two. Several other important features of dual-class capitalizations appear in the analysis and will be addressed in further studies. One outstanding aspect is the dramatic positive VRP increase with decreasing size in the subject firm. This is especially noticeable for the smallest 10% of the companies.

The focus of this presentation is on the existence and stability of the VRP. Table 1 shows the temporal pattern of the price ratio over the sample period 2004-2012 for the basic sample. For the entire sample of 38 companies, the grand mean price ratio is 1.132, and the annual mean price

ratio ranges from a low of 1.095 in 2004 to a high of 1.194 in 2008. Including these two years, the price ratio appears positive and relatively stable over time.

Empirical studies of valuation and insider ownership are always subject to an endogeneity critique. Demsetz and Lehn (1985) pointed out that since ownership structure is one of many governance variables that are endogenously determined with firm value and performance, it will always be difficult to uncover the underlying relationships with reduced-form empirical analysis. This argument has been repeated many times, for example by Himmelberg, Hubbard, and Palia (1999) and Coles, Lemmon, and Meschke (2005). Since we cannot guarantee that potential endogeneity and causality problems do not influence our results, we follow the recommendation and conduct a two-stage least squares regression (Lins 2003). This analysis does not provide evidence of bias in our results.

Summary and Conclusions

The results presented in this study document a significant VRP for TSX listed firms that have outstanding multiple classes of common stock with differential voting rights during the period 2004-2012. This premium is consistent with the general hypothesis that a higher price is expected to be paid for shares with SV rights.

However, the temporally stable voting rights premium presented in the Lease, McConnell, and Mikkelson (1984) and Levy (1983) research, is not necessarily stable. Although the VRP is significant and positive, there appear substantial variations over time. In this study, our research shows three distinct VRP periods (2004-2006, 2007-2009, and 2010-2012).

Some limitations of this study should be noted. The data utilized is that reported by the security exchange. No filtering or adjustments were made for any limitations on trading or share allotment. For example, firms undergoing bankruptcy processes and recovery during the period of the study were included without prejudice.

SUMMARY INFORMATION OF FIRMS WITH SUPERIOR/INFERIOR VOTING RIGHTS STOCK

Sample Period Covered	2004-2012	2004	2005	2006	2007	2008	2009	2010	2011	2012
Number of Sample Companies	38	25	29	29	33	35	34	24	23	23
Total Number of Monthly Observations	3060	300	348	348	396	420	408	288	276	276
Mean VRP	1.132	1.095	1.151	1.128	1.150	1.194	1.130	1.082	1.115	1.108
Standard Deviation VRP	0.329	0.125	0.277	0.273	0.227	0.450	0.271	0.396	0.400	0.454
Number of VRP										
Greater than 1.0	1932	204	192	192	300	324	264	156	168	132
Equal to 1.0	720	72	108	72	60	60	84	96	72	96
Less than 1.0	408	24	48	84	36	36	60	36	36	48
Superior Voting Rights Class as a Fraction of Total Common Equity	0.235	0.243	0.265	0.266	0.249	0.251	0.262	0.233	0.174	0.174
Superior Voting Rights Class as a Fraction of Trading Volume	0.164	0.208	0.156	0.181	0.131	0.166	0.213	0.162	0.108	0.150
Superior Voting Rights Class as a Fraction of Mrket Captialization	0.251	0.256	0.286	0.284	0.272	0.266	0.282	0.238	0.186	0.187

Sample Period Covered	2004-2012	2004-2006	2007-2009	2010-2012
Number of Sample Companies	38	29	35	24
Total Number of Monthly Observations	3060	996	1224	840
Mean VRP	1.132	1.124	1.158	1.102
Standard Deviation VRP	0.329	0.225	0.316	0.417
Number of VRP				
Greater than 1.0	1932	588	888	456
Equal to 1.0	720	252	204	264
Less than 1.0	408	156	132	120
Superior Voting Rights Class as a Fraction of Total Common Equity	0.235	0.258	0.250	0.194
Superior Voting Rights Class as a Fraction of Trading Volume	0.164	0.183	0.170	0.140
Superior Voting Rights Class as a Fraction of Market Captialization	0.251	0.275	0.273	0.207

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3

MARKET COMPARABLES: APPLICATION AND COMMON PITFALLS

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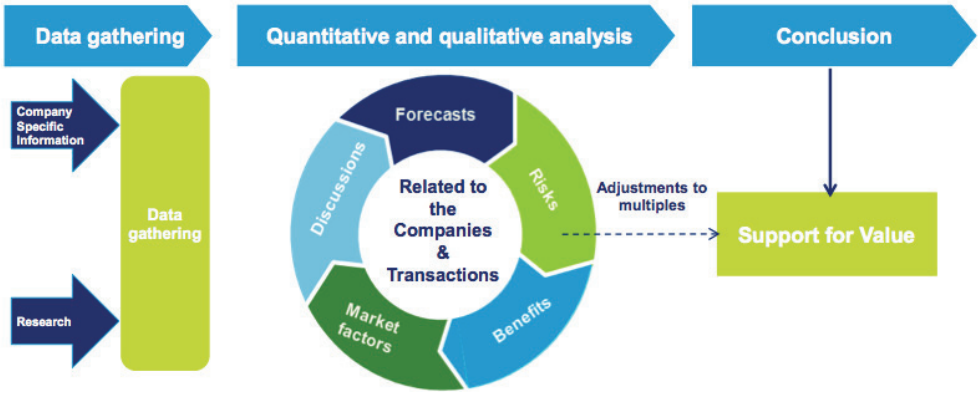
This paper explores the use of market comparable data, both guideline public company and precedent transactions, in the context of notional valuations, merger and acquisition pricing and negotiations, as well as litigation. This paper will begin by providing a background and context to how market value is typically used by valuators, and outline best practices for identifying appropriate comparables. It will also highlight common pitfalls in the identification, analyses and application of market comparable data, while exploring the benefits and drawbacks to using various information sources commonly used to gather market comparable data. Finally, this paper will discuss how acquisitions are priced and negotiated in the private company M & A environment and the impact this may have on the reliability of underlying data in the context of a notional valuation.

Common Applications of Market Comparable Data

Using comps and transactions in a valuation or M & A setting is fraught with subjectivity and risk. Despite the challenges in application, however, market comparable analysis can be an integral portion of a valuation assignment, as it can add credibility to the value of a conclusion. In practice, the analysis can be used as follows: in the market approach (as a primary valuation technique); in the market approach as a secondary valuation technique (this is more common in practice); or, as a benchmarking mechanism, to assist in the assessment of risk in the subject company's forecast, or for other purposes. In an M & A context, market data is often used by both buyers and sellers to help establish an appropriate pricing range for a transaction. In any scenario, the use of market comparable analysis under each method requires a well-structured and methodical approach.

The process of applying selected multiples and transactions for the market approach can be broken down into three essential phases. First, in the *data gathering phase*, valuators identify and research comparable companies and/or transactions; second, in the *quantitative and qualitative analysis phase*, valuators establish and select valuation multiples and make appropriate adjustments; third and finally, in the *conclusion phase*, valuators apply selected multiples to the subject company to support the valuation conclusion. The chart below outlines this process:

* The authors would like to thank Ryan Conte, CBV (Manager in our Niagara office) and Phil Nightingale, CBV (Manager in our Burlington office) for their assistance in preparing the presentation on which this article is based.



Although this application appears to be simplistic in theory, in practice there are significant challenges to applying it judiciously. At each step of this process, it is essential for the valuator to ask the correct questions and to gain access to management to ensure a complete understanding of the business. Using relevant comparables can be fraught with challenges, and for this reason it is crucial for the valuator to use the most relevant criteria in identifying data points.

Historically, courts of law have found many weaknesses in the use of market data in a notional valuation. In cases running the gamut of industries, they have characterized these weaknesses in the following ways: "The Court was not impressed with either expert's market analysis."[1] "The judge also gave no weight to the comparable transaction analysis used."[2] "The reliability of the comparables were questioned."[3] The many more such examples of the court's skepticism towards market data in a notional valuation serve as a caution to valuators using comps as their primary valuation methodology. Essentially, the court's criticism centres on one crucial point: was the market data truly comparable and was the analysis rigorous enough to support this assertion? As the above quotations suggest, it was not. In the following section, this paper will introduce valuators to several considerations to help valuators select comparables more rigorously.

Application of Comparables and Transactions

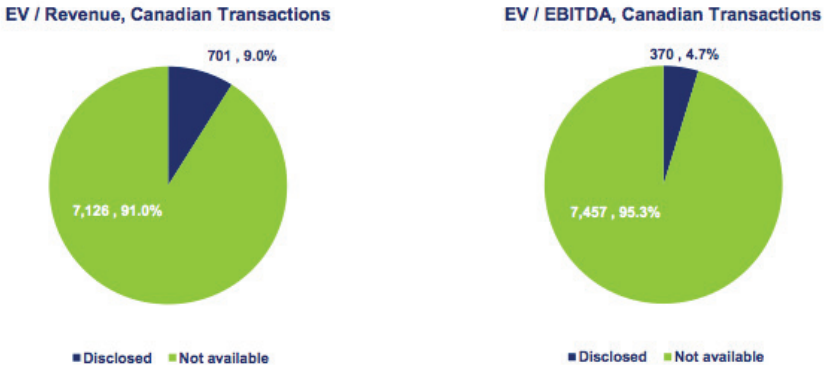
As valuators can appreciate from their professional practices, there is a significant amount of subjectivity involved in the application of comparables and transactions. Unfortunately, there is no prescriptive methodology; what valuators have instead is the ability to apply careful judgment in their market comparable analysis.

The first step in that application is to identify comparable companies or transactions — to embark on the search process. This process is based solely on publicly available information and must take into consideration whether the data points are truly comparable. More specifically, the actual existence of the data must be considered. There are approximately 3,500 publicly traded companies in Canada, half of which are oil and gas related entities. One would assume that there is a tremendous amount of both transactional and public information available on these companies — but this is not the case. Over the last three years there have been roughly 7,800 deals done, according to Canadian data; yet 45% of those deals did not disclose any information. This means that at the outset, roughly half of the transactions that may be of interest are impossible to get access to. Despite the volume of data, meaningful information can be difficult to extract.

1 *In re Shell Oil Co.*, 607 A.2d 1213, No. 351. (Del. S.C. 1991), CICBV Valuation Casebook.
2 *Sunbelt Beverage Corp.* (Del. Ch. 2010), CA#16089-CC Memorandum Opinion, CICBV Valuation Casebook.
3 *Bogoch v. Bogoch Estate*, 2002 M.J. No. 83 (Q.B.), CICBV Valuation Casebook.

A further challenge is that there is no set framework for establishing comparability. There are many challenges in adjusting for differences between companies. Consideration of comparability of market conditions and impact of differences is required. Adjusting for differences between share attributes is more scientifically based. Furthermore, valuators will typically want to see some type of transaction metric, be it enterprise value in relation to revenue, or enterprise value in relation to EBITDA. Of these 7,800 transactions, then, the ones that had disclosed information related to revenue and EBITDA are a mere fraction of the overall population set:

- EV / Revenue 9.0% (701 transactions); and
- EV / EBITDA 4.7% (370 transactions).



Source: S&P Capital IQ, M&A Transactions with a Canadian-based acquirer or target from May 2010 through April 2013.

Where does that leave valuators, then, if that transaction data is not publicly available? Upon examination, availability of relevant deal metrics is highly limited.

Further stratification of the data based on an individual industry emphasizes the difficulty in finding comparable transactions. One such industry is the packaged foods and meats industry. Of the 7,827 transactions done over the last three years, there were roughly 84 deals done in the packaged foods and meats industry. The table below summarizes those industry specific transactions:

	Total	Not disclosed	< $5mm	$5 - $25mm	$25-100mm	$100-500mm	$500mm - $1B	$1B+
# of deals	**84**	**40**	**8**	**12**	**9**	**11**	**4**	**-**
EV / Revenue	**84**	**64**	**4**	**3**	**3**	**6**	**4**	**-**
% of total	*100.0%*	*76.2%*	*4.8%*	*3.6%*	*3.6%*	*7.1%*	*4.8%*	*0.0%*
EV / EBITDA	**84**	**76**	**0**	**1**	**1**	**4**	**2**	**-**
% of total	*100.0%*	*90.5%*	*0.0%*	*1.2%*	*1.2%*	*4.8%*	*2.4%*	*0.0%*

Source: S&P Capital IQ, M&A Transactions with a Canadian-based acquirer or target from May 2010 through April 2013. Sorted based on total transaction value.

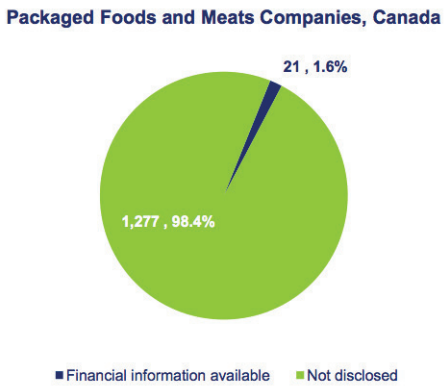
As one can see, even in mature industries, the application of and availability of comparables is a potential challenge.

Do Comparable Public Companies Truly Exist?

In practice, finding truly comparable public companies can be challenging. Based on a search in S & P Capital IQ in May 2013, there are 1,298 companies in Canada whose primary industry is packaged foods and meats. Of the 1,298 companies, only 21, or 1.6%, had publicly available financial data:

	#	% of total
Companies	1,298	100.0%
Not available	1,277	98.4%
< $5mm	2	0.2%
$5 – 25mm	5	0.4%
$25–100mm	3	0.2%
$100-500mm	2	0.2%
$500mm-$1B	6	0.5%
$1B+	3	0.2%

Source: S&P Capital IQ.
Note: $ ranges are based on Total Enterprise Value (TEV) at May 28, 2013.

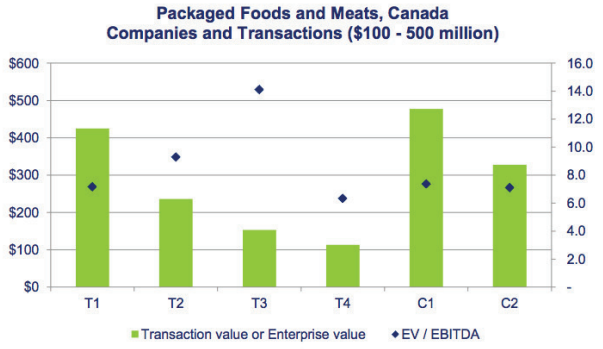


Within this spectrum are probably a number of companies that are not comparable to begin with. Thus, given the limitations, to develop a robust list of comparable companies, the valuator may be forced to expand industry, geographic, or other search parameters.

Dispersion in trading multiples can create additional problems. There is publicly available information in the packaged foods and meats industry to support EV/Trailing EBITDA multiples for:

- Four transactions with total transaction value from $100–$500 million (last three years).
- Two public companies with total enterprise value of $100–$500 million (as at May 2013).

	EV or Total Transaction Value ($mm)	EV / EBITDA
Transactions ("T")		
T1	$424.7	7.2x
T2	236.2	9.3x
T3	153.3	14.1x
T4	113.0	6.4x
Companies ("C")		
C1	477.3	7.4x
C2	328.0	7.1x



A careful consideration of the quantitative and qualitative characteristics of each transaction and company is required, to determine comparability.

Is There Such a Thing as a Truly Comparable Company?

When the valuator identifies potentially comparable company data, they must embark on a further fact-checking process to understand the data in a deeper way. The company or target used in the analysis should have similar characteristics to the subject company. Factors that should be considered include the following: company size; nature of products or services offered; degree of vertical integration; geographic coverage and market characteristics; relative market share; cost structure and operating leverage; level of net tangible assets and sustaining capital; financial structure; profitability and operating measurements; historical growth in revenue, profitability and cash flow; level of research and development expenditures; strategic directions, expected future growth and risks; contingent liabilities; and management strength and depth. There are many factors to consider in using market data, but there is not a formulaic or "one size fits all" approach to assess comparability. For this reason, the valuator needs to understand each of these factors on a deep level, not only of the subject company but each of those data points being examined and relied upon in applying a market comparable analysis.

A further challenge rests in the fact that transaction data for public companies has historically focused on larger entities. Valuators conducting a valuation of a smaller private company will likely find it difficult to access relevant transaction data. The available data is likely to be biased towards the large companies, and bigger companies tend to trade at higher prices than smaller companies. This results in a discrepancy in size premium. How does a valuator take data like that and determine what the impact is on the multiple of a company? Size and risk and therefore price are all interconnected. There is no formulaic method to adjust a market multiple size difference. When valuators start to segregate their data by size, there is a significant contraction in the comparable companies; in turn, one is trading off fewer data points for the sake of greater comparability. Ultimately, however, the information upon which to make your comparison is less robust.

When to Use Market Data in the Analysis

There are certain factors that increase the comparability of companies, yet on the surface these factors are not always self-evident. For example, just because a company is a competitor does not necessarily mean it is comparable. Although identifying competitors to a subject company is relatively easy, true comparability may be limited by size, diversity of product/service focus, geography, and a number of other considerations.

As you go through your search, the more similar the companies are, the more similar they are to the company you are valuing, the better; but it is very rare that you will find a perfect comparable. Characteristics that generally provide a greater degree of comparability to the subject company, or asset, fall into two categories:

Industry

- Sectors with more homogenous products or services
- Industries in which participants are focused
- Mature industries

Market

- High proportion of institutional investors and degree of analyst coverage
- Significant trading volume

The challenge that valuators face, firstly, is identifying all the key comparability factors that need to be considered in the calculation. There is often a lack of information for valuators to do

a thorough in-depth analysis of the comps. Some of those elements are easier to address than others; there are numerous quantitative factors that can be examined, but other factors, such as strength and depth of management, and the strategies of the various businesses, are more difficult to understand from publicly available information alone. Secondly, even if in a perfect world valuators are able to access this data, what do they do with it and how do they adjust? What does it do to the multiple if there is very strong management in one company but not quite as strong in another? What about concentration? How should that impact the multiple? If one gets into very subjective and judgmental adjustments, it is often gut feeling that becomes the key driver.

In terms of using market comp analysis for valuations, there are certain situations that are much more appropriate than others. There are a couple of industry and market situations where one expects to have better success and reliability in using market comparables than others. From an industry perspective, where one is dealing in sectors and industries that would have more homogenous markets and products, the level of comparability is increased. For example, in the resources sector, the products and operations of industry participants tend to be more commoditized and easily compared than in the software industry, where the valuator has to assess the impact of a wider range of comparability factors including differing business and sales models, strength of intellectual property, and the end user niche addressed by the product. Generally, in industry sectors where participants are selling unique products through a variety of sales models, it is more difficult for the valuator to establish true comparability across companies.

In industries where participants are more focused — such as single business units that have less breadth of services or products — there is increased reliability when using comps. Mature businesses where all the companies are at the same stage of development also increase the reliability of using comps. Returning to the technology sector, imagine a scenario in which a valuator is looking at an early stage, high growth company, as well as a large, mature company, and both companies are addressing the same stage or solution. What does the valuator do with that data? How comparable is a company that may be competing with Microsoft in one niche, though they are just a startup, versus Microsoft, which has few significant competitors? From a market perspective, having a high trading volume, a high proportion of institutional investors, and significant analyst coverage, is a positive thing. One can perhaps rely more on the market data that is available.

Thus, understanding the financials and the historical results of the peer group can significantly assist the valuator in assessing the forecast risk – where does the company sit in terms of relative profitability, and where is the company likely to go? Often, if one is dealing with earlier stage companies with a hockey stick revenue growth pattern, with huge amounts of operating efficiencies coming out of it, and an EBITDA margin of 40%, the valuator must ask: is that really reasonable or not? Can one take a look at other companies that have been there in a similar space with a similar operating structure and reasonably deduce what the company will be able to produce as a bottom line?

Another area where a lack of depth in analysis can be observed is valuation at a particular point in time, with comparable transactions occurring at a *different* point in time. Valuators will do a great deal of work and research the economic or industry conditions as of that date, which is good. But if a valuator really wants to do a rigorous analysis in terms of applying the market approach, they will need to go back and examine industry and economic conditions at the time that transaction occurred, the point you are potentially relying on. How would those conditions be similar or different today? How would that be expected to impact the value? If one were to take the comparable transaction and roll it forward to today, what would that price be? Valuators, generally, do not often do that; they do not go back and try to understand what all the driving factors were at a given point in time that influenced the price of that transaction. Asking a question such as “how does that transaction compare to the current environment?” can be helpful.

Expanding Search Criteria

When trying to use public company comparables to value a company in Canada, there is not a lot of data available, particularly if one is trying to segregate the data to certain groupings in terms of the size of the company. One way to overcome this lack is to expand the search criteria to include U.S. data. Any time one moves outside the region that the subject company is dealing in, and expands to other geographies, more data points are provided, which is a good thing. At the same time, however, loosening geographical parameters introduces a whole host of comparability factors to consider and understand as a valuator.

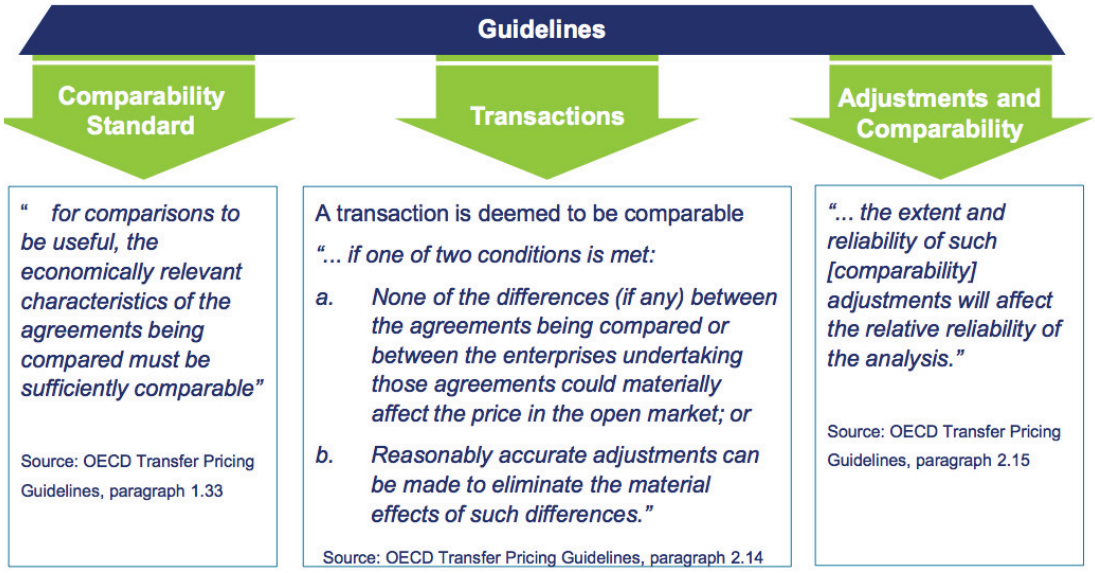
For example, in the U.S. there might be different companies that could be impacting the metrics being examined — even revenue recognition and what is flowing through earnings. One must also consider the different tax rates in different jurisdictions, and one has to look at the effect of a different tax rate on the cash of your subject company, as well as the comparable companies.

Looking at Canada, for example, there are much lower tax rates on the surface, so one would assume that there should be a slightly higher enterprise value, EBITDA, than U.S. companies, because companies retain more of their cash flow. Looking at the data from the packaged meats industry, however, one can see that the enterprise value EBITDA multiple of the company in the U.S. is actually higher on average — which suggests that there are other factors at play. Valuators need to understand the legislative environment, the competitive environment, and peel back the layers of complexity to understand as best as possible all of the different factors impacting the valuation of those peer group companies.

A Framework for Establishing Comparability

In business valuation in general, there is no set framework for determining when a company is sufficiently comparable to the peer group or to the subject company — a set of criteria for determining when one can retain a data point as being a reasonably comparable or not.

In lieu of a cogent framework for valuation, what is available, however, is the perspective of the Organization for Economic Co-Operation and Development (“OECD”) Guidelines. The transfer pricing guidelines provided by the OECD stress the importance of the economically relevant characteristics of market data and the ability of proponents to make reasonable adjustments based on differences in these characteristics. Although most valuators are not necessarily intimately familiar with these guidelines, there are some interesting points to think about assessing comparability for the purposes of applying the market approach.



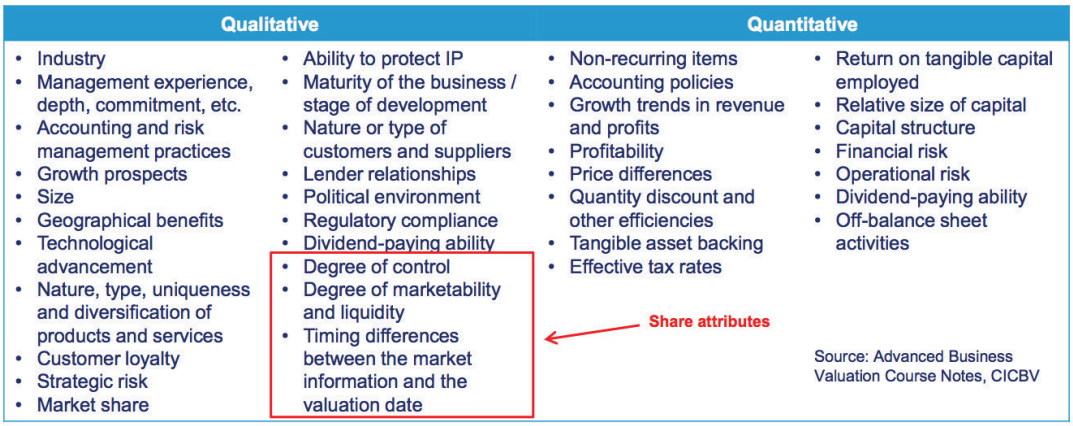
To identify all of the material comparability differences, the valuator would need to ask: what are all the key value drivers for the company or the industry? How will I do a deep dive on drivers, to understand the situation more completely? Additional questions include: are there differences among the companies? If there are differences and if they are material, are the differences between the subject company and the competitor significant enough to have a material impact on the transaction price? Can I reasonably and reliably adjust for those differences? Additional questions include: how material is the comparability difference? How significant will it be to the overall price or value? What is the extent of subjectivity that would be required in making those adjustments? If conditions are not met, the transaction is not deemed to be comparable. The extent of required adjustments also has a direct impact on reliability.

This framework may help valuators to think about additional and important factors when assessing comparability in a notional valuation.

Challenges in Adjusting Multiples

Making precise adjustments to multiples can be challenging due to the extent of differences between market comparables and the subject company or asset.

A number of drivers for adjustments outlined by the CICBV are as follows:



There are a whole host of factors that the valuator needs to consider when figuring out comparability and what could potentially influence the multiple. There are some that one is able to get lots of data on, speaking in terms of the publicly available information, but a number of elements that are difficult for to gain sufficient insight on — yet they are important. The key one is management experience: the senior management team in a company is very important. The valuator will have lots of access to management of the subject company, but they are never going to get a great insight into what management was like at the company that was bought, or that is being relied on as a data point. Even from a public company perspective, one can probably read bios on the company website, yet they are all going to seem very competent, and will ultimately not provide a true impression of the depth and strength of management which is so necessary for doing comps.

Can Reasonable Adjustments Be Made?

Disclosed information may not tell the whole story. This is due to three reasons:

First, publicly disclosed information does not generally provide the same level of information that is available during a notional valuation exercise. There is limited — or no — access to management, or insider information (i.e. financial forecasts) related to the strategy of the company.

Second, reliance on disclosed information can lead to distortions of multiples relative to the company being valued. This is due to the fact that companies have differing policies for the treatment of capital expenditures. Furthermore, redundant assets are not segregated from operating assets.

Thirdly, publicly available information is generally available only from larger public companies. Larger public companies tend to trade at measurably different price multiples than smaller companies. The majority of publicly available information is thus biased towards larger companies.

These are only some of the potential discrepancies that lead to complexities in adjusting the implied multiples.

Adjustments to Share Attributes are Simpler

There are differences between publicly traded and privately held businesses as well as specific transaction characteristics to be considered. In addition to company specific attributes, one also needs to examine share specific attributes including:

- Control premiums (including synergies reflected in purchase price).
- Holding period of public shares versus private shares.

- The degree of a minority discount and illiquidity discount is generally not evident in transactions between minority shareholders in public markets.
- The degree of liquidity.

Adjustments to share attributes can often be simpler due to the quantity of information available to support the quantum of potential adjustments. Generally speaking, it is easier to adjust for differences in share attributes, as a number of empirical studies exist that provide a framework to assist the valuator.

The valuator must also be wary of other considerations affecting the market multiples. Time and other factors that impact the implied multiples from observable data from public companies and precedent transactions must also be considered. Select examples of other factors to consider include:

- *Macroeconomic factors:* Were macro-economic indicators (i.e. real GDP growth) at the time of the precedent transaction consistent with the conditions at the valuation date? In the initial days of the global credit crisis, the use of precedent transactions from as little as a few months prior would be indicative of a very different economic outlook and M & A environment.
- *Capital markets:* Changes in capital market conditions from the transaction date, including leverage and the cost and availability of financing, returns on alternative investments and tax rates.
- *Fluctuation in stock market prices:* Open market transactions are negotiated over time while public company data is based on a specific point in time. Is the trading multiple of the comparable public company impacted by significant volatility in trading values? Would the use of an average implied multiple over a longer time period be more appropriate?
- *Synergies:* In the review of the potentially comparable transaction, did the purchaser pay for synergies that would not be realized on the sale of the subject company to an industry participant? Pre-credit crisis, a large number of deals were being made by financial buyers who typically did not have access to post-acquisition synergies.

Even if a company or transaction is deemed comparable, the valuator must be wary of other considerations impacting implied multiples.

The Use of Market Data as a Benchmarking Tool

Irrespective of the valuation approach utilized, market data can offer other insightful information in the valuation exercise.

Firstly, market data can provide the valuator with a richer context for understanding the market conditions that have impacted the company's historical results and potential variability of future results. Secondly, using public market data can help in analyzing the strengths and weaknesses of the outlook prepared by company management. It can also help assess related forecast risk. A comparison of key performance indicators to industry norms is a key element in this analysis.

Finally, market data can be useful in dispute situations. The financial information, results and outlook for other industry proponents can be a helpful input in establishing or quantifying losses where an event has occurred, and the valuator is in the position of estimating how long the business will take to get back on track. If there are not many actual cases to rely on, that benchmarking tool can be very helpful in establishing a "but for" scenario — what the company would look like if that event had not occurred (which was the ultimate cause of the dispute). Market data can be useful in a number of facets of the valuation exercise, and is especially valuable in a dispute context.

Common Information Resources

There is a wealth of resources available to valuators for exploring publicly available information. A selection of these resources include:

	Source	Function
Online databases	• Bloomberg • Thomson Financial Securities Data • The Mergers and Acquisitions Advisor • S&P Capital IQ • Hoovers • Pratt's Stats	• Industry data and benchmarking information • Search for comparable companies and transactions • Summarized and detailed financial information on companies and transaction
Financial statement repositories	• EDGAR • SEDAR	• Provide detailed financial information on companies
Studies	• Internet and stock market studies • Brokerage firm studies	• Provides "hard" and scientifically based evidence for industry or share attributes
Other	• Discussions with management **(critical)** • Industry publications • General internet research • Discussions with deal advisors	• Provides general background details on the company and industry

Generally, the publicly available information valuators are able to access is limited, leading to gaps in analysis.

Due to the high likelihood of gaps in the analysis, valuators are encouraged to follow a number of best practices to increase the rigor of their analysis. First, valuators should consider the consistency of metrics between information sources. Where multiple sources are used in market assessment, a review should be undertaken to ensure that the inputs and assumptions used in calculating the metrics are consistent between sources. Second, valuators should consider the validation of data to source documents. Wherever possible, the valuator should compare the data highlighted to the original source of the inputs (i.e. company financial statements and regulatory filings, market trading data, etc.).

Finally, valuators should endeavour to have rigorous discussions with management. In practice, discussions with management are a critical component of the valuation exercise, not only for gaining understanding of the subject company but to enhance the valuator's knowledge of the comparable companies and transactions identified in an initial market review. Sufficient diligence must be performed on key inputs in the analysis. Discussions with management are critical to enhancing the valuator's knowledge in the market.

Conclusion

It is very rare that an identically comparable company or transaction ever exists. The greatest challenges for the valuator in applying the process include:

- *The level of due diligence required:* Detailed analysis is required in the process of searching and analyzing comparable companies and transactions. In practice, there may be insufficient analysis performed to determine the comparability of market data.

- *Publicly available information:* Even when a thorough analysis of market comparables is undertaken, significant gaps may remain in the analysis based on the limits of publicly available information. The valuator must consider whether true compatibility can be assessed based on the information available in the public domain.
- *Assessing the quantum of adjustments:* Even if valuators have a thorough understanding of all material comparability elements, they are still required to make adjustments that are subjective and based on professional judgment. There is no scientific approach that can be applied to deal with each identified difference.

In the view of the authors, in the context of the valuation of a company there would be very few instances in which the valuator should rely on a market approach as the primary measure of value. At best, market data may serve to corroborate the conclusions reached under an alternative approach and/or inform certain assumptions that would be made under an alternate valuation approach.

4

FRAUD, CORRUPTION, AND OTHER SCANDALS: THE IMPACT OF STIGMA ON BUSINESS VALUATIONS

by Catherine Tremblay, CBV[1]

Since 2010, the news media has reported on a number of corruption scandals in Quebec, especially in the construction industry. When corruption is publicly exposed, companies suffer financial losses and their reputation is damaged. Chartered business valuators ("CBVs") who find themselves in the position of valuing companies affected by stigma have a number of special considerations to make. From a practice management perspective, this begins with whether the company would clear client acceptance procedures. If the CBV decides to accept the engagement, it becomes imperative for the CBV to understand the effect of stigma on a business from a theoretical perspective, as well as how to practically quantify the effects of stigma for valuation purposes.

This paper provides a current review of existing literature on the quantification of businesses affected by stigma and provides three case studies, each of which illustrates the effects of stigma on a particular business. This paper will conclude with guidance on how CBVs can calculate the impact of stigma on a company they are valuing.

What is Stigma?

The dictionary defines stigma as a "mark of disgrace or infamy, a stain or reproach, as on one's reputation." In business, stigma occurs when something negative happens to a company, which in turn has a detrimental impact on the company, both externally (e.g., on customers) and internally (e.g., on employees).

A notable example of stigma occurred in the real estate industry when asbestos was first discovered to be harmful in the 1970s. Asbestos-tainted insulation found in walls of buildings caused a loss of value of affected real estate. Over the years, however, the impact became more circumscribed as people found ways to deal with asbestos. Once a problem is identified and measures are taken to resolve it, the impact of stigma associated with the problem may decline. Today, there are still buildings in downtown Montreal that contain asbestos, yet we now know that as long as asbestos remains confined in the walls, there is no safety hazard. However, if an asbestos-tainted building is redeveloped, it must be de-contaminated first. Today, the procedures and costs of de-contamination are well defined, so there is much less stigma arising from the uncertainty initially associated with the problem in the 1970s.

In real estate, stigma can be quantified as the amount of the value decrement in excess of the cost of the remedial efforts. A homebuyer viewing two identical homes, one of which has asbestos, and the other having another identified problem, will naturally obtain estimates of the costs to repair. If each house is worth $200,000 and the expected cost of repairs is $15,000, the buyer is going to expect the seller to decrease the asking price by $15,000. But beyond that, the buyer might

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still feel that he or she is taking a risk with respect to the asbestos and might want an additional provision for contingencies or other costs. We define this as stigma, i.e., the cost *over and above* the material costs to remediate the problem.

How does this analogy of stigma identification relate to business valuation? For a public company, the impact of stigma can be observed on the share price: the stigma-affected company may have lower multiples than its peers. When valuing a small private company, or even a large private company, however, CBVs do not always have the benefit of comparable or guideline companies that have been affected in a similar way by stigma. As a result, it can be a challenge to measure the impact of stigma on the value of a private company. In the following sections, we provide an overview of recent events and investigations that have brought to light corruption in the awarding of public contracts, giving rise to new legislation and countermeasures. We also present two examples of private companies having been affected by stigma, as well as an analysis of the impact of stigma on public-company share prices, which can be extrapolated and applied in the context of the valuation of a private company.

Recent Events

Stories about corruption of public officials have abounded lately in the news media. One recent investigation involves highway lampposts and an alleged mini duopoly, where only two suppliers were sharing the market. As a result, there is now a large investigation of lighting companies in Quebec by the Competition Bureau.

Tainted meat is an issue that has arisen a number of times over the years. The latest scandal, in Europe, found that horsemeat had been included in processed food products without being appropriately labeled as such. That scandal affected various companies because all of the tainted meat was attributed to one producer that supplied several retailers. The extent to which a company's reputation is damaged depends on how pervasive the issue is and how significant it is to the business. For example, the horsemeat scandal in Europe affected certain companies more than others because food was their core business, whereas for others, food sales were peripheral, so the impact was not as extensive.

Lately there have been a number of scandals in the construction industry in Quebec, following which two mayors have stepped down as a result of corruption allegations. To address the fallout from these events, the Quebec provincial government has set up a monitoring body called the Permanent Anti-Corruption Unit or Unité Permanente Anticorruption ("UPAC"), with broad ranging powers to investigate. The government also created a commission of inquiry into the construction industry, presided by Justice France Charbonneau (the "Charbonneau Commission"), which has had its mandate extended until 2015. Behind the creation of these bodies and commission is a new governmental focus on combating and bringing corruption issues to light.

The Charbonneau Commission is officially called The Quebec Commission of Inquiry on the Awarding and Management of Public Contracts in the Construction Industry; it has been charged with identifying potential corruption in the management of municipal contracts. Its mandate is to:

1) Examine the existence of schemes and paint a portrait of activities involving collusion and corruption in provision and management of public contracts in the industry (including private organizations, government enterprises and municipalities).
2) Include any links with the financing of political parties. The Charbonneau Commission found that certain construction companies would organize turn-key elections, with an understanding that the elected representative would return favours once in power.
3) Describe the nature and extent of possible organized crime infiltration.
4) Examine possible solutions and make recommendations establishing measures to identify, reduce, and prevent collusion and corruption in awarding and managing these contracts.

The Charbonneau Commission exposed widespread corruption in the construction industry, particularly around how contracts were assigned. There were allegations of municipal officials personally taking 3% of the contract value, which they justified when interrogated before the Commission with the rationale of "that's just how the system worked." There was price fixing among contractors, where contractors would agree among themselves who would win the contract. The other entrepreneurs would simply bid higher, knowing that they would not obtain the contract but that on another request for proposals, it would be their turn. Price fixing, public officials taking a percentage of the contract value and approving false invoices for cost overruns, were all exposed as corrupt practices during the Commission hearings. Scenes of mafia figures exchanging envelopes in washrooms and stuffing cash down their socks all figured into evidence before the Commission. As a result of the problems identified, the government implemented new municipal contract allocation rules with which companies need to comply today.

This pervasive system of collusion and corruption, identified by witnesses, had effects on the funding of political parties in certain municipal areas (it should be noted that this was not found province-wide). Nevertheless, there have been cases in two major cities, Montreal and Laval, where mayors resigned from office as a result of the issues uncovered by the Commission. Additionally, many engineering firms were identified as complicit in the schemes of issuing false invoice systems to finance municipal parties in exchange for obtaining contracts with municipalities. This list includes some of the prominent firms in the construction industry — large, public companies, in addition to the smaller entrepreneurs.

The Commission has so far highlighted how the mafia infiltrated the construction industry. The UPAC identified 36 strategies to combat the corrupt awarding and management of public contracts. The ex-mayor of Laval, the third largest municipality in Quebec, was criminally charged with "gangsterism" as a result of UPAC's investigation. Following this series of events, a set of municipal legislation rules, Bill 76, has been enacted.

Each municipality in Quebec must now adopt contract policies, and contractors must sign an affirmation that they were not involved in collusion. The policies must include provisions to avoid conflicts of interest, influence peddling and corruption.

Another bill that has been proposed, whose details are still being worked out, is called the *Integrity in Public Contracts Act* or Bill 1 ("Act"). Under the Act, companies must first obtain the authorization of the Authorité des marchés financiers ("AMF"), the Quebec financial markets authority (the Quebec equivalent to the Ontario Securities Commission), to be eligible to bid on certain public contracts/subcontracts. The authorization is only granted following an investigation in cooperation with UPAC, and so this is still being phased in. In the news in 2013, one of the large Quebec engineering firms, a publicly traded company, was denied this authorization. Sixty-five percent of their work was from public contracts. Much like the situation in the United States in 2007, 2008 and 2009, when the banks were deemed to be too big to fail, there was likewise some speculation whether the engineering firms are too big to fail, since they are so prominent in the Quebec economy. Would the government allow them to fail because of this new bill?

The Act applies to construction or service contracts of $40 million dollars or more, and even to sub-contracts or service contracts involving expenditures of $40 million dollars or more. It also applies to certain contracts with a value of less than $40 million in the City of Montreal. Contractors must also get prior authorization from the AMF, and this includes Crown corporations, Quebec government departments, municipalities, school boards, universities, health and social services agencies — in other words, most of the large entities that would award public contracts.

How does the AMF decide which companies are approved? The AMF will refuse authorization where any entity holding 50% or more of the voting rights, or any director or officer has been found guilty of offences, including violations of, among others, the *Criminal Code*, the *Competition Act*, *Income Tax Act*, and the *Excise Tax Act*.

In addition, the AMF may refuse authorization if it considers that public confidence may be affected by lack of integrity of the enterprise, its partners, directors or officers. This provision is quite broad and may be considered to be somewhat discretionary. Once the authorization is obtained, an enterprise is on the "approved" list for three years unless approval is revoked by the AMF. There used to be a "black list" of companies, i.e., there was a list of ineligible companies. Now, however, a register of authorized enterprises replaces the register of ineligible enterprises. A company must be on the authorized list in order to bid on public contracts of the scope defined above. In the case of a consortium submitting a bid, each company must hold the authorization.

Case Studies

The following examples are situations that have arisen in the author's practice where companies were affected by stigma.

In example number one, a company was raided by RCMP officers. The raid immediately made the news and the company went into damage control mode, hiring lawyers and public relations firms. The event diverted management's attention away from the business operations. Some customers stopped buying from the company, as they had purchasing policies that prevented them from dealing with companies having charges pending against them. Some suppliers also terminated their agreements with the company, which was very detrimental as the company could no longer offer certain products to its customers, resulting in further lost sales. For example, if the company lost $10 million of annual sales, we can use this measure to quantify the impact of stigma on the company.

Banks also become nervous when they hear news of a company facing stigma and may sever their relationship with the affected company. The company may also have difficulty in recruiting and maintaining personnel, as the incident and subsequent fallout from the stigma may be very unsettling. Key management also may be thinking about the impact of the stigma event on their careers and may wish to dissociate themselves from the company. Even competitors take advantage of a stigma situation by consolidating their market position. The stigma can thus have a significant and lasting impact, some of which may be difficult to measure directly as it relates to qualitative (rather than quantitative) factors, such as a company's reputation.

In another real world example, a client who had several different businesses, one of which depended on municipal contracts, acquired another business in 2009. One year after the acquisition, it was discovered that under former management, the newly acquired business had a problem with collusion, of which the new owner and manager had been unaware as the problem had not been uncovered through due diligence prior to the acquisition. The client had a problem: one of his companies depends on municipal contracts, and the others do not, yet under the Act — which bars associates or affiliates from obtaining public contracts — the entire group of companies was prohibited from bidding on public contracts. The owner wished to transfer shares to dissociate himself from the tainted company; otherwise, the other company will be ineligible to bid on public contracts because ownership of over 50% of the shares, or being a director of a tainted company, can prevent an affiliate from obtaining public contracts. Valuators might find themselves in the position of having to value the shares of the stigma-affected company in order to enable the corporate ownership to be restructured.

Under a fair market value standard, if a buyer has a choice between two investments, one of which is affected by stigma, and the other is not, obviously the buyer would prefer the "clean" investment, otherwise he will require compensation for the stigma-affected entity by way of a discount, as the income-producing potential of the company may be reduced. Further, depending on the type of stigma event, one might not know the full impact, especially if it has just occurred. But if the valuation date is a few years subsequent to the stigma event, the impact will likely be reflected in the company's financial results and may be more readily quantifiable.

Existing Literature

A 2011 study by Cheung, Rau and Stouraitis[2] examined the impact on firm value of revelations of bribery on stock prices in the U.S. They analyzed 166 bribery cases involving 107 publicly listed firms in 52 countries from 1997–2007. Interestingly, they cite a Dow Jones survey that states that more than 55% of companies delay or avoid working with global business partners due to concerns about bribery, and more than 40% reported having lost business to competitors that won unethically. Eleven percent of OECD firms reported that "firms like theirs" bribe in other OECD countries. Yet the study found that firms that win contracts by paying bribes generally under-perform; additionally, firms from countries with extensive corruption have a higher cost of capital. Clearly, there is a cost to corruption.

The study additionally found that the median bribe in the sample study was $2.5 million. Firms that pursued higher sales growth, highly indebted firms, and low market-to-book firms, paid larger bribes. Firms paid larger bribes to government officials in countries having unreliable police forces. The impact of one dollar of bribe paid, on average, was to increase the firm's market capitalization by $11. The bribe-paying firms were mostly from Japan, the U.S., France, Germany and the U.K. In the majority of cases, the detection of the bribery arose through investigations by government officials.

The study went on to compare the sample firms — the bribery firms — with the universe of firms which are listed in the same market and industry. They compared publicly listed bribe-paying firms with a randomly selected control sample without reported or confirmed bribery incidents. They took a variety of metrics: asset turnover, operating profit margin, return on assets, return on equity, annual sales, EBIT, and net profit margin, and they also measured the stock price performance. Their conclusions were that bribing firms tended to underperform when it comes to net profit margin. They also had higher leverage, and the least efficient firms were those that won contracts by paying bribes. In other words, firms that had the most difficulties were the ones that were the least efficient — and the ones that were desperate enough to pay the bribe.

Another study, conducted by Karpoff, Lee and Martin,[3] found that firms prosecuted for bribery suffered significant costs. Share values declined on average by 3.11% on the first day the news of the bribery enforcement action was reported. After further announcements — there are often a succession in the first year following the initial news of the scandal — the share price tended to decline by a cumulative 8.98%. Fines, internal investigation costs and losses associated with financial restatements, accounted for about 3.20 percentage points of the cumulative decline in share values, suggesting that the remaining 5.78 points could be attributed to *reputational impact* (i.e., stigma). They also found that monetary penalties imposed by the Securities and Exchange Commission (SEC) and the Department of Justice, plus settlements from class actions and derivative lawsuits, averaged about 0.98% of the firm's market value. The total cost of an internal investigation and legal fees consumed an additional 1.13% of the market value. When financial fraud charges were included, total direct costs went up to 3.47% of market capitalization. More important, "indirect" costs averaged 48.1% when fraud charges were involved compared to 1.61% when there were no financial fraud charges related to the incident.

When the announcement discloses only financial misrepresentation, the one-day abnormal return is –9.92%. When the initial announcement discloses only bribery, the one-day abnormal stock return is 0.47% and is not statistically significant. This goes to show that when there is fraud or financial misrepresentation, there is a much larger impact, and much more uncertainty than allegations of bribery.

The data indicates that firms apprehended for foreign bribery tended to have the following characteristics: they were large manufacturing firms that relied heavily on foreign countries; they

2 "How Much Do Firms Pay as Bribes and What Benefits Do They Get? Evidence From Corruption Cases Worldwide." National Bureau of Economic Research Working Paper No. 17981, April 2012.

3 "The Cost of Cooking the Books." *Journal of Financial and Quantitative Analysis* 43 (2008): 581-612.

tended to be heavily leveraged, had low cash holdings and low market-to-book ratios. The conclusion of this study was that allegations of bribery on a company's reputation were more likely to be perceived by the market in a similar way as an environmental violation, for example, and would not have the same impact as consumer fraud. Firms did not suffer major reputational losses when they were caught bribing; however, when the bribe was accompanied by financial misrepresentation, the reputational loss tended to be large.

Quantifying the Impact of Stigma

One method to quantify the effect of stigma is to study the share price of publicly traded companies that have been affected by a negative event, ideally, similar to the incident affecting the company that is the subject of the valuation. The analyst would thus quantify the "stigma effect adjustment" based on multiples derived from public company data. There are two analytical methods that a CBV could employ to this end:

1) Compare the subject company's financial ratios and valuation metrics to its historical "pre-stigma" valuation metrics; and
2) Compare the subject company's financial ratios and valuation metrics to benchmark guideline companies.

There are, of course, the usual caveats related to the market approach and finding the right comparables — and it can be even more difficult to find a comparable publicly listed company that had an observable stigma incident over a relevant period of time.

Two different components influence the share price: first, direct costs to remediate the stigma event, or the actual quantifiable and measurable loss of revenue due to the negative perceptions; and second, additional costs or loss of revenues due to the ongoing stigma effect.

Another key issue is the date at which the effect of stigma is measured. Is it at the date of the stigma event or sometime after that? This is relevant, as valuation is always measured at a specific point in time. The effect of the stigma incident might decline over time, or conversely, increase, if the damage is not remediated. If the measurement is immediately after the stigma event, the additional costs may not yet be quantified; likewise, the historical financial data is pre-stigma so one might not be able to rely completely on those numbers, as they do not reflect the effect of the stigma. If the valuation date is at a certain time after the event, for example, six months, a year or two, there might still be an impact because the reputational impact tends to last a long time. At that point, generally, the total additional cost might involve lawsuits and costs to remediate. If the stigma event was an oil spill, for example, the costs are generally segregated and taken care of within a limited time frame. But there is also a non-quantifiable portion or a "pure stigma" effect based on the ongoing negative perception and reputational loss.

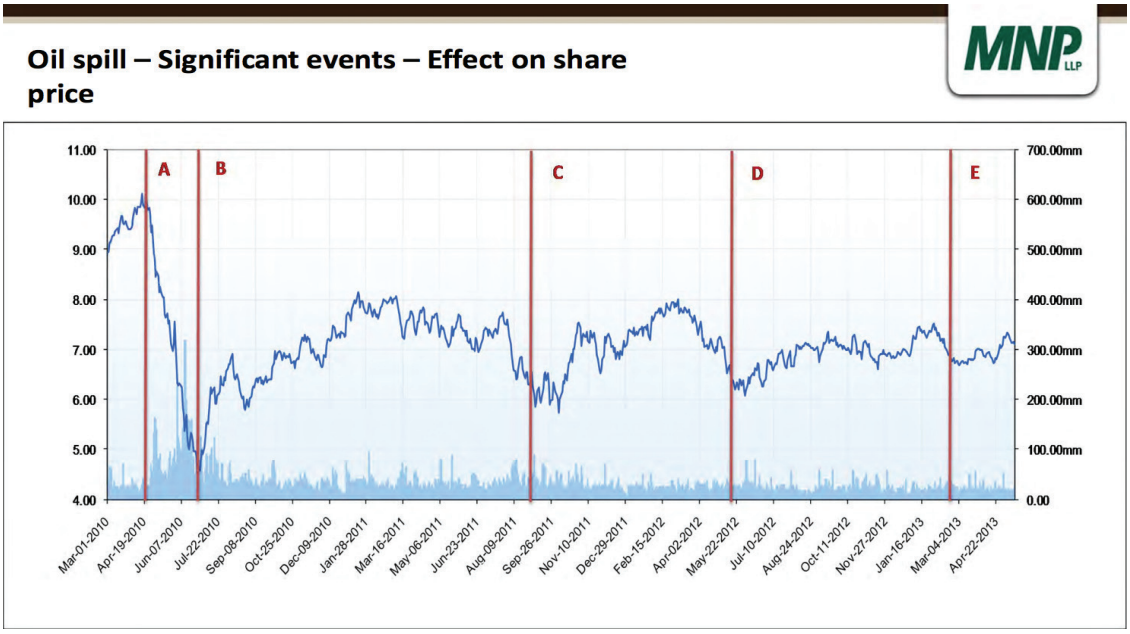
Quantifying the Effect of Stigma: Major Oil Spill

In 2010, an oil rig on a deep-water platform exploded which resulted in employee deaths and millions of barrels of oil spilling into the ocean. Here is a timeline of events:

A) April 20, 2010 — Oil spill
B) June 16, 2010 — The company agrees to put about $20 billion in a fund to pay damages.
C) August 26, 2011 — Businesses and individuals suing the company win judge's approval to seek punitive damages in pursuing claims of economic and environmental losses.
D) May 3, 2012 — Company wins preliminary approval of its $7.8 billion economic and medical settlement.

E) January 29, 2013 — Company agrees to pay $4.5 billion in penalties and fines, including $525 million to the SEC for securities violations, and submit to intensive oversight.

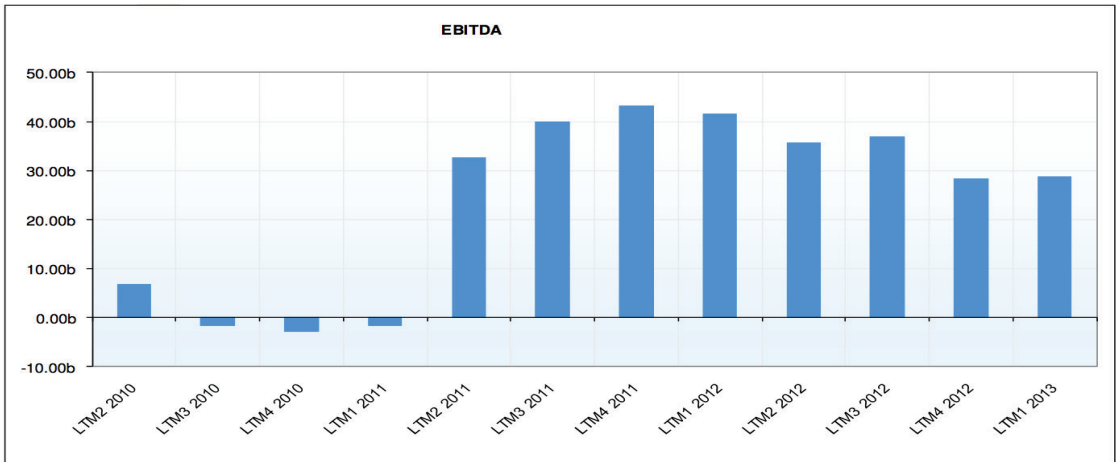
The following graph shows these significant events as lines in relation to the company's share price fluctuations:



After Line A, the date of the oil spill, the share price undergoes a rapid decline. Line B is when the company set aside $20 billion in a fund to pay for its settlements. From that point forward, it seems as though the market shows a readiness to move on, once the uncertainty is resolved, as the share price gradually recovers. Line C is when businesses and individuals obtained the judge's approval to seek punitive damages and various claims. The share price declines and stagnates and then goes up again. Line D is when the company won preliminary judge approval of its proposed settlement, agreeing to pay various fines and penalties. The stigma effect is very pronounced at the beginning, yet in fact the share price never fully recovered to pre-stigma levels, even as of today.

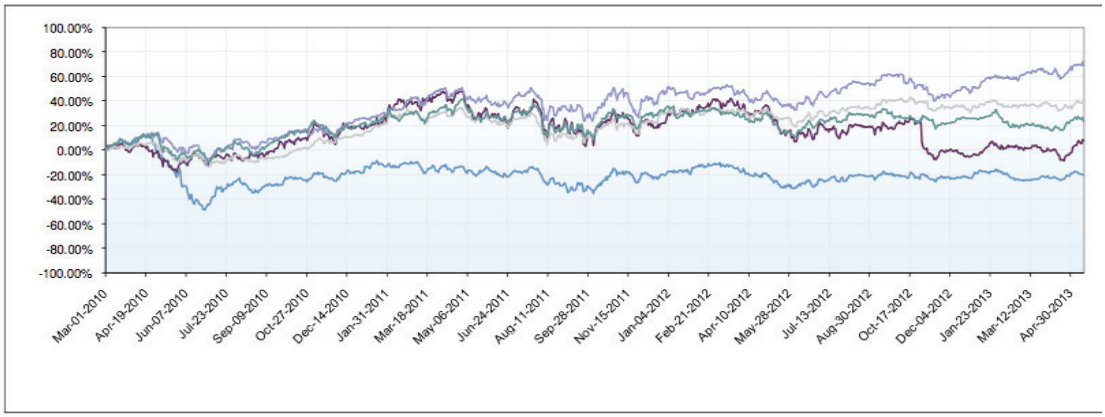
We also analyzed the impact of the stigma incident on the company's earnings before interest, taxes, depreciation and amortization ("EBITDA"). The company was in a loss position for a few quarters following the incident, then EBITDA started recovering to previous levels or new normalized levels, as shown in the graph below:

Oil spill - Impact on EBITDA



It is interesting to compare the company to its competitors in the industry in the following graph (the subject company's share price is the blue line). The share price trended down immediately after the stigma incident occurred, and then subsequent fluctuations followed those of its competitors and trended along with them, although the share price never fully recovered.

Oil Spill – Comparison to competitors



Oil Spill company represented by the blue line

We have also calculated various ratios of total enterprise value ("TEV") to EBITDA and to total revenues, comparing to competitors' averages. The first date is March 2010, prior to the oil spill. The share price was $9.66 and TEV to EBITDA was 5.8 times. There was already a difference

between the company and its competitors, the company's ratio being lower as competitors were trading at 6.8 times EBITDA. The TEV to total revenues ratio for the company was 0.9 and competitors were at 1.5 so again, the subject company was lagging behind its competitors. The incident occurred on April 20. In June, the impact was most severely felt. Two months after the incident, the share price had plummeted to $4.61, down from $9.66. The TEV to EBITDA ratio was half of what it was in March, at 2.6 times. Competitors were trading at 5 times EBITDA so the company was lagging by 2.4 times, which was much worse compared to the pre-incident difference of one time (i.e., 5.8 times for the company versus 6.8 times for its competitors). TEV to revenues were at 0.4 and competitors were at 1.2, so the company was 0.8 behind. In May 2013, the share price had not recovered fully, being approximately $7 per share versus almost $10 before the stigma incident. TEV to EBITDA had recovered to 4.8 times and competitors were trading at 4.28 times, so the company had managed to improve that ratio relative to its competitors. On the TEV to revenues ratio, though, the company remained behind its competitors by 0.6 times, as before the oil spill.

Oil Spill - TEV/EBITDA and TEV/Total Revenues vs Competitors' Average

Dates	Share price	TEV/EBITDA	Competitors TEV/EBITDA	Difference TEV/EBITDA	TEV/Total revenues	Competitors TEV/total revenues	Difference TEV/total revenues
19-Mar-10	9.66	5.8	6.82	-1.02	0.9	1.5	-0.60
20-Apr-10	9.96	5.9	6.25	-0.35	0.9	1.44	-0.54
29-Jun-10	4.61	2.6	5.02	-2.42	0.4	1.2	-0.80
15-May-13	7.11	4.8	4.28	0.52	0.4	1.02	-0.62

How can we interpret the above statistics? The share price fell significantly after the incident, by –53.7% in the first two months. Each negative announcement, as the extent of the damage was known, resulted in further share price declines. The steepest drop in the share price occurred between the date of the oil spill and the creation of the cleanup fund. The lowest share price was on June 29, 2010. After that date, prices slowly began to recover but never achieved their pre-spill level. Valuation multiples seemed to recover to pre-spill levels compared to the market but not in value (however, neither did competitors' multiples — it may be that the industry as a whole was affected by the negative perception resulting from the oil spill).

Quantifying the Effect of Stigma: Tainted Meat

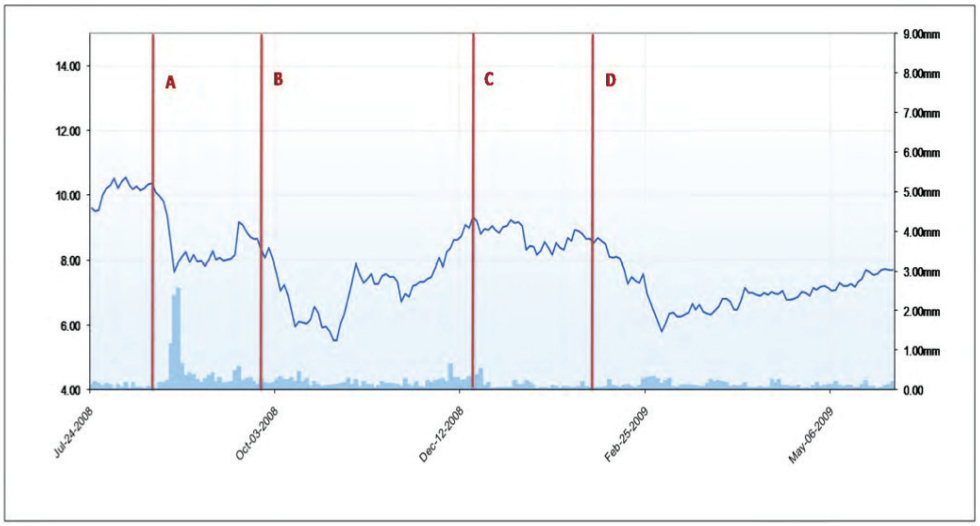
In another example involving a meat company, there was a recall of meat after certain problems were identified at a processing plant, which was shut down for deep sanitizing. Here is the timeline of events:

A) August 28, 2008 — Company announces the recall and closes the factory.
B) End of September 2008 — 21 deaths related to the consumption of the tainted products confirmed.

C) December 18, 2008 – Company agrees to pay up to $27 million to settle class action lawsuits.
D) February 2, 2009 – Company reaches a $27-million Canada-wide settlement.

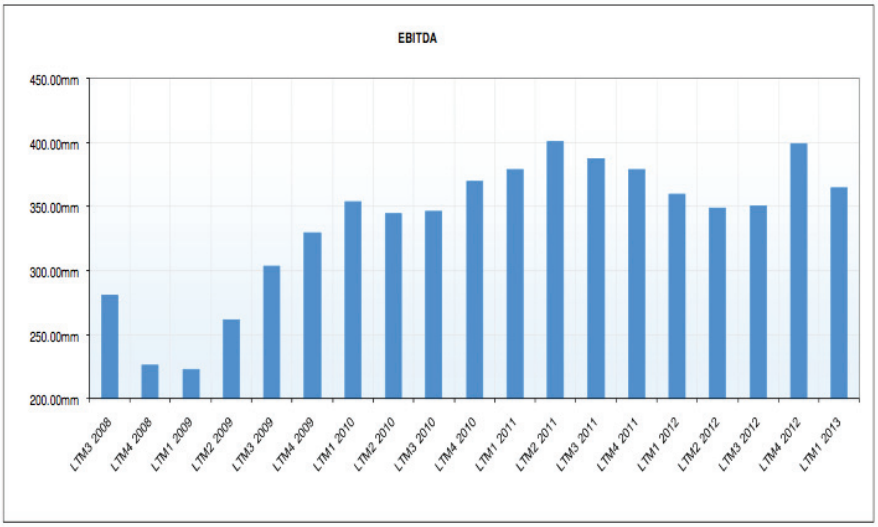
The following graph illustrates the company's share price fluctuations, showing the above-referenced events:

Meat Company – Significant event – Effect on share price



Line A is when the company announces the recall. Between August and the end of September, when 21 deaths were confirmed, the share price seems to have continued its decline. Then Line C is when the company agrees to pay a $27 million settlement. Line D is when the settlement is confirmed and approved.

Meat Company – Effect on EBITDA



Looking at the EBITDA in the chart above, the impact occurs in the two quarters immediately following the stigma event; it subsequently seems to have recovered.

Meat Company - TEV/EBITDA and TEV/Total Revenues vs Competitors' Average

Dates	Share price	TEV/EBITDA	Competitors TEV/EBITDA	Difference TEV/EBITDA	TEV/Total revenues	Competitors TEV/total revenues	Difference TEV/total revenues
25-Jul-08	9.37	8.3	10.93	-2.63	0.5	1.46	-0.96
25-Aug-08	8.48	7.9	10.46	-2.56	0.5	1.47	-0.97
27-Oct-08	6.89	7.2	8.52	-1.32	0.4	1.19	-0.79
15-May-13	11.93	8.1	11.93	-3.83	0.6	2.4	-1.80

The observations one can draw from this case study are that the share price fell significantly after the stigma event (there was an 18.75% drop in the first two months.) The steepest decline occurred after it was confirmed that the deaths were related to meat produced by the company, the

lowest share price being on October 27, 2008. After March 2009, prices slowly began to recover, and they have actually returned to their pre-incident levels. Valuation multiples for the company were always lower than those of its competitors. In parallel with the share price, they declined during the period of uncertainty then subsequently recovered to levels observed prior to the incident.

Quantifying the Effect of Stigma: Telecommunications Company's Financial Manipulations

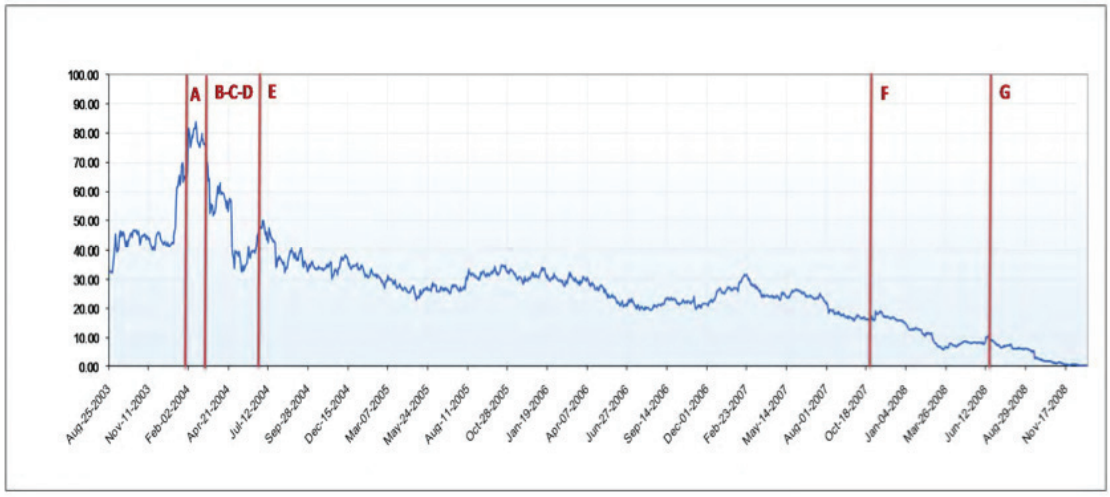
The last example is a telecommunications company that was affected by certain alleged financial misstatements. In 2000, the company had 94,000 employees, a market capitalization of $394 billion, and a stock price of $124 per share. By 2002, the market capitalization had fallen to $5 billion and the stock, to 47 cents, after the bursting of the "tech bubble."

In 2003, the company paid out $75 million of bonuses, when the company had apparently returned to profitability. Soon thereafter, the top executives were charged with changing revenue recognition policies to inflate fourth quarter earnings by $1.4 billion, allegedly to achieve their financial forecasts. The timeline of events is as follows:

A) January 29, 2004 — Company issues fourth-quarter profitable results. Top executives awarded restricted stock unit worth $27.3 million.
B) March 10, 2004 — Company says it will likely restate results for a second time and delay filing its 2003 annual report to the SEC.
C) April 5, 2004 — SEC launches a formal investigation.
D) April 13, 2004 — Canada's top securities regulator launches investigation into company's accounting.
E) July 2, 2004 — *Wall Street Journal* report says company manipulated its books to show a profit in 2003, misusing accrued liabilities to boost earnings.
F) October 15, 2007 — Company pays $35 million to settle civil charges filed by SEC related to the scandal. SEC also charged company's former management team with directing parts of the fraud.
G) June 18, 2008 — RCMP files criminal fraud-related charges against ex-CEO and two of his onetime lieutenants.

Here are these events, illustrated on a share price timeline:

Telecommunication Company – Significant events – Effect on share price



Line A is when the company issued its fourth quarter profitable results, and the executives were awarded $27 million, in January 2004. In March 2004, line B, is when the company announced that it would likely restate results, and delay filing its 2003 annual report to the SEC. One month later, the SEC launched a formal investigation, and Canada's top securities regulator announced it would also launch an investigation into the company's accounting. The share price started to decline at lines B, C, and D. Line E is when the *Wall Street Journal* reported that the company manipulated its books to show a profit in 2003, misusing accounting policies to boost earnings. The share price continued on a slow decline and line F is when the company paid $30 million to settle civil charges launched by the SEC. The SEC also charged the company's former management team with directing parts of the fraud. Line G is when the RCMP filed the criminal fraud related charges against the former CEO and two other executives.

Telecommunication Company - TEV/EBITDA and TEV/Total Revenues vs Competitors' Average

Dates	Share price	TEV/EBITDA	Competitors TEV/EBITDA	Difference TEV/EBITDA	TEV/Total revenues	Competitors TEV/total revenues	Difference TEV/total revenues
31-Dec-03	42.3	31.1	4	27.1	2	3.75	-1.75
29-Jan-04	65.8	25.2	4	21.2	2.8	3.9	-1.10
17-May-04	32.6	13	3.2	9.8	1.5	1.63	-0.13
28-Nov-08	0.57	3.5	4.65	-1.15	0.3	2.62	-2.32

To quantify the impact of the various stigma related announcements, the share price fell significantly at the beginning: there was a 50% drop in the first three months and each subsequent announcement kept pushing the share price down. The share price never recovered and, in fact, the company filed for bankruptcy. This is an example of a stigma event that was accompanied by fraud charges. As the literature cited above has shown, the impact of stigma is more significant when fraud charges are involved.

Conclusion

This paper has provided an overview of the concept of stigma and how various illegal practices have been brought to light by governmental investigations, which in turn has affected the reputation and income earning potential of prominent companies. It has also provided a practical approach to measuring the impact of stigma on the value of a private company. When the subject company has lost a determinable amount of sales, for example, the valuation impact can be quantified specifically. There may remain, however, a reputational impact that is more difficult to isolate and quantify. Having surveyed existing literature on the subject, CBVs can develop a methodology using statistics derived from guideline public companies affected by a stigma-causing incident. Recognizing the inherent difficulties in identifying comparable companies and incidents giving rise to stigma, CBVs can quantify the impact of stigma on the guideline companies' share prices and financial ratios and apply it proportionally to the subject company.

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PUTTING THE PIN IN NET WORKING CAPITAL: IMPORTANT VALUE IMPLICATIONS FOR M&A TRANSACTIONS[1]

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Introduction

As M&A practitioners can attest, the level of working capital transferred on the closing of a transaction can become one of the most contentious issues between a buyer and a seller. Since it pertains to immediate cash needs and resources of the business, working capital has tremendous implications for the value of the business purchased and sold. However, determination of the appropriate level can be neglected in going concern valuations and, in the transaction context, it is often deferred until late-stage negotiations with arbitrary or unfair results. This is typically due to oversight, though I have witnessed instances where a party consciously avoids the issue until after a letter of intent has been struck, based on the faulty logic that dealing with the minutiae of working capital at too early a stage will delay or complicate the transaction.

Ignoring the issue of working capital is a risky proposition for both parties. A case in point is the seller who conducts a competitive sale process and experiences diminishing negotiating leverage as the auction progresses. At some stage, the seller will likely agree to deal exclusively with one buyer, concurrent with signing a letter of intent ("LOI"). As advisors experienced in running a sell-side process will know, the seller's ability to dictate terms is lessened as soon as the other competing bidders are ushered away.

Most going concern valuations concentrate on valuing the operating cash flows of the business and translating these into a value at the valuation date. In most formal valuations, working capital issues are less complicated, since notional adjustments can be made and there are often no changes contemplated or assumed as a result of changes in control, management or business practices. In the transaction setting, though, working capital accounts can fluctuate until the closing date and may wind up at a level that is not "normal" for the existing business or not expected by one of the parties at the time the transaction price was settled. These discrepancies may be due to seasonality or lumpiness of the business, changes in business practices that are planned by the purchaser, or even efforts by the seller to "manage" working capital prior to closing.

This paper is primarily concerned with settling working capital accounts in the transaction context, particularly in the case of going concern entities. However, it is worthwhile starting the inquiry from a somewhat broader perspective in order to consider the appropriate working capital metrics for the business in general, i.e., before deal issues enter the picture. These matters are addressed in Section 1, which analyzes typical working capital structure by industry sector, and then in Section 2, which considers the task of adjusting industry metrics to a particular business.

Section 3 goes on to examine the link between business valuation methodology and the right levels of working capital that going concern methodologies imply. This connection is critical as

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it establishes certain ground rules for the level and structure of working capital that follow from the valuation assumptions. Section 4 looks at issues of agency and the implications of diverging interests between buyer and seller in the transaction context. Section 5 develops the methodology for determining and structuring the working capital to be conveyed on closing of the transaction and Section 6 lays out a template that incorporates this determination into the transaction documentation, including the purchase and sale agreement ("PSA").

Section 1: Examining Appropriate Working Capital for the Industry Sector

There are numerous studies and statistical compilations that provide industry ratios and metrics for financial statement comparison, including working capital accounts. These sources include the RMA Annual Statement Studies ("RMA"), Statistics Canada, Dun & Bradstreet Canada and Standard and Poor's Corporation.

The RMA data are compiled from 2,500 members that are primarily financial institutions. Contributing institutions are mostly U.S. banks, though RMA states that they represent financial centers throughout North America, Europe and Asia/Pacific. The analyses in this paper reference primarily RMA statistics as these data represent a high response rate and greater statistical significance than other sources. The RMA's presentation and analysis also provides the most detailed breakdown by sector, business size, working capital account and ratio, as well as segregation by quartile.

Mention should also be made of other commonly cited sources of Canadian data. Financial Performance Indicators, which is a Statistics Canada publication, provides financial operating and balance sheets of Canadian businesses. These indicators are developed from the income tax returns of approximately one million corporations, along with data from Statistics Canada's quarterly and annual programs of financial statistics for enterprises. For smaller businesses, Statistics Canada also publishes Small Business Profiles, which provides the detail of selected revenue, expense, profit and balance sheet items as well as financial ratios and employment data for Canadian enterprises. The target population for this data is small businesses, defined as those having annual revenue between $30,000 and $5,000,000. The information is presented by industry sector using the North American Industrial Classification System (NAICS) to the six-digit level.

The data in Table 1 are compiled from RMA's 2012-13 Annual Statement Studies and compare working capital amounts and ratios across selected industry sectors. The data also show the difference in working capital ratios and measures as between smaller and larger enterprises within the same sector. In this case, a comparison is drawn between the reported financial statistics of enterprises with less that $1 million in sales and those with over $25 million in sales.

A few explanatory notes are in order regarding the data in Table 1. First, RMA includes as part of working capital, both cash (and equivalents) and current debt, which comprises short-term notes and the current portion of long-term debt. RMA does not "net" the debt against the cash in calculating ratios, nor treat any portion of the cash or debt as redundant. In this respect, some of the calculations can be misleading. The issue of redundancy is considered in Sections 2 and 3 of this paper. However, the differences in cash and debt levels, particularly between the large and small enterprises within a sector, are instructive as to the correlation between sales and capital structure, i.e., what is typical cash or debt for a large company may be quite different, even in relation to sales, than for a small company. Second, what falls into the category of current assets and liabilities from an accounting point of view is not always what one would consider true working capital. Under the sector *Finance–Consumer Lending*, for example, days receivables stand at an average of 608 days for smaller enterprises and 332 days for larger enterprises. However, these receivables are in fact short-term loans and, as such, they represent the productive assets of the business rather than simply sums owing for goods sold and services rendered.

Table 1

Selected Working Capital Statistics by Industry Sector and Annual Sales

Industry Sector	NAICS (1)	% of Total Assets				% of Total Liab + Equity			Ratios			
		Cash	Trade A/R	Inventory	Current Assets	Current Debt	Trade A/P	Current Liab	Current	Days A/R	Days Inv	Days A/P
Agricultural - Wheat Farming	111140											
Annual sales $ 0-1 million		10.2	3.1	6.7	21.4	16.3	2.8	20.3	0.6	0.0	na	na
Annual sales $ 25 million +		11.0	31.5	22.1	67.9	15.8	18.5	40.2	1.4	53.0	na	na
Mining - Construction Sand and Gravel	212321											
Annual sales $ 0-1 million		6.9	8.2	20.3	40.8	14.7	8.7	36.7	2.2	24.0	73.0	13.0
Annual sales $ 25 million +		7.4	19.9	11.2	40.7	8.6	8.8	22.3	2.2	50.0	30.0	24.0
Utilities - Water Supply and Irrigation	221310											
Annual sales $ 0-1 million		16.8	3.5	3.6	26.3	8.7	2.4	16.8	1.9	17.0	na	na
Annual sales $ 25 million +		4.8	13.1	8.4	29.7	10.0	7.3	20.7	1.8	33.0	na	na
Manufacturing - Structural Metal	3312312											
Annual sales $ 0-1 million		16.7	21.5	9.5	49.1	39.8	26.5	76.9	1.7	31.0	5.0	60.0
Annual sales $ 25 million +		9.2	32.0	19.7	68.2	13.3	16.2	41.5	1.6	58.0	45.0	33.0
Wholesale - Sporting, Recreational Goods	423910											
Annual sales $ 0-1 million		18.9	20.6	41.8	81.8	21.2	17.1	49.3	2.0	22.0	146.0	19.0
Annual sales $ 25 million +		5.7	30.3	42.3	81.4	17.5	19.6	46.8	1.9	41.0	94.0	33.0
Retail - Hardware Stores	444130											
Annual sales $ 0-1 million		7.2	6.4	52.1	68.2	10.5	10.6	30.5	3.2	9.0	215.0	3.0
Annual sales $ 25 million +		4.9	11.4	48.9	67.4	11.9	17.1	35.7	1.8	15.0	135.0	36.0
Transportation -Freight, Trucking, Local	484110											
Annual sales $ 0-1 million		13.1	12.8	0.6	28.7	22.1	7.4	48.0	0.7	0.0	na	na
Annual sales $ 25 million +		8.0	32.9	2.3	47.2	17.2	12.3	39.3	1.2	39.0	na	na
Information - Data Processing, Hosting	518210											
Annual sales $ 0-1 million		22.6	16.6	2.8	48.1	10.5	9.4	49.6	1.1	27.0	na	na
Annual sales $ 25 million +		16.4	25.6	1.8	50.2	6.7	13.8	39.5	1.2	40.0	na	na
Finance - Consumer Lending	522291											
Annual sales $ 0-1 million		7.7	59.5	0.3	71.2	32.9	1.2	40.3	1.9	608.0	na	na
Annual sales $ 25 million +		6.8	66.6	3.3	80.9	32.3	2.5	39.7	1.8	332.0	na	na
Professional Services - Advertising Agencies	541810											
Annual sales $ 0-1 million		20.1	19.7	0.9	45.1	33.0	12.5	70.6	0.7	2.0	na	na
Annual sales $ 25 million +		20.1	41.7	1.3	67.6	5.2	32.3	56.5	1.1	51.0	na	na
Healthcare - Medical Laboratories	621511											
Annual sales $ 0-1 million		25.0	8.1	0.1	35.4	19.2	20.7	59.6	0.5	0.0	na	na
Annual sales $ 25 million +		15.0	21.4	3.0	43.9	10.2	6.2	33.8	1.7	47.0	na	na
Entertainment - Fitness/Recreation Centers	713940											
Annual sales $ 0-1 million		14.8	1.8	2.2	20.6	17.5	5.9	38.9	0.6	0.0	na	na
Annual sales $ 25 million +		13.4	5.3	1.3	22.9	6.5	4.8	25.5	0.8	10.0	na	na
Other Services - Funeral Homes/Services	812210											
Annual sales $ 0-1 million		12.0	11.6	4.6	31.3	13.2	5.8	30.8	1.2	14.0	na	na
Annual sales $ 25 million +		14.9	11.8	10.8	40.4	0.7	2.1	10.2	5.3	19.0	na	na
Construction - Indust Buidling % Completion	236210											
Annual sales $ 0-1 million		18.6	38.1	2.7	72.6	7.6	25.6	52.9	1.3	48.0	na	38.0
Annual sales $ 25 million +		23.1	38.8	2.3	79.9	5.2	30.0	55.1	1.5	51.0	na	42.0

Source: RMA Annual Statement Studies: Financial Ratio Benchmarks 2012/13
(1) National American Industry Classification System

A clear takeaway from Table 1 is the variability in working capital structure by industry sector. Some of this is intuitive, such as the fact that retail, wholesale and mining businesses carry substantially greater inventory than do utilities or medical labs. The relationship of trade receivables to payables, however, is not always as obvious and the difference between the time it takes to collect receivables and to remit payments to the trade can constitute a substantial cash flow deficit or float for the business. For the smaller medical labs and fitness centres, where receivables and inventories total less than trade payables, the prospect exists to grow these businesses without actually

funding additional working capital. This contrasts with manufacturing, wholesale and retail firms that require heavy investment in current assets, or funeral homes and water utilities that have little in the way of trade payables to finance short-term needs.

What is also evident from the data in Table 1 is that the size of the business has a significant impact on working capital structure. There are several reasons for this, not all of which are obvious from the data profiled. Some of the size-related differences are the following:

- Trade receivables as a proportion of total assets are higher for the larger firms across all sectors. The same phenomenon is apparent in the days-receivables figures. It is unlikely that this is due to lax collection policies, as larger firms can be presumed to have both financial discipline and influence over customers at least equal to that of their smaller competitors. It is more likely that the larger firms have the financial wherewithal to extend customer credit and the ability to earn an implicit rate of return by virtue of their payment terms. Correspondingly, the larger firms may also have more corporate or creditworthy customers for whom terms can be extended.
- In 10 of the 14 sectors, trade accounts payable make up a larger proportion of the balance sheet for larger firms than for smaller firms in the same sector. A possible inference here is that larger firms have greater power over their suppliers to delay payment without repercussions to their businesses, unlike their smaller competitors.
- Cash resources as a percentage of total assets appear to be somewhat higher for smaller firms, particularly for the smaller utilities, manufacturers, wholesalers, truckers and laboratories. It is difficult to tell from the data whether this is due to less stringent cash management policies among small firms or whether the risks associated with a smaller enterprise (customer concentration, vulnerability to larger suppliers and customers, etc.) warrant additional cash reserves. However, the fact that the smaller firms appear to carry significant short-term borrowings (see below), suggests there is some redundancy in terms of the cash balances of the small firms.
- In 12 of the 14 sectors, current debt represents a higher proportion of the balance sheet for smaller firms than for the larger firms. What Table 1 does not show — but appears consistently throughout the RMA data — is that smaller firms tend to utilize both short- and long-term debt more than larger firms do. Conversely, larger firms appear to hold substantially greater net worth as a proportion of their capital structure.

While the observations above apply to the specific industries profiled in Table 1, a closer look at the RMA data indicates that these same themes run through most other industry sectors tabulated. Were averages to be calculated for all 280,000 financial statements used to produce the composites in the RMA study (though this has not been undertaken here), it is suggested that the distinctions between large and small firms noted above would bear statistical significance. In fact, research has confirmed substantial differences in working capital structures and strategies between large and small firms, and public versus private firms. Gogineri, Linn & Yadav (2012) found cash holdings in UK-based private firms varied significantly depending on business size and cash flow volatility. In addition, research by Hill, Kelly & Highfield (2010) suggests that working capital strategies vary markedly depending on a firm's access to capital markets, certainty of sales, stage of growth, internal funding capacity and costs of external financing.

The relevance of this type of statistical analysis in the transaction setting is twofold. First, the statistical data available by industry sector and size are a logical starting point in assessing the working capital accounts of the acquisition target. Second, the size differences between large and small entities point to possible synergies for in-market transactions where a larger entity is contemplating the purchase of a smaller one. For example, the larger entity may have the leeway to stretch

payments to suppliers, to offer credit terms to customers and to adjust short-term capital structure (cash and operating loans) of the target company post-acquisition. Synergies, or added value that the purchaser brings to the transaction are considered later in this paper in terms of their likelihood of being realized and paid for in a transaction.

Section 2: Adjusting Industry Metrics to the Particular Business

While industry data of the type compiled by RMA can provide a useful starting point for evaluating the structure and adequacy of working capital for a target acquisition, they have important limitations that should be addressed. One concern is the significant dispersion of results that go into the averages calculated. As an example, consider only the current ratio for each of the sectors listed in Table 1. These ratios are actually the *median* values for the large (over $25 M in sales) and small companies (under $1 M in sales) within each sector. But measures of central tendency, such as the median, are less representative of a sample when the data show wide variation. Table 2 presents the same current ratios as in Table 1 but also provides the values that delineate the bottom of the first, second and third quartiles. Taking *Agriculture–Wheat Farming* as an example, among those companies with sales of less than $1 million, 25% had current ratios above 3.2, 50% were above 0.6 and 75% were above 0.1. This means that only half of all companies in the sector had current ratios between 3.2 and 0.1 — an enormous range, with the other half of companies falling above or below these thresholds. For the larger wheat farmers with sales greater than $25 M, the corresponding current ratios were 2.4, 1.4 and 1.2 at the quartiles, a somewhat tighter range. However, even among the large utilities, for which relatively stable working capital might be expected, half had current ratios either above 2.3 or below 0.7. Clearly, this highlights the risk in using statistical data as a proxy for normal or representative working capital — let alone what it ought to be for a specific acquisition target.

This degree of data dispersion should not come as a surprise to business valuators. After all, the context in which valuators appeal to industry financial statistics perhaps most often is in the use of comparable trading and transaction multiples. There, the object is to identify companies that most closely resemble or 'compare' with the company that is the subject of the valuation and to borrow from their multiples or capitalization rates (e.g., P/E, P/BV, P/CF, TEV/EBITDA[2]) as a proxy to be used with the subject company. Experience tells us that it is fairly common in valuation opinions to lay out the multiples derived from the comparables and then conclude, based on examination of the other businesses, that few if any are directly comparable to the company being considered. Comparable multiples analysis, like the comparable working capital analysis considered here, is at best indicative.

2 Respectively: price/earnings; price/book value; price/cash flow; total enterprise value/earnings before interest, taxes, depreciation and amortization.

Table 2

Selected Current Ratios by Industry Sector and Annual Sales

Industry Sector	NAICS (1)	Annual Sales $0-1 million		Annual Sales > $25 million	
		Quartile	Current Ratio	Quartile	Current Ratio
Agricultural - Wheat Farming	111140	Q1	3.2	Q1	2.4
		Q2	0.6	Q2	1.4
		Q3	0.1	Q3	1.2
Mining - Construction Sand and Gravel	212321	Q1	5.8	Q1	3.3
		Q2	2.2	Q2	2.2
		Q3	0.4	Q3	1.4
Utilities - Water Supply and Irrigation	221310	Q1	4.2	Q1	2.3
		Q2	1.9	Q2	1.8
		Q3	0.8	Q3	0.7
Manufacturing - Structural Metal	3312312	Q1	2.8	Q1	2.4
		Q2	1.7	Q2	1.6
		Q3	0.4	Q3	1.2
Wholesale - Sporting, Recreational Goods	423910	Q1	6.1	Q1	2.9
		Q2	2.0	Q2	1.9
		Q3	1.1	Q3	1.2
Retail - Hardware Stores	444130	Q1	5.5	Q1	3.0
		Q2	3.2	Q2	1.8
		Q3	1.7	Q3	1.4
Transportation -Freight, Trucking, Local	484110	Q1	1.8	Q1	1.7
		Q2	0.7	Q2	1.2
		Q3	0.1	Q3	0.9
Information - Data Processing, Hosting	518210	Q1	5.3	Q1	2.1
		Q2	1.1	Q2	1.2
		Q3	0.4	Q3	0.8
Finance - Consumer Lending	522291	Q1	2.9	Q1	4.5
		Q2	1.9	Q2	1.8
		Q3	1.2	Q3	1.4
Professional Services - Advertising Agencies	541810	Q1	1.5	Q1	1.5
		Q2	0.7	Q2	1.1
		Q3	0.2	Q3	1.0
Healthcare - Medical Laboratories	621511	Q1	2.7	Q1	2.7
		Q2	0.5	Q2	1.7
		Q3	0.1	Q3	1.0
Entertainment - Fitness/Recreation Centers	713940	Q1	1.9	Q1	1.6
		Q2	0.6	Q2	0.8
		Q3	0.2	Q3	0.4
Other Services - Funeral Homes/Services	812210	Q1	4.1	Q1	10.7
		Q2	1.2	Q2	5.3
		Q3	0.4	Q3	2.4
Construction - Indust Buidling % Completion	236210	Q1	1.9	Q1	2.1
		Q2	1.3	Q2	1.5
		Q3	1.1	Q3	1.2

Source: RMA Annual Statement Studies: Financial Ratio Benchmarks 2012/13

(1) North American Industry Classification System

Given the observed variability in working capital measures among companies in the same sector, an important focus of due diligence is to uncover those factors that explain why the target company appears to have a unique working capital profile and why its accounts might be maintained at levels that are appropriate for *its* business, despite discrepancies with industry averages. Examples abound, but here are a few that I have encountered:

- A company acts as a broker and a proprietary trader of grains — sourcing, marketing and transporting grain in Canada through several locations. The company consciously maintains inventories of grain that are well above industry averages. This is due to its desire and ability to make significant purchases in bulk at opportune times when prices appear attractive.[3]
- A public relations agency requires large up-front fees from its clients as good faith deposits towards professional services. It maintains this policy both for cash flow purposes and to ensure the commitment of its clients. As a result, its current liabilities show customer deposits that are well above those of its competitors.
- A tool and die manufacturer derives a significant portion of its income from SR&ED[4] receipts from the Canadian government, as it spends appreciably more on R&D than its competitors and considers this a competitive advantage. It recognizes these receipts as accounts receivables as soon as the government confirms it will reimburse the expenditure.
- A firm that fabricates rail car parts also repairs and remanufactures rail cars and locomotives. The company carries a high parts inventory, including items that have been held for several years. Management does not consider these inventories to be obsolete, maintaining that there is considerable likelihood that they will be deployed for future repair and refurbishment contracts on older locomotives.

Section 3: Understanding the Relationship Between Working Capital and Going Concern Valuation

M&A practitioners often miss the critical connections between going concern business valuation methods and the level of working capital implied by those assumptions. Litvak & Mathieu (2006, p. 42) state that working capital adjustment mechanisms in the transaction setting are intended "to ensure that the buyer will receive the amount of net assets that existed when the purchase price was determined." With respect, this is only correct in instances where the purchase price is based entirely on the net assets of the company and not on cash flow, EBITDA, EBIT or earnings. For most going concern businesses, the current assets and liabilities transferred on the completion of a sale transaction should be as close as possible to those required to generate the 'flows' on which the valuation is primarily based. Ideally, the terms on closing should facilitate a seamless hand-off, such that the purchaser neither injects nor extracts cash to keep the business going at the current level of activity. To do otherwise is effectively to adjust the purchase price unintentionally.[5] Unfortunately, the level of net working capital required to maintain the business's cash flow stream is unlikely to be the exact level that existed either at the time the deal was struck or even at the time of closing. This is central to the challenge of determining the appropriate level of net working capital in an M&A deal.

3 Fernandez (2011) argues that when inventories consist of liquid commodities such as grain or seeds, inventories in excess of working capital requirements are common and the failure to recognize the nature of these as 'futures contracts' can result in undervaluing the company.

4 The Scientific Research and Experimental Development program is administered by the Canada Revenue Agency and offers federal tax incentives to encourage Canadian businesses to conduct R&D.

5 In the transaction setting, as in notional valuations, there is a distinction between going concern valuations and those pertaining to distressed or insolvent situations where the realizable value of net assets is of immediate importance. In the latter, the object is not to convey or fund a continuing operation. Rather, the purchase price is based on the proceeds after wind-down, taxation and realization costs.

Working Capital and TAB

As Table 1 showed, the level of net working capital required to run a business can vary greatly. Professional services and healthcare businesses may carry little in the way of inventory and sell on a cash basis with no receivables to finance. For these businesses, trade payables may actually represent negative net working capital. Here, an argument is often made that a sale transaction would unduly favour the seller if the transfer were done with negative working capital versus, say a manufacturing entity that must convey significant receivables and inventory to transition the business seamlessly. Doesn't the seller of the professional services firm burden the purchaser with an eventual liability should the company ultimately be liquidated? The answer is that this consideration is already incorporated into the valuator's concept of tangible asset backing ("TAB").[6] As Campbell & Johnson (2001) explain, TAB is a factor to be considered in the risk measurement, such that a higher TAB, all considered, implies lower risk to the operating entity, warranting a lower capitalization rate (higher multiple). In essence, every business faces some risk of dissolution and the probability of that occurrence multiplied by the realization of TAB in such circumstances represents a put option to the equity holders of the firm. The point here is that the TAB, insofar as it is represented by working capital, should be incorporated in the risk assessment of the going concern being acquired – *not* into an assessment of the working capital necessary to run the business or to be transferred at closing.

Valuation versus Financing Decisions in Working Capital

Business valuation principles generally follow the tenets of corporate finance scholarship in separating valuation from financing decisions. Modigliani & Miller (1958) were among the first in the academic field to assert as "Proposition 1," that a firm cannot alter the value of its total assets by simply splitting its cash flows into separate streams with different securities.[7] This led Brealey, Myers & Franklin (2008) to conclude that the choice of capital structure is fundamentally a marketing problem by which issuers look for the optimal combination of securities to attract investors.

In business valuation methodology (and M&A practice) there is no better example of this principle than in the use of "enterprise value" ("EV") to determine the value of an entity. EV is the total value of a business, including both its equity and its net interest-bearing debt. By "net," it is implied that interest-bearing cash is first deducted from debt. Thus, among the most commonly used methods of valuing going concern entities are capitalization methods that compare EV to EBITDA and EBIT. Note that, in order to compare apples with apples, the numerator in the EV/EBITDA ratio includes all capital required to run the business, *less* redundancies that are adjusted to account for excess cash or debt, while the denominator correspondingly considers the flows that accrue to all financial stakeholders, without distinguishing between equity and debt income streams. The same principle is followed in the discounted cash flow methodology, where all cash generated in the forecast is notionally "extracted" from the forecast and present-valued, not to be held in the business. Capital structure issues are handled in the discount rate and are typically the subject of a weighting of the debt and equity.[8]

It is submitted that working capital in the M&A context should be viewed on the same basis, i.e., that the operating accounts such as receivables, inventories, payables and accrued liabili-

6 TAB is defined as the amount by which the fair market value of tangible and identifiable intangible assets of a business, determined on the basis of their value in continued use exceeds the fair market value of the liabilities of the business (Campbell & Johnson (2001), Glossary of Defined Terms).

7 M&M of course conceded that matters such as tax-deductibility of interest and the risks of financial distress from heavy reliance on debt could have significant impacts on business value.

8 In some instances, a multiple-of-net-earnings methodology may incorporate cash flows from redundant cash, though an argument can be made that some notional adjustment is made for this redundancy in the capitalization rate to reflect the lower risk and lower return of maintaining excess cash in the company.

ties should be considered after excluding short-term debt or cash.[9] The latter simply finance (or are financed by) the operating accounts. Arguably, the inclusion of cash and funded debt (e.g., by the likes of RMA) in tabulating current ratios tends to obfuscate the underlying relationships among working capital accounts in comparison to income statement flows. In this respect, it may be more useful to focus on days of receivables relative to sales and days of payable relative to COGS, both of which compare specific accounts levels directly to sales and cost of goods sold. Birnbaum (2007), in assessing the valuation impact of excess working capital, comments on the same concern, recognizing that "the RMA companies may have excess working capital, which would tend to skew the 'normal' level of working capital upward" (p. 16). Birnbaum's solution is to follow the advice of Boer (1999) and concentrate on the "cash gap," defined as the number of days of inventory and receivables minus the number of days of accounts payable.

Often, a purchaser will argue that a cash buffer of some magnitude should be included as part of the ongoing working capital transferred on the sale of a company, without having to make an upward adjustment in the consideration paid for the business. The rationale put forward is that the buffer is needed to guard against the effects of volatility in cash in-flows and out-flows in the ordinary course of business. But the answer to this is simply to envision a company that borrows by way of overdraft. On any given day, the business will be in debt or in cash, but the average balance over time should still net to zero, as long as appropriate working capital is transferred on closing.[10]

An interesting case arises with businesses that collect regular deposits for work to be performed in the future. Sometimes these arrangements are accounted for as deferred revenues that appear in current liabilities. The purchaser of such a business may argue that the assumption of this liability to deliver goods after closing should be accompanied by a transfer of the cash that has already been collected for that contract. But the contrary argument can be made that the seller should likewise retain the right to collect all accounts receivable, which are really cash collections pertaining to work that was funded, performed and recognized as revenue while still under the seller's control. The real issue should be to determine what the ongoing net working capital position is likely to be going forward. If the deferred revenue represents a one-time business transaction (i.e., of a type that is not likely to recur), it is reasonable that the cash should go to the obligor responsible for delivering on the obligation (i.e., the purchaser of the business). If, however, the business consistently carries a balance in deposits or deferred revenue, it is reasonable to assume that it will continue to be a source of financing in the purchaser's hands just as it was for the seller. In this case, the logic mirrors that of accounts payable, where remittances to regular suppliers are the responsibility of the purchaser of the business after closing, even though the supplies were used by the seller of the business prior to closing.

This is not to say that cash or debt should never be assumed as part of the actual transaction settlement — only that they should be accounted for by a direct adjustment to the value of the entity, otherwise determined. In effect, redundant cash that is transferred to the purchaser in an M&A transaction should be accounted for dollar-for-dollar. Fishman & Pratt (2006) posit that this logic holds for private companies, but that public markets tend not to value excess working capital fully, since small public investors have no control over changes to the capital structure. While this may be true in the case of public companies where control is dispersed, it is not so in the case of a takeover or acquisition of control with which we are concerned here — the purchaser in an M&A transaction generally assumes the ability to effect all strategies going forward, including working capital. In this regard, Smith (1990) examined the operating performance of 58 publicly held companies following buyouts by management and found that increases in operating returns were due more to adjustments in working capital and operating efficiencies than to layoffs or reductions in expenditures for maintenance, R&D, advertising and property, plant and equipment.

9 In certain cases the line between operating accounts and financing accounts becomes blurred, for example where credit terms on trade receivables or payables constitute a significant source of financial income (or expense). The extreme case is that of financial institutions whose trade accounts are actually financial accounts, though this exception is beyond the scope of this paper.

10 Perhaps the one weakness in this position is that companies with very large swings from borrowing to lending will lose out on the spread between borrowing and lending rates in the market.

Special Interest Purchasers and the Valuation of Synergies

As distinct from redundancies in working capital that can be adjusted for fairly easily, certain improvements may be available to the purchaser of the business's working capital that could not have been exploited by the seller alone. These could be of an operational nature in cases where the purchaser is in the same industry as the seller and may, for example, pertain to preferred relationships with certain suppliers or customers, which affect trade terms. These synergies would be in addition to operational savings that impact the income statement through enhanced operating margins. Alternatively, working capital synergies could derive simply from a size advantage that a purchaser enjoys in negotiating with smaller trade partners. Hamlin & Heathfield (1991) found in their research that many firms possess a competitive advantage in their ability to retain flexibility in the time structure of their production and to competitively manage their working capital.

As is the case with all synergies that accrue to strategic purchasers, business valuation doctrine cautions us regarding economic benefits that are peculiar to 'special interest purchasers' if the effect might be to increase the fair market value of the target. As Campbell and Johnson (2000) point out, such purchasers should be 'qualified' in the sense that they can be shown to have the appetite and financial ability to effect a transaction, the value-added benefits accruing to them should be quantified (likely to different degrees, depending on the purchaser) and some probability should be assigned to the likelihood of purchasers actually pricing these benefits into a transaction based on competitive dynamics. In most cases, there are relatively few 'qualified' purchasers available with true sector-specific operating synergies, though there may be several buyers of sufficient size that can find working capital synergies based on lower capital costs, better financial management or greater influence over customers and suppliers.

Even in cases where the purchaser is willing (or required) to pay for synergies in working capital, it is more likely that the value of these synergies will be factored into the negotiation of the overall purchase price rather than being incorporated into specific adjustments on closing for anticipated improvements in working capital.

Section 4: Closing Working Capital and Issues of Agency

Public versus Private Company Transactions

A business combination involving a publicly traded target is normally structured either as a takeover bid or as a plan of arrangement. In either case, the company or the acquiror provides information to the shareholders of record stipulating a purchase price for the shares of the corporation as well as the various terms of the transaction. Compared with private acquisitions, business combinations involving public companies follow more complex legal and regulatory procedures designed to provide information and financial protection to minority shareholders and culminating in a tender of shares or shareholder vote to implement the deal. However, the mechanics of the actual exchange itself are normally straightforward — the purchasing shareholder typically steps into the same shoes as the selling shareholder with all rights of ownership transferred.[11] Extraordinary dividends prior to closing are normally not part of public deals. As such, the structure for a public company acquisition usually resembles a *closed system* from the point of view of working capital. Essentially, all daily business transactions that affect receivables, payables and inventory may impact the cash account of the business (generally dollar for dollar), but all of these accounts, including cash, are transferred together on the sale. As an example, if a large trade account receivable were to be collected the day before closing, the value of this would move from the accounts receivable account to the cash account, but the net effect to the purchaser would be negligible — the constituents of working capital might change but not the net balance.

11 Subject, of course, to the tax position of the shareholder.

Private deals often come with complexities in deal structure that are not features of public takeovers. The most obvious complexity is the prevalence of extensive representations, warranties and indemnities that the seller undertakes in favour of the purchaser. This added burden for the seller in private deals can sometimes be attributed to the disparity of information that exists between seller and buyer, since the seller is often an owner-manager, founder or corporate entity with special knowledge about the business, who is planning to exit. The parties to the deal recognize that some measure of responsibility should rest with the seller should the assets or prospects prove to be other than as represented. With public deals, where ownership is widely held, information disparity is less an issue. In addition, practically speaking, there is little means available to hold the retail and institutional owners of a widely held company responsible and no incentive for them to sell their shares if they were to remain on the hook for any legally enforceable undertaking.

Along with risk allocation are differences in what is actually being transferred in a private company deal. Redundant assets often remain with the seller, as may certain receivables, long-dated payables, warranty obligations or even fixed assets. Funded bank debt may be required to remain with the seller or be discharged prior to closing in a share sale. Perhaps most significant, net cash on closing often stays with the seller. In this sense, private deals often resemble *open systems*, since settlement of receivables and payables prior to closing impacts the cash account which the seller retains on closing.

"Managing" Working Capital up to Closing

As discussed above, the analysis and valuation of working capital is best done by separating the operating accounts from the financial issues concerning cash and debt levels. Of course, the separate treatment of excess cash is not only a principle in valuing businesses, but is often a practice on closing M&A transactions, particularly in the case of private companies. Thus a typical transaction might utilize an EV/EBITDA valuation methodology to determine purchase price and then permit the seller to retain the cash on closing on the rationale that the interest on that cash was never part of the EBITDA on which the purchase price was based.

An unintended consequence of having the seller retain the cash on closing is that it introduces a potential conflict of interest as to how the business is managed in the weeks or months prior to closing. A seller looking to retain the cash on closing will have no incentive to be hasty in remitting payment on trade payables and may be especially diligent in the collection of receivables, since both of these activities have a direct effect on the level of cash to be withdrawn. The seller's gain is, understandably, the purchaser's loss — if payables are artificially stretched and receivables shortened prior to closing, the purchaser will effectively have to fund this difference when the working capital accounts inevitably revert to their normal levels after the transaction has been completed. The risk of the seller managing the net working capital lower in the weeks before closing underscores the need to establish appropriate levels for all accounts ahead of time.

Section 5: Determining the Appropriate or "Reference" Working Capital for the Transaction

As presented earlier, the level of net working capital to transfer on the sale of a going concern business should be what is needed to continue running the business as is — no more, no less. In addition to industry statistics that can serve as broad guidelines, evidence of what a particular business requires by way of working capital can be gleaned by reference to its historical financial statements. Analytical research by Fernandez (2011) demonstrated that, for seasonal companies in particular, examination of month-to-month patterns is critical.

For illustration, Table 3 introduces Home & Trade Inc. (“H&T”), a retailer and distributor of hardware and home renovation products. The company operates a network of 40 corporate-owned retail stores under the H&T banner as well as four distribution centres that focus on hardware and construction materials. Retail business makes up 75% of sales and distribution accounts for the balance of revenues. Sales in the months of October through March are typically weaker than sales in the period April through September, due to the lower level of activity in the renovation/construction sector in the winter. In addition, weather can impact sales, as can the price of lumber and other building materials. In total, H&T carries over 150,000 different products from almost 1,000 suppliers.

What is immediately apparent from the monthly data in Table 3 is the extent of seasonality experienced by H&T in the level of its working capital accounts, driven by the higher sales activity during the warmer months of the year when the renovation and construction markets are more active. Inventories build noticeably during the spring months and net working capital (excluding cash and operating loans) remains high until receivables balances decline in the fall. The monthly history illustrates how the June 2013 balances return to those of June 2012, subject to some growth in the business during the year, and that the ratios are quite similar on a year-over-year basis (e.g., June-over-June). The far, right-hand column of Table 3 shows the averages of all working capital accounts over the 12 month-ends from July 2012 to June 2013. It can be seen that the averages of the12 month-ends are considerably lower than the balances at June 2013 for all of the trade related accounts, including receivables ($39.9 M versus $49.0 M at line 2), inventories ($138.4 M versus $164.2 M at line 3) and payables ($61.6 M versus $72.3 M at line 8). Notice, however that net working capital (including all current accounts) remains fairly stable at around $100 M throughout the year (line 14), since the cash and debt tend to balance out these fluctuations, as long as the system remains “closed.”

If we assume that a sale of H&T is set for an effective closing date of June 30, 2013, the balances reported on the balance sheet at that date will be the basis of the accounts transferred to the purchaser. However, assuming cash and debt balances are not transferred on the sale, the net working capital transferred by the seller at June 30, 2013 will be considerably higher than the purchaser will need to run the business during most of the coming year. This can be seen at line 15 of Table 3 — the net working capital (excluding cash and debt) at June 30, 2013 stands at $141.7 M, compared with an annual average of only $116.4 M. In essence, the seller would be transferring $25.3 M in value to the purchaser in the form of excess net working capital, which can be viewed as a permanent excess to the extent that average balances follow the same pattern each year. Conversely, a sale with an effective date in January would leave the purchaser with a working capital shortfall of $25.1 M (i.e., $91.3 M versus $116.4 M), which would require funding from the purchaser during the balance of the year.

Table 3

Home &Trade Inc. (H&T) Monthly Working Capital

Line	$ in 000s	2012							2013						12-month ave(1)
		June 30	July 31	Aug 31	Sep 30	Oct 31	Nov 30	Dec 31	Jan 31	Feb 28	Mar 31	April 30	May 31	June 30	
	Current Assets														
1	Cash	-	-	-	-	22,473	22,647	25,772	24,859	10,542	-	-	-	-	**8,858**
2	Trade and other receivables	*48,027*	46,592	44,377	42,338	38,532	35,007	34,708	31,748	32,997	35,758	41,221	46,143	49,032	**39,871**
3	Inventory	*160,998*	155,437	146,579	135,437	125,487	115,648	103,765	110,648	135,073	146,753	159,884	162,002	164,165	**138,407**
4	Prepaid expenses	*20,785*	20,785	21,647	22,554	19,776	20,739	22,647	23,776	23,776	22,642	21,862	20,963	21,287	**21,871**
															-
5	Total Current assets	*229,810*	222,814	212,603	200,329	206,268	194,041	186,892	191,031	202,388	205,153	222,967	229,108	234,484	**209,007**
															-
	Curent Liabilities														-
6	Bank Overdraft and Operating loans	*30,178*	26,869	15,792	3,967	-	-	-	-	-	11,538	26,472	26,997	32,187	**11,985**
7	Current portion of long-term debt	*12,167*	12,167	12,167	12,167	12,167	12,167	12,167	12,167	12,167	12,167	12,167	12,167	12,167	**12,167**
8	Trade payables	*71,032*	68,735	65,431	62,487	57,426	50,563	47,435	52,113	62,179	65,838	66,557	68,548	72,256	**61,631**
9	Warranties payable	*16,473*	15,747	18,536	17,583	17,231	18,426	15,475	16,389	16,413	15,775	16,443	17,447	16,416	**16,823**
10	Current taxes payable	*1,564*	1,537	1,546	1,636	1,538	1,643	1,554	1,633	1,534	1,753	1,625	1,598	1,531	**1,594**
11	Dividends payable	-	-	-	-	-	-	2,000	2,000	2,000	2,000	2,000	2,000	-	**1,000**
12	Provisions and contingencies	*2,600*	2,654	2,758	2,645	2,579	2,597	2,698	2,721	2,660	2,549	2,648	2,859	2,587	**2,663**
															-
13	Total Current Liabilities	*134,014*	127,709	116,230	100,485	90,941	85,396	81,329	87,023	96,953	111,620	127,912	131,616	137,144	**107,863**
															-
	Net working capital														
14	Incl all current accounts	*95,796*	95,105	96,373	99,844	115,327	108,645	105,563	104,008	105,435	93,533	95,055	97,492	97,340	**101,143**
15	Excl cash and funded debt	*138,141*	134,141	124,332	115,978	105,021	98,165	91,958	91,316	107,060	117,238	133,694	136,656	141,694	**116,438**
16	Excl cash, debt, taxes, dividends, provisions	*142,305*	138,332	128,636	120,259	109,138	102,405	98,210	97,670	113,254	123,540	139,967	143,113	145,812	**121,695**
	Current Ratio														
17	Incl all current accounts	*1.71*	1.74	1.83	1.99	2.27	2.27	2.30	2.20	2.09	1.84	1.74	1.74	1.71	**1.94**
18	Excl cash and funded debt	*2.51*	2.51	2.41	2.37	2.33	2.34	2.33	2.22	2.26	2.33	2.50	2.48	2.53	**2.39**
19	Excl cash, debt, taxes, dividends, provisions	*2.55*	2.56	2.45	2.42	2.38	2.39	2.46	2.33	2.36	2.44	2.60	2.58	2.57	**2.47**

Source: RMA Annual Statement Studies: Financial Ratio Benchmarks 2012/13

(1) National American Industry Classification System

Because the difference between the average annual net working capital and the balance at a specific date has a lasting effect on the funding needs of the business, it should be the basis of a price adjustment to the extent of the difference. An assumption here is that the historical monthly balances are representative of the ongoing business that is being purchased and that the averages from this data are appropriate to use as a "reference period." For some companies, month-end balances may be atypical of balances *during* the month — Isidore (2005) cites the example of General Motors, which purportedly pays its suppliers on the second day of each month, resulting in net cash and accounts payable hitting their highest points at month end.

In addition to the pattern of cash flows, there may be unusual events or practices that have occurred during the reference period. If so, it will be necessary for the parties to agree on adjustments to the data, the addition of other periods to the averages, or the development of other reference data as representative. As Lawlor (1992) points out, there is no "standard" purchase price adjustment provision that will work in all cases. It may be, for example, that the seller took advantage of special 'one-time' discounts in the last year as a result of early payments to one of its key suppliers. This could result in average net working capital during the reference period being overstated and a downward adjustment would be required to reflect more normal levels. In effect, normalization adjustments can be made to the historical working capital to arrive at reference working capital in the same way that valuators normalize historical earnings to arrive at maintainable earnings before applying a capitalization rate to arrive at value.

For businesses that are growing quickly, a concern may be raised as to whether a backward-looking reference period accurately depicts the working capital needs of the business currently and into the future. As Lepkowski (1980) points out, failure to account for the working capital drain caused by business expansion may lead to increased debt financing with accompanying financing costs. In the acquisition scenario, though, it is helpful to distinguish between working capital needs for future growth and needs at the time of closing. As regards *projected* requirements, there may never be a meeting of the minds between the purchaser and seller on the growth scenario for the business, particularly if corporate strategies are set to change with control.[12] However, there is logic to suggest that a reference working capital number based on 12 months of history may understate the *current* needs of a growing business. If, for example, the target business has been growing at 20% per annum (as reflected in both sales volumes and working capital requirements), a reference working capital requirement based on the previous 12 months may warrant a lift of 10% to account for half a year's growth.[13]

It should be noted that all of these considerations that go into determining the "normal" working capital to transfer on the closing of an M&A transaction should apply equally in determining the appropriate level of working capital to use in a discounted cash flow valuation of a business. In other words, (i) whether month-end balances are representative of working capital during the month, whether (ii) year-end balances, if used, are representative of average balances through the year, (iii) whether unusual events or practices have occurred during the period examined, and (iv) whether the growth trajectory of business activity requires additional working capital resources in the future, may all require normalization adjustments that impact the usage of cash in the future and therefore figure into the present value of the business itself.

12 Query also whether the purchaser, in valuing the business, may have already factored future working capital requirements into its discounted cash flow analysis and therefore into the price paid for the business.

13 Based on the fact that the reference period is on average six months old.

Change of Ownership Adjustments to Reference Working Capital

The final category of adjustments required in the determination of reference working capital relates to the very event of the business changing ownership. First, certain current accounts may be left with the seller rather than transferred on the sale due to issues of risk allocation. For example, there may be long-overdue trade receivables that the purchaser is not prepared to assume (or to pay for as part of the acquisition), or unusual warranties or guarantees for which the particulars are best known by the seller. In each of these cases, the seller has specific knowledge of the history or relationship underlying the receivable or payable that makes the seller better able to value or discount the risk associated with the payment. Second, there may be accounts that do not relate to the ongoing business and therefore do not form part of the normal working capital. As an example, if certain premises are no longer required as a result of consolidating operations, prepaid expenses for rent may not be relevant to the purchaser going forward. In addition, current liabilities might include payables to settle certain legal disputes for which the purchaser cannot be expected to assume or understand the risk. Another payable account that is often treated as the seller's responsibility is income taxes payable and this may apply whether the sale transaction is structured as an asset or a share sale. The rationale here is sometimes that of risk allocation, i.e., that the buyer should not be expected to understand the intricacies of the seller's tax filings or have to negotiate any reassessments. Also, the buyer's tax status may be quite different from that of the seller, as would be the case in the sale of shares of a Canadian-controlled private corporation ("CCPC") to a large U.S.-based purchaser.

Where the practice is to remove certain accounts from the ones transferred on closing, logic dictates that these accounts should also be removed from the calculation of reference working capital, since they are not part of the transaction. However, as demonstrated in the following illustration with H&T, the exclusion of accounts from both reference working capital and closing working capital has consequences in terms of the funding needs of the business going forward.

Calculation of H&T's Reference Working Capital

Coming back to the case of Home & Trade Inc., we can see that net working capital averages $101.1 M based on the average of the 12 month-end balances from July 2012 to June 2013 (line 14 of Table 3). Let's assume that these month-ends do not require 'normalizations' for unusual events, such as unplanned inventory bulges or stretched payables. This average includes all current accounts as reported on H&T's balance sheet and in accordance with their normal seasonal patterns. Table 3 shows that H&T's current ratio including all current accounts averages 1.94 for the 12-month period, reaching a low of 1.71 in June (line 17). Table 4 shows that these values are similar to the RMA industry averages for retail and wholesale establishments involved in the hardware, lumber and home centre sectors. However, as Table 4 also illustrates, H&T's days of receivables, inventories and payables are all considerably higher than the RMA comparables. This demonstrates the importance of looking behind the simple current ratio and inquiring as to why H&T carries balances that exceed others in the industry.

Table 4

		Current Ratio	Days A/R	Days Inv	Days A/P
RMA Ratios for Companies over $25M Sales					
Retail	NAICS (1)				
- Home centers	444110	1.5	28.0	65.0	22.0
- Hardware stores	444130	1.8	15.0	135.0	36.0
Wholesale					
- Lumber, plywood, wood panel	423310	1.7	34.0	55.0	15.0
- Hardware	423710	2.0	42.0	101.0	33.0
H&T Ratios (2)					
- Based on closing balances at June 30, 2013		1.9	37.3	169.3	74.5
- Based on 12-month average account levels		1.7	30.3	142.7	63.5
Memo: H&T Current Ratio excluding cash and short-term debt					
- Based on closing balances at June 30, 2013		2.5			
- Based on 12-month average account levels		2.4			

Source: RMA Annual Statement Studies: Financial Ratio Benchmarks 2012/13

(1) National American Industry Classification System

(2) Assumes sales of $480 million for the 12-months ended June 30, 2013 and cost of goods sold of $354 million

Following our earlier rationale, the cash and short-term debt accounts can be excluded so that only operating accounts are included, resulting in the net working capital average of $116.4 M for the trailing 12-month period (line 15). Now consider that the purchaser may wish to exclude certain current liability accounts from the transaction based on issues of risk allocation or relevance to the way the new owner will run the business. In particular, the purchaser may want to exclude H&T's dividends payable (line 11), provisions and contingencies (line 12, current taxes payable (line 10) and warranties payable (line 9).

(i) *Dividends payable*: This account represents the payment of amounts to the selling share-holder for profits earned and is a return of capital unrelated to the ongoing operations. Clearly, this should not be part of reference working capital nor assumed by the purchaser. Typically this will be paid to the seller on closing, out of the excess cash that the seller would otherwise be entitled to anyway.

(ii) *Provisions and contingencies*: H&T has liabilities related to various legal actions in process that are expected to be paid in the next year. Although legal disputes are a feature of H&T's business, the purchaser may argue that the seller has a better knowledge of these actions and their likelihood of success than the purchaser can be expected to understand through normal due diligence. Therefore, as a matter of risk allocation, these liabilities are probably best left with the seller. Consistent with this, the purchaser and seller will

likely have “normalized” the expense associated with these lawsuits, i.e., in determining maintainable earnings or EBITDA, the legal expense will have been added back before applying the relevant multiple or capitalization rate to determine transaction value. In effect, the purchaser will have paid for a business that did not have this legal liability or expense and should therefore not have to inherit it.

(iii) *Warranties payable*: H&T offers certain limited warranties to its trade customers that go beyond the warranties of its suppliers. These warranties are provided as incentives to building contractors and they have proven to be a competitive advantage in driving business. From a valuation perspective these warranties can be viewed as a feature of the ongoing business and the expense associated with them should reduce the maintainable earnings and the price that purchaser is paying for the business. On this basis, the warranty obligations reflected in working capital should be assumed by the purchaser and be included in reference working capital.

(iv) *Taxes payable*: H&T remits its income taxes each month but carries a liability at the month-end. The purchaser might assert that this liability should not be considered in the calculation of reference working capital or transferred on closing. Practically, this view often prevails. In asset transactions, this is a logical result, since the entity that owes the taxes is not being purchased. But if the purchaser of H&T is buying shares, the rationale is not as clear. In regard to risk allocation, the purchaser may argue that it cannot be responsible for the details of taxes filed previously by the seller. However, the finance personnel most familiar with H&T’s taxes are likely remaining with the business and the seller is probably providing reps and warranties on taxes, both current and historical, as part of the PSA. The better argument to exclude taxes payable may be based on relevance, i.e., it could be that the tax profile of the business going forward is set to change so significantly that reference to historical taxes payable are irrelevant in determining the business’s working capital accounts.

This discussion of taxes payable raises important issues regarding the exclusion of working capital accounts on transfer. The suggestion is often made that taxes payable relate to earnings periods that precede the closing of the transaction and therefore should be for the seller’s account. But this logic could be extended to virtually all receivables and payables for which the business transaction has already occurred and for which the revenue or expense has been accrued in an earlier period. The point here is that all payables accounts represent expenses that are recognized in one accounting period but not paid until the next. As such, they constitute a source of cash for the business — the converse is that receivables are a use of cash. Consider the extreme case where all working capital accounts are eliminated from the transaction and from reference working capital and left for the seller to settle. Assuming the business requires positive net working capital to function, the effect will be for the purchaser to fund all of these accounts after closing in order to continue the business as a going concern. In the case H&T, this would result in the purchaser having to fund over $100 M in working capital after closing the deal. This outcome would be fair to the purchaser only if it were part of the negotiations regarding the transaction price. If not, the cash outflow by the purchaser to fund working capital represents an investment cost in addition to the purchase price of the business.

In the case of H&T, we noted earlier that reference working capital after adjusting only for net cash, would be $116.4 M, compared with a June 30, 2013 balance of $141.4 M, resulting in a net payment to the seller of $25 M on closing (line 15). The effect of removing dividends payable, provisions and contingencies, and taxes payable from both the reference working capital and from the June 30th closing numbers is to reduce the net payment to the seller from $25 M to $24.1 M, i.e., $145.8 M balance at June 30th versus a 12-month average of $121.7M (line 16).

These adjustments make sense only if the accounts removed will not form part of the sources and uses of working capital after closing. The connection here to the maintainable earnings used to arrive at transaction value cannot be overlooked. We concluded above that the warranty practices of H&T would be continued by the purchaser after closing and that they should be included in reference working capital and closing working capital. This turned, in part, on the assumption that they were also treated as an expense in determining the maintainable earnings upon which the price was negotiated. Unfortunately, the income statement assumptions upon which the buyer and seller estimate value is often not disclosed to one another (much less agreed upon) in the course of price negotiations. This makes it very difficult to assert late in the transaction process that certain working capital accounts should or should not form part of the closing adjustments. It again shows the necessity of negotiating the components and reference measures for the working capital accounts at the same time other material deal points are being settled.

Section 6: Building Working Capital into the Transaction Documentation

The final task in the deal process is to incorporate the financial and accounting matters related to working capital into the transaction documents. The basic tasks here are to lay out (i) the definition and components of what reference working capital should be, (ii) the calculation of what actual working capital is on closing (and therefore what adjustments need to be made to the purchase price) and (iii) a mechanism to true up the adjustment in cases where the actual working capital transferred is not known until sometime after the transaction has closed.

Expression of Interest and Letter of Intent

As is the case with all material deal terms, only limited precision can be achieved at the Expression of Interest ("EOI") stage of a transaction. M&A negotiations are typically iterative processes, where the terms crystallize gradually as information exchange, due diligence and detailed analysis progress and the parties develop a trust with one another. However, it should be possible to establish at an early stage the *methodology* for determining working capital. The EOI should refer to the working capital accounts that are likely to be included or excluded (e.g., cash, operating loans, taxes payable), *or* that accounts will be those maintained in the ordinary course of business*, or* that reference working capital is to be determined according to averages based on 12 months of historical balance sheets. This discussion can be informed by the preliminary due diligence and financial statement information. As distinct from the EOI, the LOI is inclined to be more detailed and, depending on the course of negotiations, may even resemble the terms in the final PSA.

Purchase and Sale Agreement

The Appendix to this paper lays out a set of key provisions addressing working capital, which can be incorporated into the PSA. These provisions are not comprehensive of all the working capital issues in a transaction but are intended to be helpful as to structure. Capitalized terms are those requiring definition within the agreement, though not all are defined in the Appendix. H&T is used as an example, with the "NWC Reference Amount" set at $121,695,000, which was the 12-month average of net working capital excluding cash, short-term debt, contingencies and provisions, and taxes payable (line 16 of Table 3).

In the discussion earlier, a simplifying assumption was made that the transaction had a closing date of June 30, 2013 and that the account balances were known as of that time. In practice, of course, the closing working capital balances are generally not ascertained until several weeks later

when the books are completed for the closing date. Thus, in the more realistic scenario, closing working capital would be estimated at the time of closing based on the latest monthly statements at the time and a preliminary cash settlement would be made based on this estimate. In this example, we will assume that our sale of H&T is scheduled to be a simultaneous "sign-and-close"[14] on July 31, 2013, such that the balance sheet as of June 30th is the most up-to-date at the time of closing and is therefore our best estimate to use. Following closing, the parties will still require a final "true-up" adjustment once the correct balances as of July 31st are determined.

Section 2 of the Appendix defines Purchase Price to include the adjustments in Section 4. Section 4 describes the calculation by which the Net Working Capital Adjustment ("NWC Adjustment") is determined and paid. Essentially, if Net Working Capital at closing exceeds the reference working capital ("NWC Reference Amount"), the Seller is "credited" with this overage toward the Purchase Price and the reverse occurs if the closing Net Working Capital is less than the NWC Reference Amount. Schedule 1 to the Appendix sets out the estimate of NWC Adjustment at the closing date based on the June 30th statement. The result is that the NWC Adjustment at closing is $24.1 M in favour of the Seller, since the Seller is transferring $145.8 M of Net Working Capital against a requirement to provide only $121.7 M (the NWC Reference Amount). Since the actual closing date is July 31st and since the final Net Working Capital Amount will not be determined until even later, a final NWC Adjustment will need to be paid "within 10 Business Days following the date at which the Settlement Statements are final" (Section 4).

Schedule 1 is an essential component that serves several purposes. First, it is the basis of the definition of Net Working Capital, i.e., the definition section refers directly to Schedule 1. In this regard, it is important that the names given to the balance sheet accounts on Schedule 1 are the same ones as used in the company's financial statements. Second, it lays out the calculation unequivocally in a way that sometimes eludes even the best attempts at legal drafting. Thirdly, the dollar values in the schedule allow the parties a means to confirm exactly what items are to be included in the accounts referred to. Note that it is the *Buyer* who is responsible for preparing and delivering the draft Closing Date Balance Sheet and Settlement Statements to the Seller (Section 3.1), since the company will have changed hands at the time the July statements are finalized. If there is any confusion over what items ought to be included in, say, accounts payable, the parties can refer to the items that made up the $72.3 M figure in the June 30th statements. Thus, even in deals where the PSA is signed well in advance of closing and the schedule is quite dated at the time of closing, the schedule can still be used to tie dollar amounts to specific accounts for reference.

Most documents will refer to GAAP or IFRS in determining the working capital accounts. It is helpful to have the definition of net working capital include the words "consistent with past practice," since there is considerable leeway in how GAAP and IFRS conventions are applied and the addition of these words creates greater assurance that the final settlement will be done on the same basis as the reference working capital was.

The accounts listed in Schedule 1 include only those that the parties have agreed should be components of reference working capital. The assumption with H&T is that the warranties payable are included in the calculation and the dividends payable, provisions and contingencies, and taxes payable have been excluded. Also, although cash and short-term loans were excluded from the calculation of reference working capital, they are included as items on Schedule 1 in the event amounts remain in these accounts at closing, e.g., if the transaction results in a transfer of some residual cash in a bank account to which the company is entitled, the seller should receive credit for this.

14 Alternatively, transactions can be effected as a "sign-*and-then*-close," where the PSA is executed some weeks or months ahead of closing. While this can make the process more manageable, it can result in some of the financial references in the PSA being more outdated at the time of closing.

Concluding Summary

This paper explores a number of issues relevant to the calculation, negotiation and documentation of working capital in the M&A context. Some of the key points discussed are:

- For going concern entities being sold, the goal should be to transfer that level of net working capital necessary to maintain the cash flow of the business on which the value or price was negotiated. As such, the purchaser should be placed in a position that is, on balance, cash neutral during the period after closing, subject to ebbs and flows of seasonality and other expected cash flow variability in the ordinary course.
- Some businesses need net working capital that is substantial while others can operate on negative working capital. This is a valuation issue that concerns the TAB of the business and therefore the risk of loss should the going concern encounter financial distress. However, this risk is not relevant in determining the appropriate level of working capital to run the going concern business and should not be the basis of a working capital adjustment on closing if the plan is to continue running the business in the ordinary course.
- Cash and short-term operating debt are best excluded from an assessment of working capital needs — they simply finance or are financed by working capital. In private deals, the seller typically retains the redundant cash on closing or else the purchase price is adjusted upwards for the amount of cash transferred. Where cash is withdrawn or credited to the seller on closing, there is an incentive for the seller to manage the business toward a lower working capital level, since this generates cash. This highlights the need to agree on appropriate levels for all current accounts rather than default to the actual levels at closing.
- In order to agree on what level of working capital is needed to run the subject business, the parties can appeal to statistical databases for guidance, though the data tend to show wide dispersion and there can be substantial differences between small and large entities even within the same sector. The real value in these statistics is to inform the due diligence inquiry.
- Transferring the appropriate level of net working capital requires that the buyer and seller agree on a reference level required to run the business and that any overage or underage from this amount on closing will be the subject of a purchase price adjustment. Often historical monthly statements are valuable in establishing reference working capital provided this analysis is “normalized” for seasonality, extraneous events or practices.
- Sometimes issues of risk allocation cause the parties to leave certain current assets or liabilities with the seller, though care must be taken to ensure that these adjustments do not distort or alter the make-up of working capital from what is needed to run the business.
- The basic tasks in documentation are to lay out (i) the definition and components of what reference working capital should be, (ii) the calculation of what actual working capital is on closing (and therefore what adjustments need to be made to the purchase price) and (iii) a mechanism to true up the adjustment in cases where the actual working capital transferred is not known until sometime after the transaction has closed.
- Among the recommendations discussed regarding documentation, it is helpful to specify a value for reference working capital in the PSA. In addition, it is urged that the parties include a schedule laying out the working capital calculation for closing and inserting either the closing working capital values or the most recent illustrative values that can be tied directly to the accounts to be included.

Working capital is integral to the operation of the business being transferred and the settlement of current assets and liabilities in an M&A transaction directly affect the quantum of cash on closing with significant implications from a valuation perspective. Inclusions and adjustments of the working capital accounts cannot properly be negotiated outside the context of the other material deal points regarding value and transaction structure. They should therefore be dealt with as early in the process as possible.

APPENDIX

Definitions

"Net Working Capital" means, as of a particular date of determination, (a) the value of the categories of current assets of the Corporation listed on Schedule 1, (b) less the value of the categories of current liabilities of the Corporation listed on Schedule 1, in each case determined in accordance with [GAAP/IFRS], consistent with past practice;

"**NWC Adjustment**" has the meaning given to it in Section 4;

"**NWC Reference Amount**" means $121,695,000;

1.0 Purchase and Sale

Upon fulfilment of the Closing Conditions but in no event later than the Closing Date, the Seller shall sell and the Buyer shall purchase, effective as of the Closing Date, the Purchased Shares on the terms and subject to the conditions of this Agreement (the "**Transaction**").

2.0 Purchase Price

The purchase price for the Purchased Shares shall be $ **O** (the "**Purchase Price**") as adjusted in accordance with Section 4.0.

3.0 Settlement

3.1 Preparation. The Buyer shall prepare (or cause to be prepared) and deliver to the Seller the Closing Date Balance Sheet and Settlement Statements, in draft form within 60 days of the Closing Date.

3.2 Draft Statements. The draft Closing Date Balance Sheet and Settlement Statements will be final and binding upon the Parties unless the Seller gives notice to the Buyer of its objection thereto within 20 Business Days of its receipt. A notice under this Section shall specify in reasonable detail the disputed items and its motives.

3.3 Disputes. If the Seller objects to the draft Closing Date Balance Sheet and Settlement Statements, the Parties shall use their reasonable commercial efforts to resolve the dispute within 30 Business Days. If unresolved, the dispute shall be submitted for resolution by any Party to an independent accounting firm selected by mutual agreement of the Parties, or in the absence of agreement, to **O**, Chartered Accountants (the "Independent Accounting Firm").

4.0 Net Working Capital Adjustment. If the Net Working Capital at Closing is less than the NWC Reference Amount, then the Purchase Price shall be reduced by an amount equal to the amount by which the NWC Reference Amount exceeds the Net Working Capital or if the Net Working Capital at Closing exceeds the NWC Reference Amount, then the Purchase Price shall be increased by an amount equal to the amount by which the Net Working Capital exceeds the NWC Reference Amount (the "**NWC Adjustment**"). On the Closing Date, the Net Working Capital for the purposes of estimating the NWC Adjustment shall be as shown on Schedule 1. Any further NWC Adjustment payable to the Buyer shall be paid to the Buyer by Seller within 10 Business Days following the date at which the Settlement Statements are final and not subject to disputes by the Parties. Any further NWC Adjustment payable to the Seller shall be paid to the Seller by the Buyer within 10 Business Days following the date at which the Settlement Statements are final and not subject to disputes by the Parties.

5.0 Conduct of Business Before Closing

During the period from the date of this Agreement to the Closing Date, the Seller shall cause the Corporation to, and the Corporation shall conduct the business in the ordinary course of business and continue to operate and maintain the business in substantially the same manner as currently operated and maintained.

6.0 Representations of Seller

6.1 Financial Statements. The balance sheets and statements of income of the Corporation for the financial years ended December 31 2010, 2011 and 2012 (the "**Annual Financial Statements**") and the balance sheet and statements of income for the Corporation as at and for the interim period ended June 30, 2011 (the "**Interim Financial Statements**" were prepared in accordance with [GAAP/IFRS] and fairly present the financial condition of the Corporation at the respective dates indicated and the results of operation of the Corporation for the periods covered thereby.

6.2 Liabilities of the Corporation. There are no liabilities (fixed, contingent or otherwise) of the Corporation required to be disclosed in accordance with [GAAP/IFRS], other than liabilities that have been disclosed, accurately reflected or provided for in the Financial Statements or incurred since the Interim Financial Statements in the ordinary course of business.

6.3 Debt Obligations. Except as disclosed in the Interim Financial Statements, the Corporation has no outstanding Indebtedness or Guarantee and is under no obligation to create or issue Indebtedness or a Guarantee other than liabilities incurred in the ordinary course of business. Except as disclosed in Schedule X, neither the Seller nor any other Person has outstanding Indebtedness or Guarantee in favour of or for the Corporation's benefit.

6.4 Tax

6.4.1 The Corporation has duly prepared, and duly and on a timely basis filed, all Tax Returns required to be filed and such Tax Returns are complete and accurate.

6.4.2 The Corporation has paid on a timely basis all Taxes that are due and payable by it on or before the Closing Date.

6.4.3 With respect to any period ending on or before the Closing Date and for which Tax returns have not yet been filed or for which Taxes are not yet due and payable, the Corporation has made full provision in the Financial Statements for all Taxes that are not yet due and payable. The Corporation has made adequate and timely instalments of Taxes required to be made.

6.4.4 All relevant Tax or other Governmental Entities have issued their tax assessments to the Corporation covering all past periods up to and including the fiscal year ended December 31, 2012. No Proceeding is pending or, to the knowledge of the Seller or the Corporation, threatened against the Corporation in respect of Taxes.

6.4.5 There is no agreement, waiver or other arrangement providing for any extension of time with respect to the filing of Tax Returns, the payment of Taxes by the Corporation or the period for any assessment or reassessment of Taxes.

6.4.6 The Corporation has withheld or collected from each amount paid or credited to a Person the amount of Taxes required to be withheld or collected therefrom and has remitted those Taxes to the proper Tax or other Governmental Entity within the time required under Law.

SCHEDULE 1

Net Working Capital

	June 30, 2013 in dollars (Closing Date Estimates)
ADD:	
Categories of Current Assets	
Net cash and cash equivalents	0
Trade and other receivables	49,032,000
Inventory	164,165,000
Prepaid expenses	21,287,000
Subtotal current assets	234,484,000
LESS:	
Categories of Current Liabilities	
Bank Overdraft and operating loans	0
Trade payables	72,256,000
Warranties payable	16,416,000
Subtotal current liabilities	88,672,000
Net Working Capital	145,812,000

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6

TRENDS IN CANADIAN SECURITIES CLASS ACTIONS: 2013 UPDATE — FILINGS STEADY, LAW IN FLUX AND SETTLEMENTS ON THE RISE

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Introduction

The 10 new securities class actions filed in 2013 matched the number filed in 2012. This compares to the record high of 15 in 2011. Our database now includes 111 Canadian securities class actions filed over the 17-year period 1997 through 2013.

In 2013 there were settlements in six cases and a dismissal in one.[2] As of 31 December 2013, a total of 54 securities class actions are pending, representing more than $19 billion in total claims.

Nine of the new filings in 2013 involved claims under the secondary market civil liability provisions of the provincial securities acts ("Bill 198" cases), continuing the pace of new filings seen in each of the past two years (eight in 2012 and nine in 2011). In total, 52 Bill 198 cases have been filed since the statutory amendments came into force in Ontario at the end of 2005. Of these, 31 cases (60%) representing more than $16 billion in total claims remain unresolved; 17 cases (33%) have fully settled. Including the partial settlement reached in the class action involving Sino-Forest, defendants in these cases have collectively agreed to pay more than $280 million to resolve these claims. Four Bill 198 cases have been dismissed.

Interesting developments during 2013 include:

- A decision of the Supreme Court of Canada ("SCC") upheld the certification of the mutual fund market timing class action accepting arguments of the plaintiffs that "the class action proceeding would overcome access to justice barriers that subsisted after the completion of the OSC [Ontario Securities Commission] proceedings."[3]

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1 Brad Heys is a Vice President, Mark Berenblut is a Senior Vice President, and Jacob Dwhytie is a Consultant with NERA Economic Consulting. We thank Marcia Mayer for helpful comments on earlier drafts. We also thank James Mancini and David Ogilvie for valuable research assistance with this paper. We appreciate the contributions of Svetlana Starykh to this and previous editions of this study. These individuals receive credit for improving this paper. All errors and omissions are our responsibility.

2 We record a case as dismissed based on the most recent ruling of the court even though such a dismissal may still be overturned on appeal.

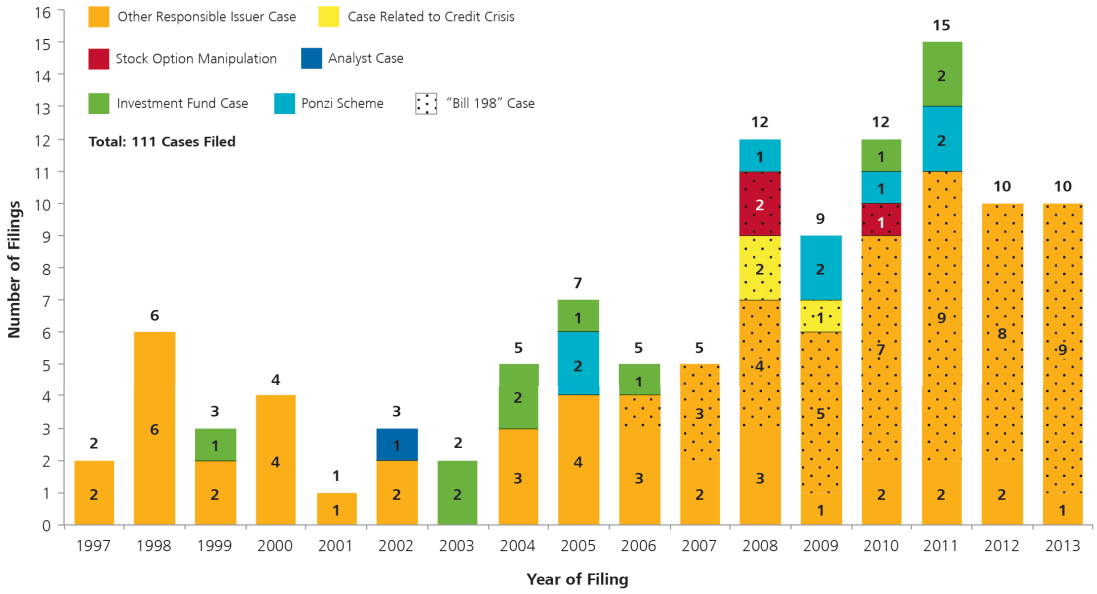
3 *AIC Ltd. v. Fischer*, 2013 SCC 69, ¶61.

- In May 2013, a special five-judge panel of the Ontario Court of Appeal ("OCA") heard arguments in the context of the *IMAX*, *CIBC*, and *Celestica* cases on the issue of the limitation period for obtaining leave of the court to pursue Bill 198 claims.[4] This hearing follows a 2012 ruling of the OCA in the case involving Timminco in which it was held that Bill 198 claims are statute-barred if leave of the court is not obtained within the three-year limitation period.[5] We understand that the decision of the OCA in these three appeals, which was released in early February 2014 as this paper was to go to press, overturned its decision in *Timminco*.[6]
- The Quebec and Ontario courts ruled on jurisdictional issues in the *Facebook*, *BP*, and *IMAX* cases.

Trends in Filings

Ten new securities class actions were filed in 2013, which is close to the annual average of 11.6 over the last five years, 2008-2012. See Figure 1. Sixty-eight of the 111 Canadian securities class actions filed from 1997 through 2013 (61% of the cases) were filed within the last six of those years.[7]

Figure 1. **Cases Filed by Year**
1997 – 2013



Note: "Responsible Issuer Case" refers to a case brought by investors in securities (e.g., common shares) issued by a Responsible Issuer as that term is defined in the *Securities Act* (Ontario). "Bill 198 Case" refers to a case brought under the continuous disclosure provisions of the provincial securities acts. We report a single filing where multiple causes of action have been commenced in respect of substantially similar facts.

4 McFarland, Janet. "Ontario may lift time limit on shareholder lawsuits," *The Globe and Mail*, 8 May 2013.
5 *Sharma v. Timminco Ltd.*, 2012 ONCA 107, leave to appeal to S.C.C. refused, [2012] S.C.C.A. No. 157.
6 *Green v. CIBC*, 2014 ONCA 90, (*sub nom. Millwright Regional Council of Ontario Pension Trust Fund (Trustees of) v. Celestica Inc.*) 118 O.R. (3d) 641.
7 An additional class action was filed in Ontario on 20 January 2014, involving SouthGobi Resources Ltd. This case is not included in the present analysis.

Shareholder Class Actions

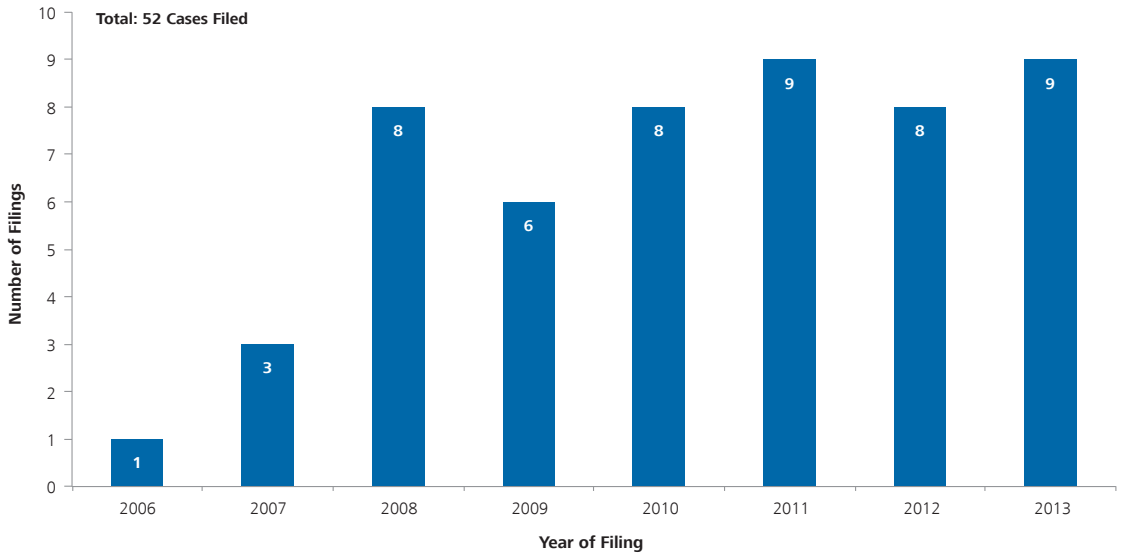
As was the case in 2012, each of the new filings in 2013 is a shareholder class action. This contrasts with years prior in which there were also filings of non-shareholder securities class actions, such as those involving Ponzi schemes and/or investment funds.

Eight of the 2013 filings involved issuers with securities listed on the Toronto Stock Exchange (TSX). Six of these issuers were also cross-listed on U.S. exchanges — four on the NYSE, and two on the NASDAQ. Each of these companies also faces parallel class actions filed in the U.S. Over the last six years (2008 through 2013), a total of 48 class actions have been filed against TSX-listed companies, representing approximately 3% of the average number of companies listed over that period, or an average annual litigation risk of approximately 0.5%.[8] In addition, over the same six-year period, filings have been brought against seven companies listed on the TSX Venture Exchange (TSX-V), representing 0.3% of the average number of TSX-V listed companies (implying an average annual litigation risk of approximately 0.05%).[9]

Bill 198 Cases

Nine of the 10 new 2013 filings are Bill 198 cases. This level of new Bill 198 filings is generally in line with the pace of such filings since 2008 and continues the trend of a higher volume of cases following the coming into force of the new secondary market civil liability provisions of the provincial securities acts since the end of 2005. See Figure 2.

Figure 2. **'Bill 198' Filings**
2006 – 2013



8 Number of TSX-listed companies obtained from the December issues of The MiG Report published by TSX Inc. for 2008 to 2013.
9 *Ibid*.

Filings by Province

In prior years the vast majority of Canadian securities class actions were filed in Ontario, with several also having parallel filings in other provinces. The cases filed in 2013 continued that trend:

- Eight of the 10 new cases filed in 2012 were filed in Ontario;
- Of these cases filed in Ontario, two were also filed in other provinces — namely, the claim against BlackBerry Ltd. was also filed in Quebec, and the claim against Cash Store Financial Services Inc. was also filed in Quebec and Alberta; and
- Of the two cases not filed in Ontario, one was filed only in Alberta (involving Donnybrook Energy Inc.) and the other only in Quebec (involving BioSyntech Inc.).

U.S. Securities Class Actions Against Canadian Companies

Nine Canadian-domiciled companies were the subject of a U.S. securities class action during 2013.

- Five of these companies are also the subject of a parallel Canadian securities class action (also filed in 2013 unless noted otherwise):[10]
    - Poseidon Concepts Corp.[11]
    - Atlantic Power Corp.
    - Cash Store Financial Services Inc.
    - Pretium Resources Inc.
    - BlackBerry Ltd.
- Four others are not the subject of a Canadian filing as of 31 December:
    - Barrick Gold Corp.,
    - Lululemon Athletica Inc.,
    - Liberty Silver, and
    - Turquois Hill Resources.[12]

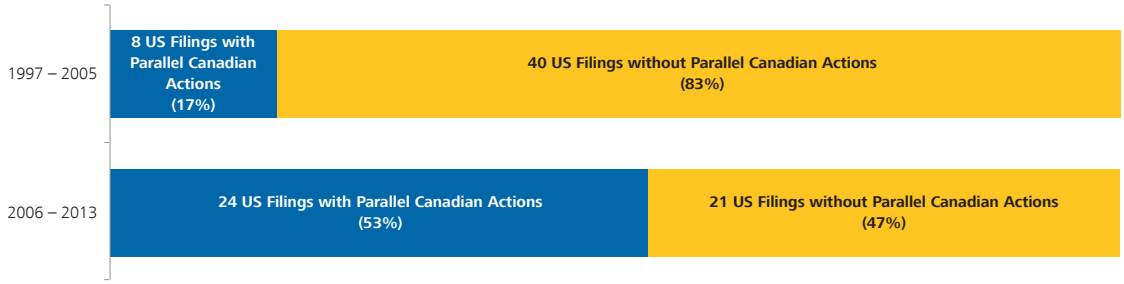
These filings continue the recent trend of about half of all U.S. filings against Canadian companies also corresponding to a parallel claim in Canada. See Figure 3.

10 A sixth Canadian-domiciled company (Swisher Hygiene Inc.) became the subject of securities class actions on both sides of the border in 2013, having been sued in Canada during 2013 and the prior year in the U.S.

11 The first Canadian securities class action involving Poseidon Concepts Corp. was in 2012.

12 A notice of action involving Turquois Hill Resources majority-owned subsidiary SouthGobi was filed in Ontario in January 2014.

Figure 3. **US Filings Against Canadian-Domiciled Companies by Year of US Filing**



Note: If multiple securities class actions with similar allegations are filed against a Canadian-domiciled company in US federal court we treat them as a single filing if in the same circuit, and as separate filings if in different circuits. As a result, some US filings share the same parallel Canadian action. If similar class actions are filed against a company in Canada, we treat them as single filing, whether in the same or different provinces.

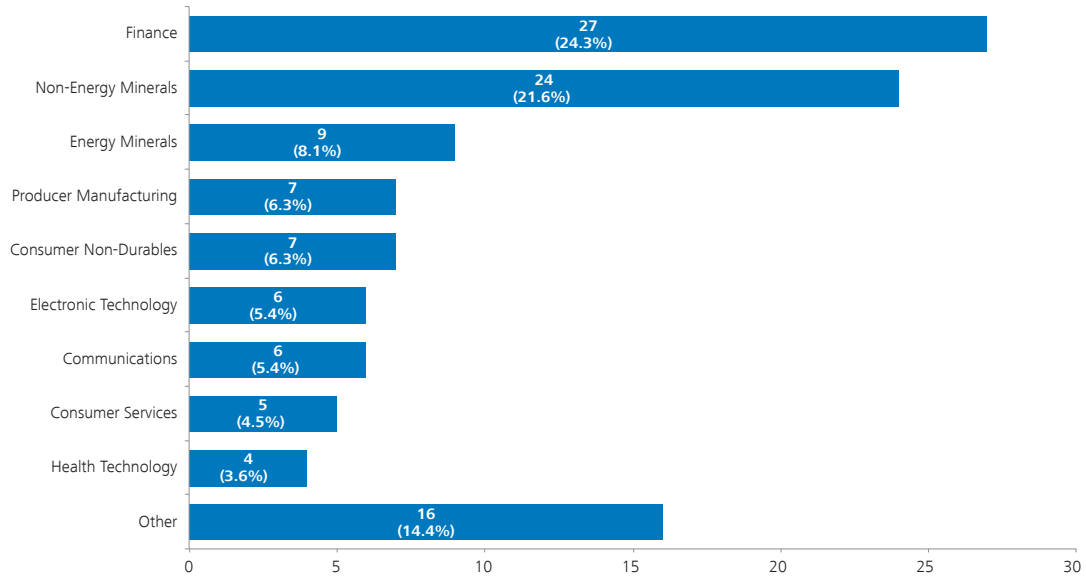
Industry Sectors

As in years past, cases against companies in the mining and oil and gas (energy and non-energy minerals) sectors accounted for a substantial share of the 2013 filings, with four such cases constituting 40% of the total.

On the other hand, although historically about one-quarter of cases relate to companies in the finance industry (excluding claims against companies who provided financial services to reporting issuers), in the past two years only one of the 20 new filings has involved companies in this industry (i.e., the case against Cash Store Financial Services Inc. in 2013).

Filings of Canadian securities class actions by industry sector for the period 1997 through 2013 are illustrated in Figure 4.

Figure 4. **Filings by Industry Sector (111 cases)**
1997 – 2013



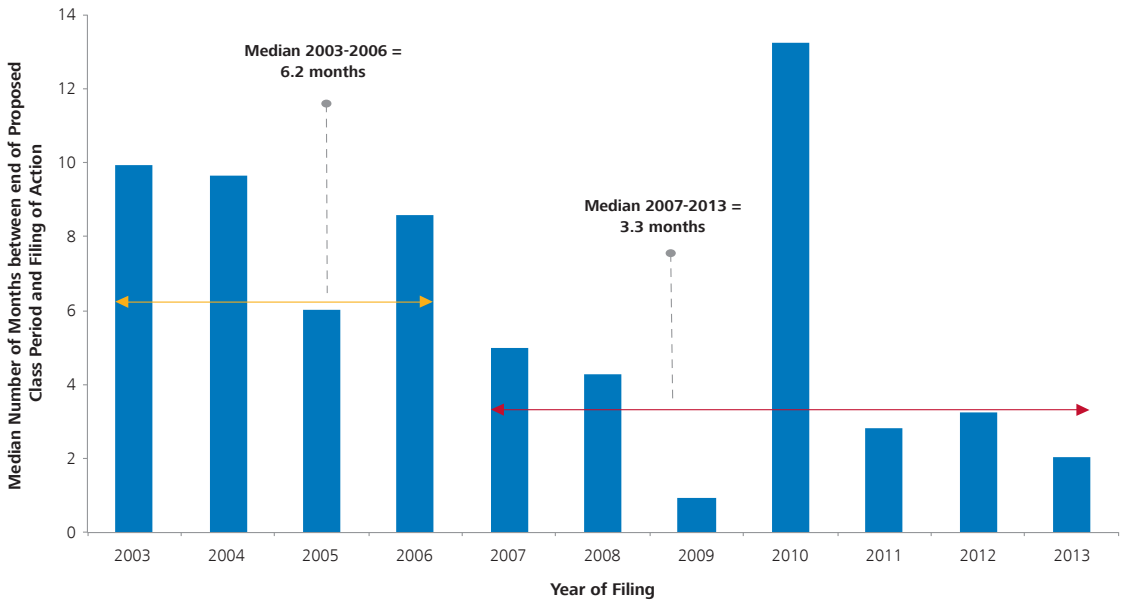
Note: Cases are coded based on the industry sector for the issuer of the securities that are the subject of the litigation.

Time to Filing

The median time from the end of the proposed class period to a 2013 filing was 2.1 months and the average was 10.6 months. Four of the 10 cases were filed less than one month after the end of the class period (Martinrea International Inc., Pretium Resources Inc., Cash Store Financial Services Inc., and BlackBerry Ltd.). Another four, the slowest to file, were brought more than 20 months out (Silvercorp Metals Inc., Swisher Hygiene Inc., Donnybrook Energy Inc., and BioSyntech Inc.). Most delayed was the filing against BioSyntech, which came more than 36 months after the end of the proposed class period.

The median time to filing in 2013 was the second shortest time to filing window in 11 years, adding weight to our previously-expressed view that 2010 was an aberration in what is otherwise a general trend towards faster filing.[13] See Figure 5.

Figure 5. **Median Time to Filing from the End of the Proposed Class Period**



Note: Based on 85 cases filed from 2003 through 2013 for which we know both the filing date and the class period end date.

Trends in Resolutions

Settlements

Six Canadian-filed cases settled in 2013 for approximately $52 million in the aggregate. The average (median) settlement was $8.6 million ($9.9 million).

The financial highlights of each settlement are as follows:[14]

- Zungui Haixi Corp: $10.85 million (36.2% of the claimed amount)

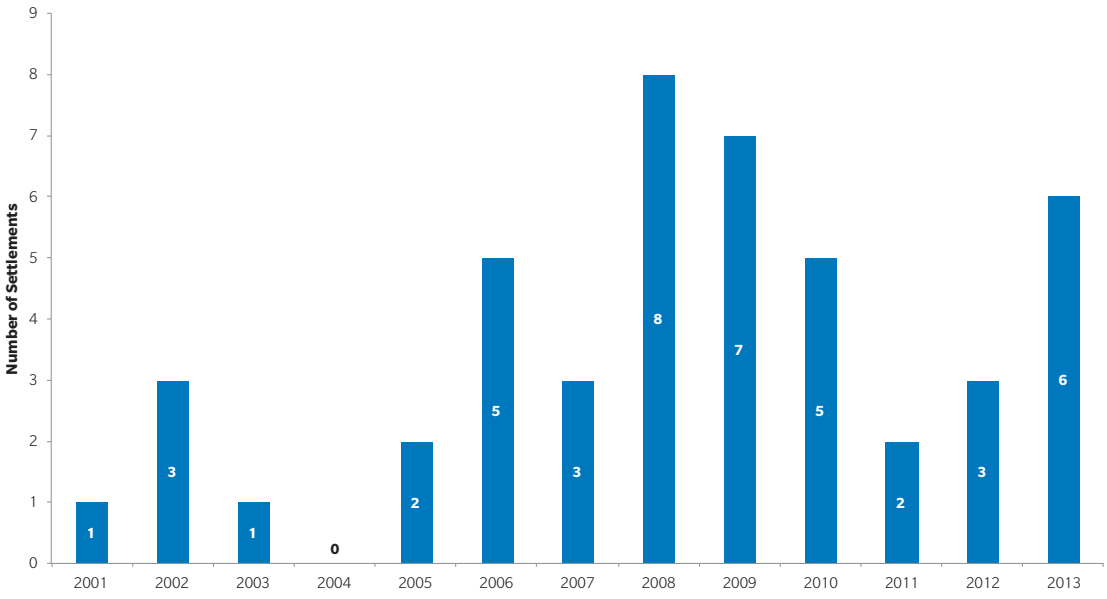
13 Heys, et al., "Trends in Canadian Securities Class Actions: 2010 Update."

14 A tentative settlement (pending court approval) in the case involving Protective Products of America was announced in January 2014.

- Armtec Infrastructure Inc.: $12.9 million (12.9% of the claimed amount)
- SMART Technologies Inc.: US$15.25 million (14.8% of the claimed amount)[15]
- easyhome Ltd.: $2.25 million (15% of the claimed amount)
- Alange Energy Corp.: $9.0 million (18% of the claimed amount)
- Cathay Forest Products Corp.: $1.9 million (6.3% of the claimed amount)

The number of settlements in 2013 is twice that in 2012 and the most since 2009. See Figure 6.

Figure 6. **Settlements by Year, 2001 to 2013**



Note: A settlement from 1997 is not shown in the chart above.

Our database now includes settlement amounts for 44 of the 47 Canadian securities class actions that fully settled from 1997 through 2013 (it also contains partial settlements of other cases, but these do not figure into our statistics).[16] The median settlement is $12.7 million. The average settlement across these cases is $89.5 million — a figure heavily skewed by two exceptionally large settlements, both relating to Nortel Networks Corp.

Five of the 2013 settlements are Bill 198 cases, the SMART Technologies Inc. settlement being the only exception. To date, there have been 17 completed settlements of Bill 198 cases. The average (median) settlement in these 17 cases is $9.6 million ($9.0 million). The average (median) settlement as a percentage of claimed compensatory damages in these cases is 14.6% (11.4%).

The largest 2013 settlement was of the SMART Technologies Inc. case, which was also the only settlement subject to cross-border litigation.

15 The settlement in the case against SMART Technologies Inc. was cross-border, covering U.S. and Canadian class members [*Tucci v. Smart Technologies Inc.*, 2013 ONSC 5786].

16 The database includes settlements from both Canadian-only and cross-border filings.

Of the 52 Bill 198 cases filed through 2013, 13 domestic-only cases have settled. These settlements have an average value of $7.4 million, representing 14.9% of claimed compensatory damages; the corresponding medians are $7.1 million and 12.9%.

The other four Bill 198 settlements are of cross-border cases. For these, the average and median settlements—$16.9 million and $17.2 million, respectively — are more than double the corresponding statistics for domestic only cases. Both amounts are unchanged from 2011, the last year to have had cross-border settlements of a Bill 198 cases. The average (median) Bill 198 cross-border settlement amounted to 13.7% (11%) of claimed compensatory damages.

Dismissals

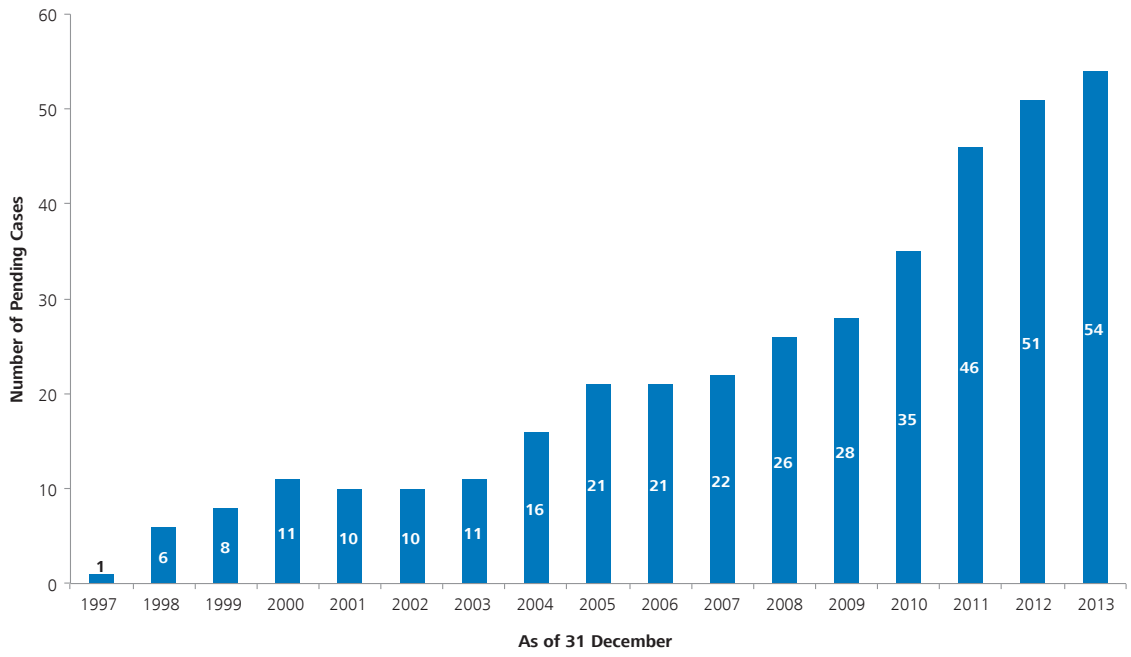
The one case to be dismissed in 2013 was against Kinross Gold Corp.[17] In ordering this dismissal (which we understand was still subject to appeal at year-end), the Ontario Superior Court determined that the facts of the case were such that there was no "reasonable possibility" that the action would succeed at trial.[18]

Pending Cases

Number of Pending Cases

There were 54 Canadian securities class actions pending at the end of 2013. This is nearly double the number of such cases four years ago. See Figure 7.

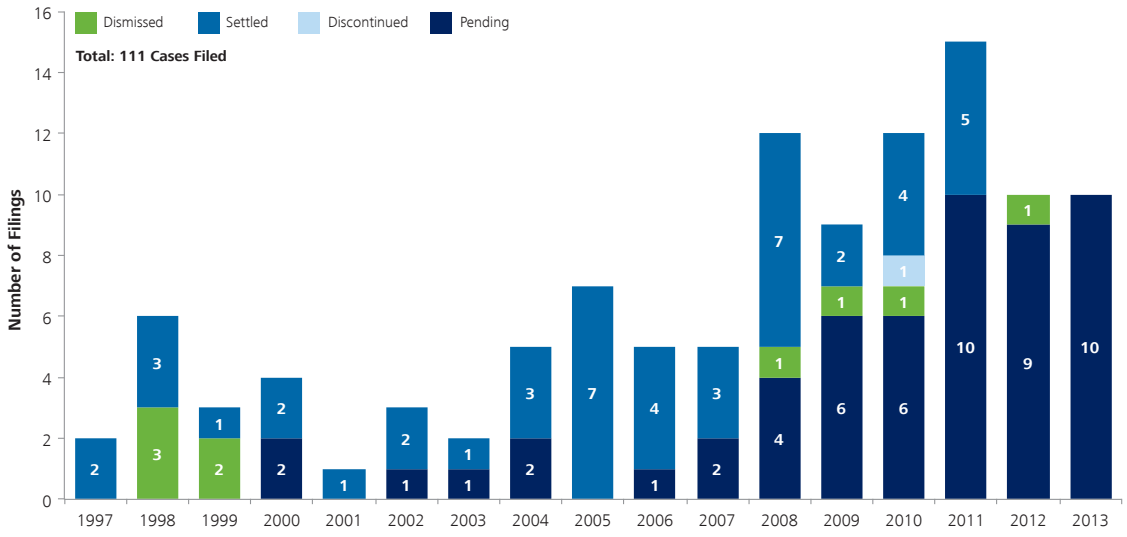
Figure 7. **Cases Pending as of 31 December**



17 A parallel class action in the U.S. is ongoing.
18 *Bayens v. Kinross Gold Corp.*, 2013 ONSC 6864

The 54 cases pending at the end of 2013 represent more than $19 billion in claims, including both compensatory and punitive damages. All but nine of them were filed after 2007. See Figure 8.

Figure 8. **Status of Cases at Year-End by Year of Filing**
1997 – 2013



Pending Bill 198 Cases

Thirty-one of the 54 pending cases (57%) are Bill 198 cases. With more than $16 billion in claimed damages (about 83% of the total outstanding claims), Bill 198 cases are large relative to other pending cases.

Leave and Certification

Three of the 31 Bill 198 cases that were pending at year-end 2013 were granted leave and certification by consent of the parties during the year. These cases targeted the following companies:[19]

- Agnico-Eagle Mines Mines Ltd.
- Protective Products of America Inc.
- Canada Lithium Corp.

Twenty-three other Bill 198 cases pending at year-end have not yet reached the leave application or class certification stage.[20]

The certification of the mutual fund market timing case (not a Bill 198 matter) was confirmed in a December 2013 ruling of the SCC. The SCC upheld the decision of the Divisional Court and Court of Appeal, reversing the initial decision of the motion judge. Certification had initially been denied by the motion judge on the basis that a class action was not the preferable procedure because the OSC had already reached a settlement with the fund managers in relation to the same issues. In

19 The case involving Alange Energy Corp. was also granted leave and certification in 2013, but, as noted above, was subsequently settled. Also as noted above, the case involving Protective Products of America was pending as of 31 December 2013, but tentatively settled in January 2014.

20 Plaintiffs in the case involving Timminco have been denied leave to pursue the statutory claims, but there has not yet been a certification decision in respect of the outstanding common law claims.

upholding the decision of the Divisional Court and Court of Appeal to grant certification, the SCC explained, "The record in this case, which shows in detail the results of the proposed alternatives which have run their course [i.e., the settlements with the OSC], also shows that substantive access to justice concerns still remain."[21]

Also, as noted above, the decision of a special five-judge panel of the OCA released its decision regarding the appeals in the cases involving IMAX, CIBC, and Celstica in early February 2014 as this paper was going to press. We understand that this decision reverses the same court's prior decision in the case against Timminco that leave of the court must be received within the three-year statutory limitation period.[22]

Jurisdictional Issues

Canadian courts continued to grapple with jurisdictional issues in 2013.

In *Mouaikel v. Facebook*, the Quebec Superior Court dismissed the plaintiff's motion for authorization based on the "absence of proof that the petitioner suffered damage in Quebec as a result of a material event that occurred [in Quebec]," since the transactions leading to the loss would have occurred in the U.S.[23] The court also noted that a parallel class action had been filed in the U.S., and Canadian shareholders who purchased shares over US exchanges would have recourse through that action.[24]

In *Kaynes v. BP*, the Ontario Superior Court ruled against BP's motion to dismiss the claims of class members who purchased BP shares on exchanges outside of Canada.[25] BP had American Depositary Shares listed on the TSX during part of the class period, in addition to BP shares trading on the NYSE and European exchanges. In denying BP's motion to dismiss, the court noted that it had not yet determined whether a global class is appropriate.[26]

In Silver v. IMAX, the court ruled ineligible for the class all NASDAQ purchasers who were eligible for relief under a settlement reached in a parallel U.S. class action.[27] The U.S. action against IMAX had been settled contingent upon such an amendment to the Ontario action.[28]

Pending U.S. Cases Against Canadian Companies

As of 31 December 2013, there were also 20 pending U.S. cases against Canadian-domiciled companies.[29] See Figure 9.

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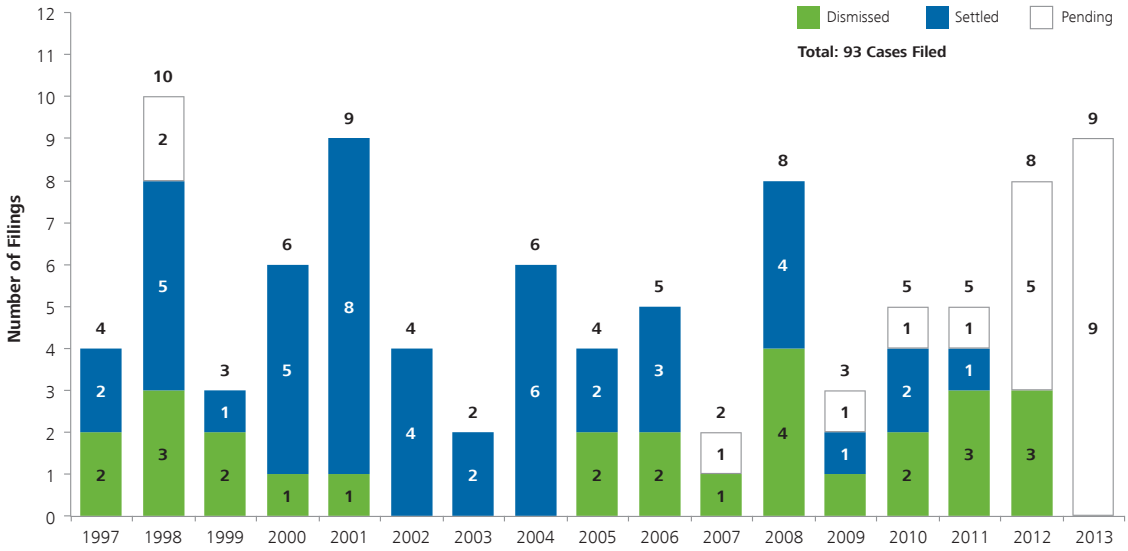
21 *AIC Ltd. v. Fischer*, 2013 SCC 69, ¶61.
22 Above, note 6.
23 *Mouaikel v. Facebook*, 2013 QCCS 4176, ¶¶21-22.
24 *Ibid.*, ¶¶23-24.
25 *Kaynes v. BP plc*, 2013 ONSC 5802 [reversed 2014 ONCA 580].
26 *Ibid.*, ¶26.
27 *Silver v. Imax Corp.*, 2013 ONSC 1667, ¶190.
28 *Ibid.*, ¶4.
29 As stated in the Note to Figure 3, our U.S. database records multiple filings where actions are filed against the same defendant in more than one federal court circuit (unless they are subsequently consolidated).

Figure 9. **Status of US Filings Against Canadian-Domiciled Companies**
as of 31 December 2013



Looking Forward

Our database now includes 111 Canadian securities class actions, 54 of which remain pending at year-end.

It will be interesting to observe the impacts of the decision of the special five-judge panel of the OCA in appeals in the cases involving IMAX, CIBC, and Celestica. That decision, released in early February 2014, may be seen as resolving some of the questions regarding the application of the limitation period in Bill 198 cases that had followed the OCA's decision in Timminco. We understand that the decision also made findings that may be viewed by some as favourable to plaintiffs with respect to the test for leave and the appropriateness of certifying common law claims. This decision could potentially lead to more Bill 198 filings and affect the pace at which those cases proceed to the leave stage (contested or otherwise), and may also increase the likelihood of at least some cases going to trial.

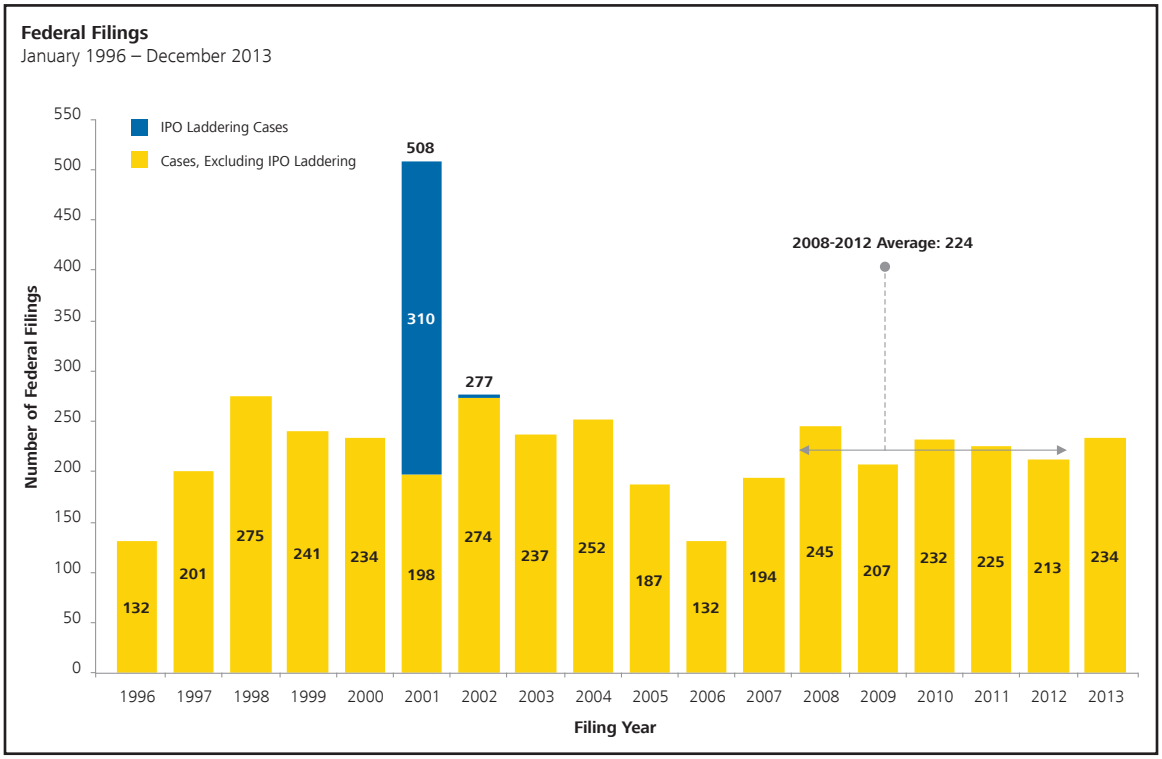
Litigation funding may also have an influence on the number and nature of future filings. During 2013, the Kinross Gold Corp. case (subsequently dismissed) became the third Ontario securities class action in which plaintiffs were granted court approval to receive third-party funding.[30] Third-party funding of plaintiff classes was previously approved by the courts in the cases against Manulife Financial Corp. (in 2011) and Sino-Forest Corp. (in 2012).[31]

30 *Bayens v. Kinross Gold Corp.*, 2013 ONSC 6864.
31 *Ibid.*, ¶34.

U.S. TRENDS: SUMMARY OF NERA STUDY ON U.S. SECURITIES CLASS ACTIONS

The latest edition of NERA's annual study of U.S. federal securities class action filings showed that more securities class actions were filed in U.S. federal courts in 2013 compared to 2012, but the increase has been a small one. Co-authored by Senior Consultants Dr. Renzo Comolli and Svetlana Starykh, the study draws from more than 20 years of NERA research on case filings and settlements in U.S. securities class actions. The authors find that 234 securities class actions were filed in 2013, compared to 213 class actions filed in 2012, representing a 10% increase and a slight increase compared to the 224 average number of filings in the period of 2008 to 2012.

Settlement activity continued to proceed at a very slow pace after the 2012 record low. Only 100 securities class actions were settled in 2013, compared to 94 settlements reached in 2012 and the 127 average settlements per year in the period of 1996 to 2011. Average settlement amounts for "usual" securities class actions (i.e., excluding settlements over $1 billion, merge objection settlements, and IPO laddering settlements) in 2013 broke prior records, reaching $55 million, an increase of 53% over 2012 and a 31% increase over the previous high in 2009. The median settlement amount for 2013 was $9.1 million, a 26% decrease compared to 2012. accounted for 25% of new filings in 2012.



7

2013 CANADIAN GOODWILL IMPAIRMENT STUDY

by James Harrington/Chris Jones/Carla Nunes/Niel Patel/Gary Roland/Marianna Todorova/ Jamie Warner/Hilary Eastman/Andrew Harington
Duff & Phelps

Introduction

In February 2013, the Canadian Financial Executives Research Foundation (CFERF) and Duff & Phelps published the results of their first comprehensive Canadian study of goodwill impairments. The *2012 Goodwill Impairment Study: Canadian Edition* examined the impact of the 2011 transition from Pre-changeover Generally Accepted Accounting Principles (Pre-changeover GAAP) to International Financial Reporting Standards (IFRS),[1] one of several issues affecting Canadian financial executives.

The 2012 Study also examined goodwill impairment patterns, in aggregate and by industry, over a five-year period. This period included two significant events, the 2008 financial crisis and the 2011 transition to IFRS. Finally, the 2012 Study included a survey of members of Financial Executives International (FEI) Canada regarding goodwill impairments, their impairment testing process and the associated impact, if any, of IFRS adoption.

Now in its second year of publication, the *2013 Canadian Goodwill Impairment Study* (the "2013 Study") continues to examine general goodwill impairment trends and trends within different industries in Canada through December 2012. In addition, through its annual survey of FEI Canada members, the 2013 Study once again incorporates the perspectives of senior Canadian financial executives. We have introduced a comparison to survey findings documented in our sister publications covering goodwill impairment trends in the European and the U.S. markets. Finally, Industry Spotlights are newly featured in this edition, allowing readers to focus on relevant metrics and statistics for the particular industry of their interest.

Purpose of the 2013 Study

- To report and examine the general and industry trends of goodwill and goodwill impairment of Canadian publicly-traded companies.
- To report the 2013 results of the annual goodwill impairment survey of FEI Canada members (the "2013 Survey").

1 For a background on the IFRS adoption decision refer to http://www.frascanada.ca/accounting-standards-board/what-we-do/strategic-plan/item62118.pdf

Scope of the 2013 Study

Similar to the previous edition, the 2013 Study focuses on goodwill impairments recorded by Canadian-based companies traded on the Toronto Stock Exchange (TSX), reporting under IFRS.

The procedures described in Appendix 1 *2013 Study: Company Base Set Selection* were undertaken to arrive at the final data set, which was used to calculate all ratios and summary statistics throughout the 2013 Study.

Non-IFRS Adopters

While Canadian accounting rules allow certain entity types to defer IFRS adoption or to report under U.S. GAAP,[22] the reality is there are relatively few Canadian publicly-traded companies that are non-IFRS adopters. As displayed in Figure 1, of the 2012 universe of **670** Canadian-based publicly-traded companies meeting the 2013 Study criteria, there were **616** reporting under IFRS.

Figure 1: Accounting Standards Used by Canadian Companies Over Time

	2008	2009	2010	2011	2012
U.S. GAAP	16	19▲	22▲	36▲	54▲
IFRS	0	4▲	15▲	621▲	616▼
Pre-changeover GAAP	657	650▼	636▼	16▼	0▼
Total	673	673	673	673	670

Notwithstanding the focus of the 2013 Study on IFRS adopters, goodwill impairment amounts reported by all 670 companies (including the non-IFRS adopters) were also examined in aggregate. The magnitude of goodwill impairments recognized by non-IFRS adopters relative to the overall amount reported by the 670 companies is summarized in Figure 2.

Figure 2: Non-IFRS Adopters' Goodwill Impairment (GWI) as a Percentage of Total Goodwill Impairment

	2008	2009	2010	2011	2012
(Non-IFRS Adopters' GWI) / (Non-IFRS Adopters' GWI + IFRS Adopters GWI) × 100%	7.2%	7.4%	0.3%	3.2%	8.4%

Goodwill impairments recorded by non-IFRS adopters were relatively small, with the exception of Research in Motion Limited (RIM), which reports under U.S. GAAP. RIM, which recently changed its name to Blackberry Limited, impaired all of its goodwill in calendar-year 2012 in the amount of $681 million (US$690 million).[3] Absent this loss, the proportion of non-IFRS adopters' goodwill impairment would have been a negligible 0.6% to total 2012 impairments.

The remainder of this report will focus exclusively on IFRS adopters.

2 For a description of which entities are required to adopt IFRS, refer to Appendix 1.

3 Figures in this report are stated in Canadian dollars. The symbols '$' and 'CAD' are used interchangeably. To the extent amounts are shown in U.S. dollars, the symbol 'US$' is used.

Goodwill Landscape

Highlights of the 2013 Study

The $7.9 billion of goodwill impaired by Canadian companies reporting under IFRS in calendar year 2012 was a significant (28%) decrease from the 2011 amount of $11.0 billion. Approximately 76% ($6 billion of the $7.9 billion) of the total goodwill impairment (GWI) was accounted for by the top three impairment events. The dominance of a few large impairment events is consistent with what was observed in the 2012 Study, when three impairment events accounted for 81% of the total impairments recognized during 2011.

As such, the Canadian goodwill impairment landscape for the past two years has told a story of a few large-cap companies dominating the aggregate universe of annual impairments. Notably, absent the top three events, total GWIs would have been similar in magnitude, with $1.9 billion and $2.1 billion recognized in calendar years 2012 and 2011, respectively. These would also be more in line with the $2.9 billion GWI reported in 2010, as restated under IFRS.

For a better understanding of the impact of IFRS adoption on 2010 reported GWIs, refer to Appendix 2 *Quantifying the Impact of IFRS Adoption – Flashback.*

Interestingly, the frequency of impairment events increased from 36 events in 2011 to 52 events in 2012, indicating that the average amount of individual impairments has decreased year over year.

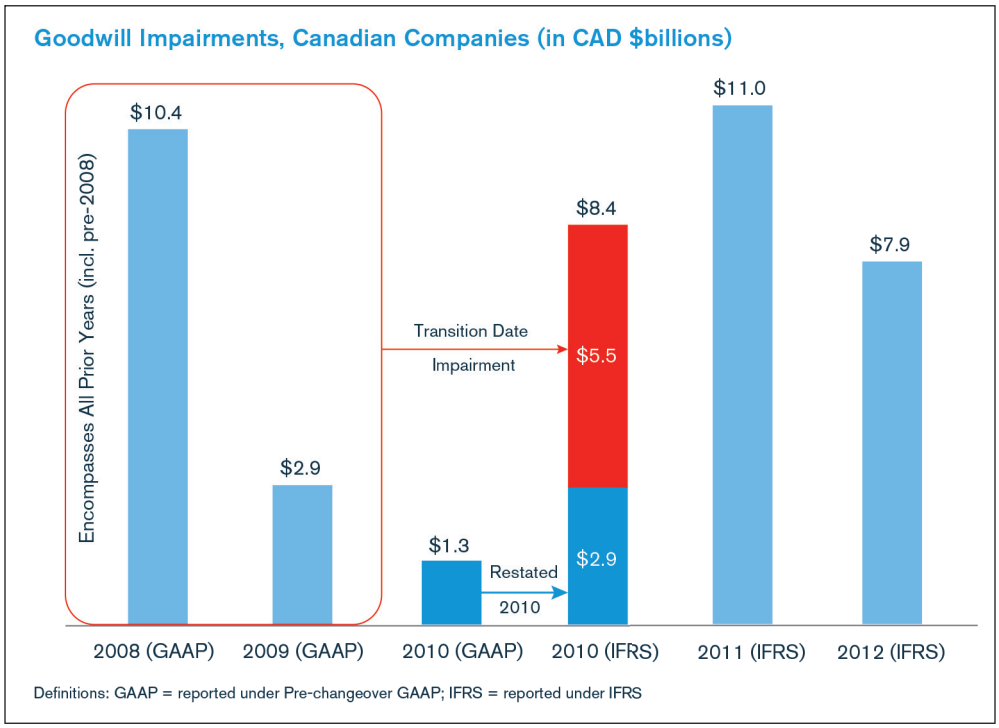
Approximately 82% of the total goodwill impairment recorded in 2012 was concentrated in the Consumer Discretionary and Materials industries. While the total GWI amount in the Consumer Discretionary industry decreased by $3.0 billion, it remains the industry with the highest annual GWIs at $3.3 billion. The Materials industry impaired the second highest amount of goodwill at $3.2 billion, a standing which also remained unchanged from the prior year.

Certain other industries displayed a notable upward trend from 2011 to 2012 in the proportion of companies with goodwill recognizing a GWI. For instance, between 2011 and 2012 this ratio increased from 3% to 16% for Information Technology, from 33% to 50% for Healthcare and from 15% to 18% for Energy.

Highlights of the 2013 Survey

The 2013 Survey captured FEI Canada members' responses to an online survey conducted in the Fall of 2013. The survey focused on top-of-mind issues for Canadian financial executives regarding impairments and the impairment testing process under IFRS:

- A sizeable portion of survey respondents (38% of public company and 54% of private company respondents) indicated that developing cash flow projections was one of their most significant challenges.
- Two-thirds of the public companies surveyed that believed their shares were underpriced, also found developing pre-tax discount rates for value in use to be the top challenge when applying IFRS goodwill impairment guidance.
- Surprisingly, a majority of the private company respondents applied the same discount rate to all cash-generating units (CGUs) without adjustments for risks specific to the respective CGUs.



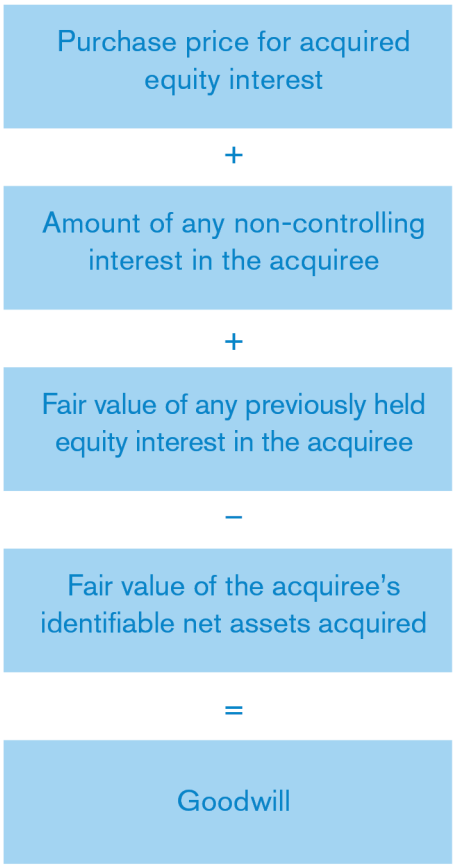
QUICK ACCOUNTING REFERENCE GUIDE

Overview of IAS 36 Requirements

Recognizing Goodwill

Goodwill is defined in IFRS 3 *Business Combinations* as "an asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognized." Internally generated goodwill cannot be recognized. In a business combination, goodwill is measured as follows:[4]

4 Goodwill is calculated as a residual and is subject to a number of accounting adjustments, such as the recognition of deferred tax liabilities. Non-controlling interests in the acquiree can be measured at fair value or at the proportionate share of the acquiree's identifiable net assets.



Allocating Goodwill to Cash-Generating Units

Goodwill acquired in a business combination is allocated at the acquisition date to an entity's cash-generating units that are expected to benefit from the synergies of the combination. Goodwill is allocated at the lowest level within the entity at which goodwill is monitored for internal management purposes. A cash-generating unit cannot be larger than an operating segment as defined in IFRS 8 *Operating Segments*.

Recognizing a Goodwill Impairment Loss

According to IAS 36 *Impairment of Assets*, goodwill is impaired if the recoverable amount of a cash-generating unit is less than its carrying amount. The recoverable amount of a cash-generating unit is the higher of its: (i) fair value less costs of disposal (previously referred to as "fair value less costs to sell") and (ii) value in use.[5] IFRS 13 *Fair Value Measurement* provides guidance for measuring fair value and IAS 36 provides guidance for measuring value in use.

5 From a practical standpoint, it is not necessary to determine both an asset's or cash-generating unit's fair value less costs of disposal and its value in use. If either of these amounts exceeds the carrying amount, the entity may conclude that the asset is not impaired.

Any impairment loss is allocated first to reduce the carrying amount of goodwill to zero. Any remaining impairment loss is allocated to the other assets of the cash-generating unit on a pro-rata basis. Once a goodwill impairment has been recognized it cannot be reversed.

Timing of Goodwill Impairment Tests

Goodwill must be tested for impairment at least annually, or more frequently if there are indicators that it may be impaired. Factors indicating that a cash-generating unit may be impaired include, for example:

- Significant adverse changes have occurred during the period in the technological, market, economic or legal environment that have an effect on the entity, indicating that economic performance is or will be worse than expected.
- Market interest rates or other market rates of return on investments have increased during the period, and those increases are likely to decrease the asset's recoverable amount materially.
- The carrying amount of the net assets of the entity is greater than its market capitalization.

The annual goodwill impairment test for a cash-generating unit to which goodwill has been allocated can be performed at any point throughout the annual period. However, the test must be performed at the same time each year.

Although not a sole or definitive indicator of impairment, a company's market capitalization should not be ignored during a goodwill impairment test. Understanding the dynamics of market-to-book ratios is informative, but the fact that an individual company has a ratio below 1.0 does not by default result in failing an impairment test. Cash-generating unit structures, their respective performance and where the goodwill resides are a few of the critical factors that must be considered in the impairment testing process.

THE U.S. APPRAISAL FOUNDATION'S PROPOSED GUIDANCE ON CONTROL PREMIUMS

For some time it has been common practice to apply a "control premium" in financial reporting valuations. Often relied upon in goodwill impairment testing, the application of control premiums might follow this line of reasoning:

> *Company A, a publicly-traded company, estimates the recoverable amount of its cash-generating units and their aggregate value exceeds the company's market capitalization by 30%. Control premium studies identify recent transactions in the industry with premiums ranging from 25% to 40%. Therefore, Company A concludes that the values for the cash-generating units reconcile to its market capitalization.*

However, in recent years some have begun to question the existence of a control premium in general. Different viewpoints have resulted in diversity of practice not only among valuation professionals but also among companies performing their goodwill impairment tests internally.

Recognizing the lack of guidance and diversity in practice, The Appraisal Practices Board (APB)[6] in the United States assembled a working group to develop best practices for the appli-

6 The APB, formed in 2010 by The Appraisal Foundation Board of Trustees, adopts and publishes best practice guidance developed by the Valuation for Financial Reporting Working Groups. These groups were originally facilitated by The Appraisal Foundation.

cation of control premiums in the context of financial reporting, and published a discussion draft of a Valuation Advisory in April 2013. The ultimate objective of the Valuation Advisory, once it is finalized, is to create greater commonality among valuation best practices. Although the discussion draft is focused on U.S. GAAP valuations, its conclusions are relevant to valuation more generally and might be useful to those applying IFRSs, particularly in the light of the IASB's recent discussions on unit of account.

The discussion draft introduces the term *market participant acquisition premium* (MPAP) to emphasize the market participant perspective and to highlight the value created by the combination of two separate entities, rather than the value created simply by having control over an entity. Below are three of the main ideas in the discussion draft:

- *MPAPs should be supported by reference to enhanced cash flows or a reduction of risk:* Controlling interests are commonly viewed as having greater value than their minority counterparts because, conceptually, control is in and of itself valuable. The proposed guidance takes the perspective that the value of control comes from the ability of an entity to create future economic benefit by exercising that control. Those benefits may come, for example, in the form of enhanced cash flows from higher profit margins, increased growth, improved investment effectiveness or a reduction in risk (e.g. in the form of a lower cost of capital). In the absence of the ability to derive additional economic value, there is arguably no reason to pay a premium simply for the luxury of having control.
- *Relying solely on benchmark control premium data to derive an MPAP is not consistent with best practices:* Analyzing historical data regarding observed premiums from closed transactions has some merit as evidence for quantifying the value of having control. However, the quality and relevance of such benchmark data should be critically evaluated to assess its applicability to a particular valuation situation. The discussion draft suggests that relying solely on benchmark premium data to derive an MPAP, without considering any expectation for enhanced cash flows or reduced risk for the combined entity, is insufficient and is not consistent with best practice.
- *MPAPs should be applied in the context of total invested capital rather than on an equity basis:* The traditional method of calculating transaction premiums is founded on the notion that the benefits of control accrue to the equity holders rather than the debt holders. However, this is potentially misleading. The economic benefits realized through exercising control enhance the value of the enterprise as a whole, not just that of the equity interests. Premium percentages computed on an equity basis will differ depending on the capital structure of the company. In contrast, MPAPs expressed as a percentage of total invested capital (i.e. the sum of debt and equity) would be consistent across companies regardless of differences in leverage.

The discussion draft also addresses some practical issues to be aware of when analyzing traditionally observed control premiums and transaction data as part of a more robust MPAP analysis. It also includes an illustration of the application of an MPAP using this new perspective. Overall, the proposed guidance furthers the understanding and support for MPAPs in valuations for financial reporting generally, and for impairment testing in particular.

17% of survey respondents used a control premium derived from general market studies and 65% relied on a combination of analytical methods in conjunction with general market-based studies.

SURVEY RESULTS

Introduction

During the summer of 2013, an electronic survey on goodwill impairments was conducted using a sample of FEI Canada members representing both public and private companies. This survey provides insight into the reasons for goodwill impairments and the valuation techniques used in the impairment analysis.

Calendar-year 2012 was the second annual period that Canadian companies have been using IFRS. The 2013 Survey therefore captures Canadian executives' cumulative experience and greater familiarity in applying IAS 36.

Percentages in these graphs reflect the percentages of total responses to the respective questions.[7]

Top Challenges in Goodwill Impairment

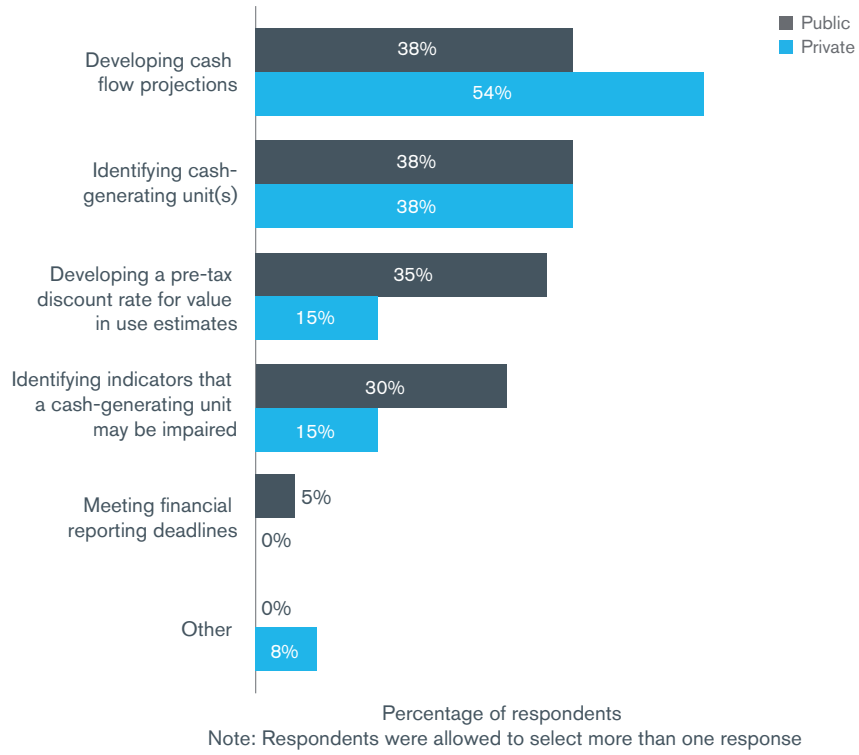
Public company survey respondents were almost evenly distributed among the top four challenges when performing a goodwill impairment test under IFRS. In contrast, the majority of private companies (54%) were most concerned with developing cash flow projections. Identifying cash-generating unit(s) was the second most cited challenge (38%) for private companies.

Through an analysis of survey responses based on job function, we found that CFOs cited the challenges of developing cash flow projections and of identifying CGU impairment indicators twice as often as all other respondents (e.g. Controllers, Chief Accountants, etc.). Company size is also a factor in this response, as 69% of the CFOs of companies with less than $500 million of revenue versus 33% of the larger company CFOs cited developing projections as the most significant challenge.

Non-CFOs mentioned the challenges of identifying CGUs and developing pre-tax discount rates twice as often as CFOs.

7 Some totals in the survey graphs for which respondents were asked to select only one response may not add to 100% due to rounding.

Question 1: In general, what is your most significant challenge related to goodwill impairment testing?
N=50

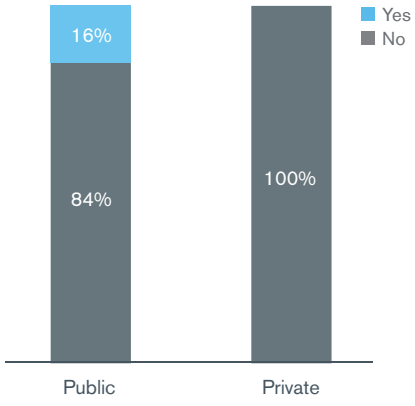


Note: Respondents were allowed to select more than one response

Recent Goodwill Impairments

Only 16% of public company respondents recognized an impairment of goodwill in 2012. This is consistent with expectations from our 2012 Survey whereby 19% of public companies had anticipated a goodwill or other asset impairment in the near future. Similarly, 18% of private companies in last year's survey also anticipated an imminent goodwill or asset impairment; however, no goodwill impairment was recognized by the universe of private companies in the 2013 Survey.

Question 2: Did your company recognize an impairment of goodwill in 2012?
N=50



Number of Cash-Generating Units

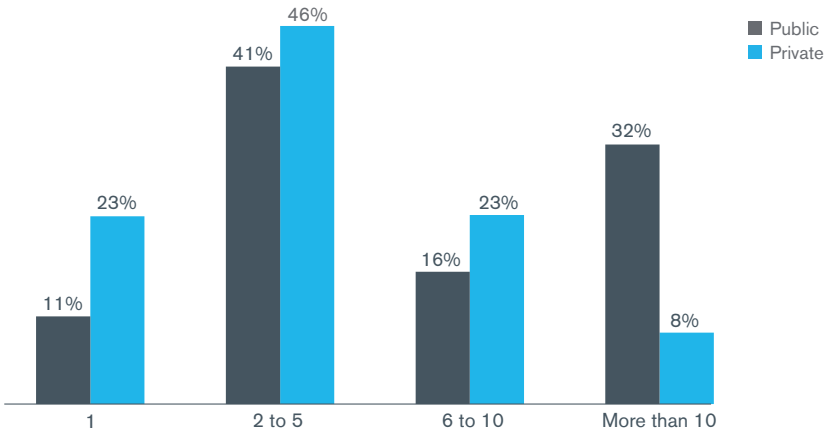
The majority of both public (41%) and private (46%) companies have 2 to 5 cash-generating units.

The distribution of the number of CGUs is shown for public vs. private companies, consistent with how the 2013 Survey questions were analyzed. However, if the distribution of the number of CGUs was presented based on company size, the graph would look very similar.

Specifically, the public company distribution shown in Question 3 mirrors that for companies with revenue in excess of $500 million and the private company distribution reflects that of companies with revenue less than $500 million. Not surprisingly, 62% of the companies that have 10 or more CGUs have revenue in excess of $1 billion.

Question 3: How many cash-generating units do you have as of the most recent reporting period?

N=50



Determination of Recoverable Amount

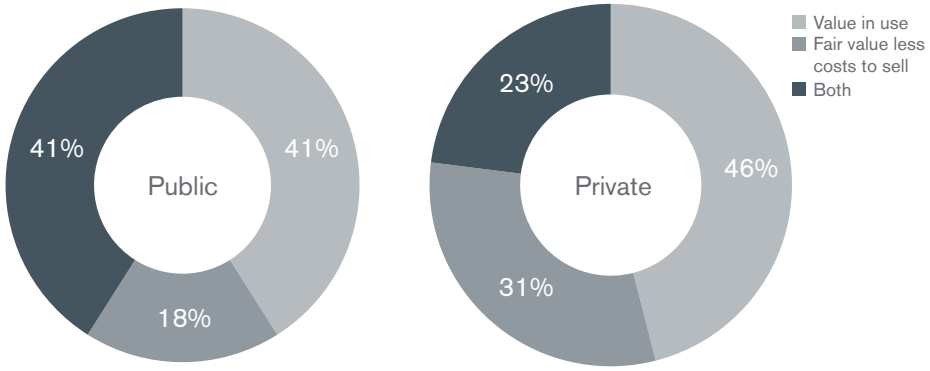
Although IAS 36 defines a cash-generating unit's recoverable amount as the higher of its fair value less costs of disposal and its value in use, it does not require an entity to calculate both amounts as long as one of them is higher than the cash-generating unit's carrying amount.

Public companies were almost twice as likely as private companies to evaluate both value in use and fair value less cost to sell (costs of disposal) to determine a CGU's recoverable amounts (41% versus 23%).

The majority (46%) of the private company respondents to the survey indicate that the most common method for determining the recoverable amount of a cash-generating unit was to look at its value in use.

Question 4: When determining the recoverable amount of a cash-generating unit, do you estimate:

N=50



Enterprise or Equity Comparison

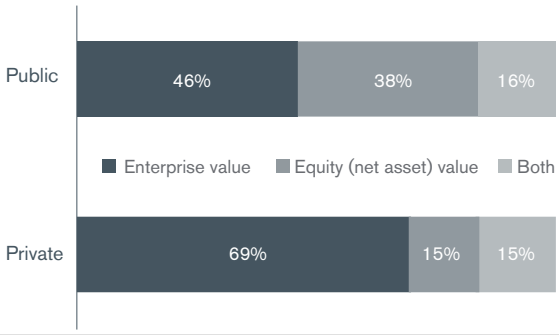
When estimating the recoverable amount of CGUs, public companies generally favored an enterprise value analysis (46%), but a significant proportion still relied exclusively on equity value (38%).

Private companies were much more likely to determine the recoverable amount based on an enterprise level analysis (69%) rather than an equity level analysis (15%).

A nearly equal number of public and private company respondents based their analysis on both an enterprise and equity level calculation (16% and 15%, respectively).

Question 5: In your latest analysis, did you determine the recoverable amount of your cash-generating unit(s) on an enterprise value or equity (net asset) value basis?

N=50



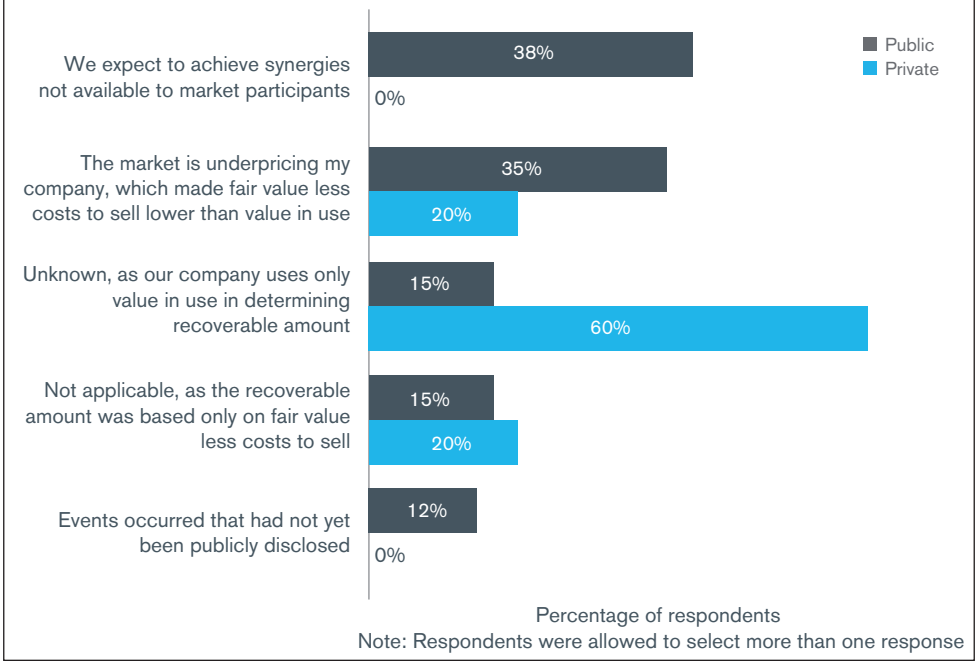
Why was Value in Use Higher?

About 35% of public company respondents relied on value in use to determine a CGU's recoverable amount, because they believed the market was underpricing their company. These companies came from a wide range of industries. Therefore, this was an opinion shared across the board by this subset of respondents, and was not driven by trends in a specific industry.

Approximately 38% of public company respondents used value in use, because they expect to achieve synergies which are not available to market participants. These company specific synergies would generally be incorporated into the projections of the company in a value in use analysis, but would never be part of the calculation of fair value less costs to sell (now "costs of disposal").

Question 6: If in your latest analysis the recoverable amount of a cash-generating unit was based on value in use, which factor(s) led to value in use being higher than fair value less costs to sell?

N=37



Note: Respondents were allowed to select more than one response

Two-thirds of the public companies that believed their company was underpriced also found developing pre-tax discount rates to be the most challenging.

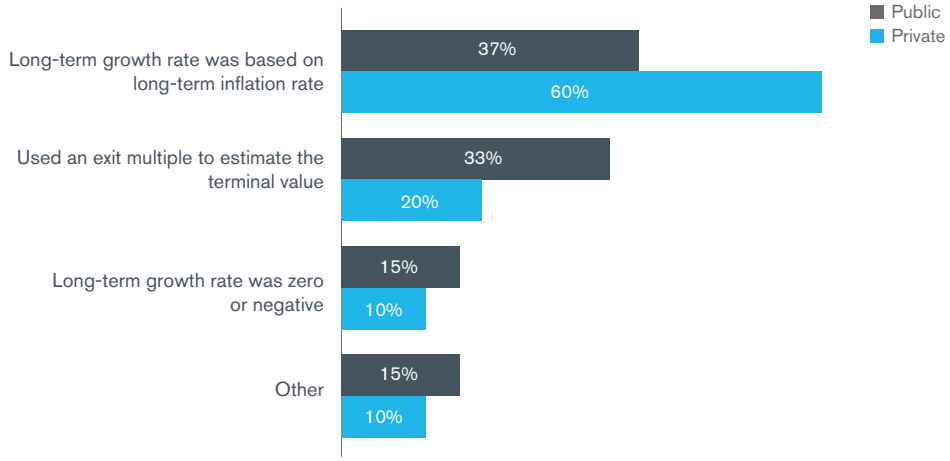
Terminal Year Growth for Value in Use

The majority of public (37%) and private (60%) respondents who estimated value in use indicate that in their latest analysis they based the terminal year growth rate on the long-term inflation rate. A substantial 33% of public companies used an exit multiple to estimate the terminal value.

Based on the above, respondents were generally consistent with IAS 36's value in use requirement that the growth rate should not exceed the long-term average growth rate for the products, industries, or countries in which the entity operates, or for the market in which the asset is used, unless a higher rate can be justified.

Question 7: If you estimated value in use in your latest analysis, what was your terminal year growth assumption?

N=37



Exit multiples and terminal year growth rates are linked. A robust exit multiple analysis would include a calculation of the implied growth rate to assess whether such rate can be justified.

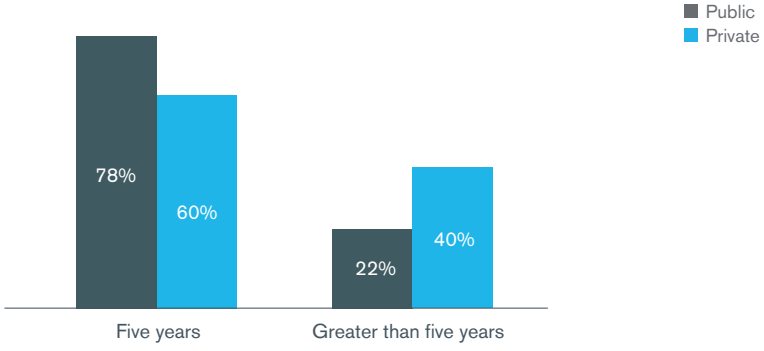
Value in Use Projection Period

The majority of respondents (78% public and 60% private) used a five-year projection period in their latest value in use analysis.

Approximately 40% of the private company respondents used projections greater than five years. IAS 36 requires that value in use projections cover a maximum period of five years, unless a longer period can be justified. This is another nuance of the IAS 36 impairment test that companies should be aware of.

Question 8: If you estimated value in use in your latest analysis, what was the length of your projection period?

N=37



Pre-tax or Post-tax Analysis

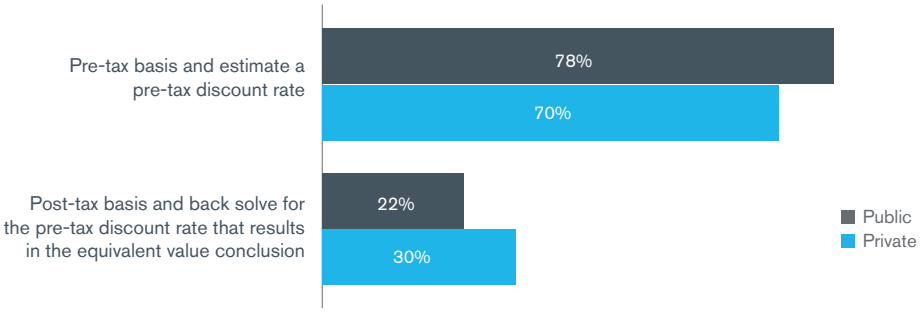
Approximately 76% of all survey respondents that estimated value in use did so by estimating a pre-tax discount rate and applying it to pre-tax projections (78% of public and 70% of private companies). In the basis for conclusions, IAS 36 states that both a pre-tax and post-tax analysis should give the same result. IAS 36 provides an example of an iterative computation that begins with a post-tax analysis and then solves for the pre-tax rate that provides the same outcome.

In contrast, the prevalent approach observed in the 2013 Survey is likely the result of the recent transition to IFRS and the adoption of a new impairment model.

Three-quarters of respondents estimate a pre-tax discount rate for value in use, however IAS 36 provides an example of an iterative computation that begins with post-tax cash flows and a post-tax discount rate.

Question 9: When estimating value in use, do you perform the analysis on a:

N=37



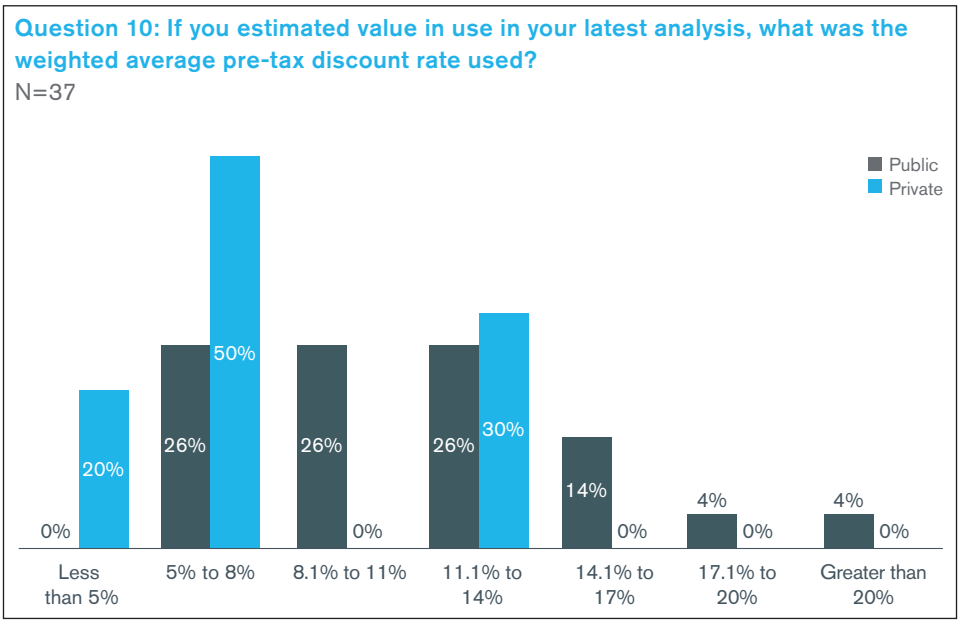
Value in Use Pre-Tax Discount Rate

Public company respondents exhibited a wide distribution of discount rates when estimating value in use. In contrast, the majority (70%) of private companies applied a pre-tax discount rate of 8% or less.

Pre-tax discount rates are derived from post-tax analyses, per IAS 36. In that the iterative process should result in similar outcomes for pre-tax and post-tax analyses, pre-tax discount rates should be greater than a CGU's after-tax weighted average cost of capital.

In this context, the majority of the private companies in the survey may be understating the discount rate applied to estimate value in use and thereby increasing the recoverable amount conclusion, which has a direct impact on their goodwill impairment testing result. Note that these observations assume that the analyses have been conducted using nominal (rather than real) interest rates.

70% of private company respondents applied a pre-tax discount rate of 8% or less, with 20% using a pre-tax rate lower than 5%.



Approximately half of public companies made adjustments to the discount rate for the specific characteristics of the respective CGUs.

Discount Rates

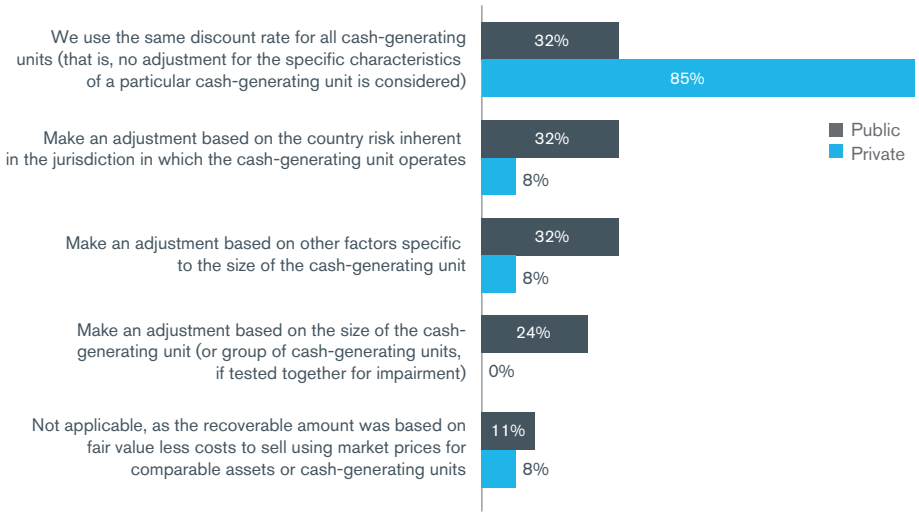
Public companies considered a wider array of attributes in their determination of the discount rates applied in a Discounted Cash Flow method.

Unlike public companies, private companies did not consider developing discount rates to be a significant challenge (see Question 1). In addition, as shown on this page, 85% of private companies indicated that a single discount rate was used, irrespective of the specific risk profile of each cash-generating unit. Although it is possible that those respondents incorporate risk factors directly into the cash flow projections, in our experience that is not the approach most commonly used.

Approximately half of public company respondents make some sort of an adjustment to the discount rate for specific characteristics of a cash-generating unit, which gives recognition to the fact that the subject of impairment testing (the unit of account in IAS 36) is the cash-generating unit and not the entity in the aggregate.

Question 11: How do you incorporate the specific characteristics of a cash-generating unit when determining the discount rate to apply in the Discounted Cash Flow method?

N=50



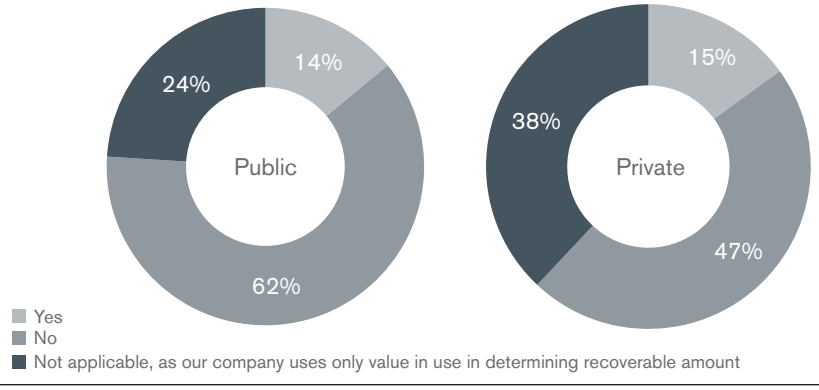
Note: Respondents were allowed to select more than one response

IFRS 13 and Other IASB Guidance

The majority of respondents (62% of public and 47% of private) that use fair value less cost of disposal do not expect the recently effective fair value guidance under IFRS 13 to change their testing process.

Question 12: If you estimate fair value less costs to sell, do you expect your impairment testing process to change as a result of the new guidance in IFRS 13 for measuring fair value?

N=50



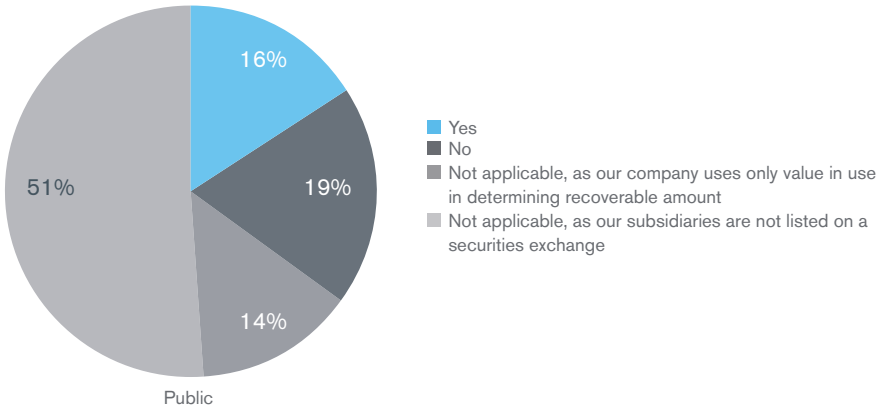
IFRS 13 (Appendix B) provides guidance on the application of present value techniques, which would include the Discounted Cash Flow method. Present value techniques differ in how they adjust for risk and the types of cash flows they use. Using a very low discount rate, all else equal, implies that risk has been directly reflected in the cash flows.

Current IFRS13 Practices are Expected to Continue Unchanged

A very small percentage of respondents (16%) believe that the IASB "unit of account" proposal will result in a change in practice in measuring fair value less costs of disposal.

Question 13: The IASB recently decided (subject to a public consultation) that if a subsidiary is listed and its shares are actively traded, the fair value less costs to sell of its cash-generating units would be determined using the product of the quoted share price times the number of shares held by the parent (PxQ). Do you expect this to affect how you measure fair value less costs to sell when testing for goodwill impairment?

N=37



One would not expect a company to recognize a goodwill impairment simply because its market-to-book ratio is less than 1.0, but it would be difficult to justify not doing so if that situation remained prolonged and is deemed to be an indication of systemic issues at the company.

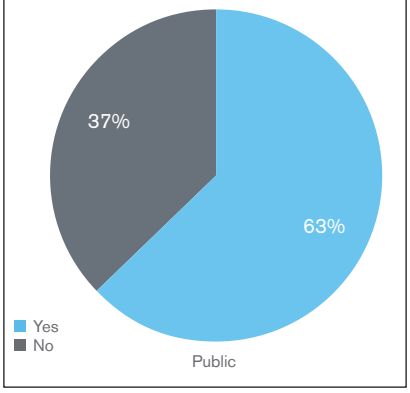
Comparisons to Market Capitalization

The majority of the public company respondents (63%) did reconcile the aggregate recoverable amount with their market capitalization. This is consistent with guidance on this subject recently issued in the U.S.

The American Institute of Certified Public Accountants (AICPA) recently published an Accounting and Valuation Guide: *Testing Goodwill for Impairment.* While the guide is non-authoritative and developed for U.S. GAAP impairment testing purposes, it does contain practical guidance that may be relevant to impairment testing under IAS 36. It addresses issues such as shared assets (such as corporate assets) and market participant assumptions as well as comparisons to market

capitalization, all of which may need to be considered in a goodwill impairment test. The guidance promotes the view that it is a best practice to make a comparison to market capitalization and explain the reason(s) for any differences rather than just observe that a difference exists. Copies of the guide are available and can be obtained at www.cpa2biz.com.

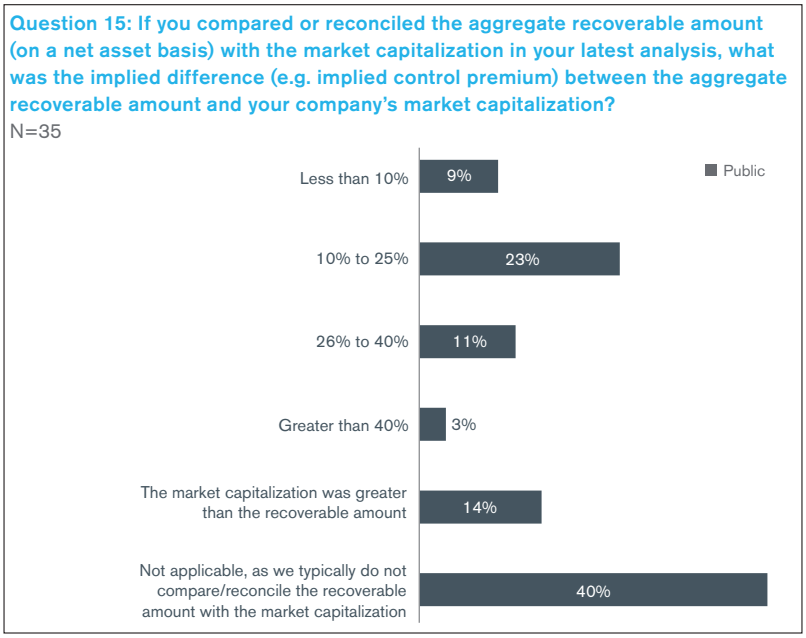
Question 14: When testing goodwill for impairment do you compare or reconcile the aggregate recoverable amount (on a net asset basis) with the market capitalization as a check for reasonableness?
N=35



Recoverable Amount and Market Capitalization

Over one-third of public company respondents (23% + 11% + 3%) report a 10% or greater difference between recoverable amount and the company's market capitalization. Of note, 14% (11% + 3%) of respondents indicated an implied control premium in excess of 26%.

Question 15: If you compared or reconciled the aggregate recoverable amount (on a net asset basis) with the market capitalization in your latest analysis, what was the implied difference (e.g. implied control premium) between the aggregate recoverable amount and your company's market capitalization?
N=35

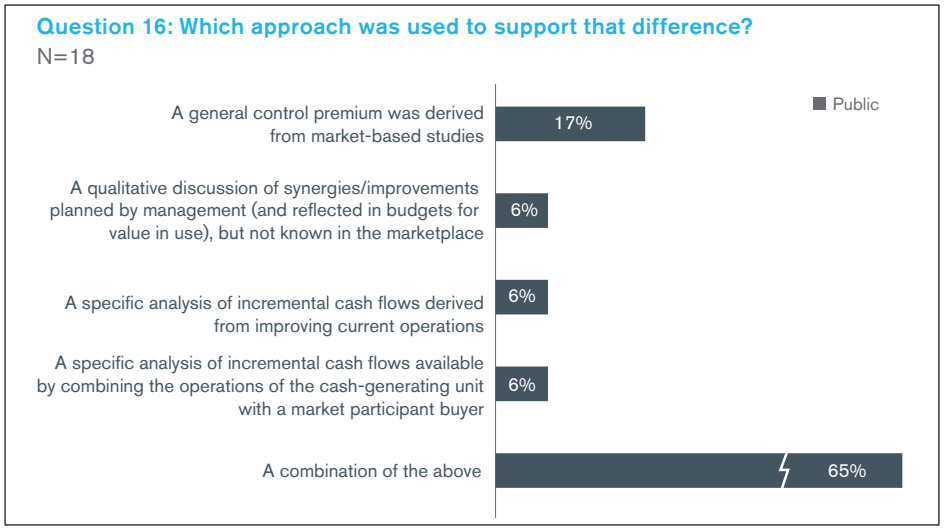


Supporting a Difference between Recoverable Amount and Market Capitalization

Of the public company respondents making a comparison to market capitalization, almost two-thirds (65%) indicated they used a combination of factors and information to support the difference between the aggregate recoverable amount of CGUs and their company's market capitalization.

One of the highlights of the previously mentioned Valuation Advisory Discussion Draft – *The Measurement and Application of Market Participant Acquisition Premiums* is that exclusive reliance on benchmark control premium data to derive a MPAP is not consistent with best practices.

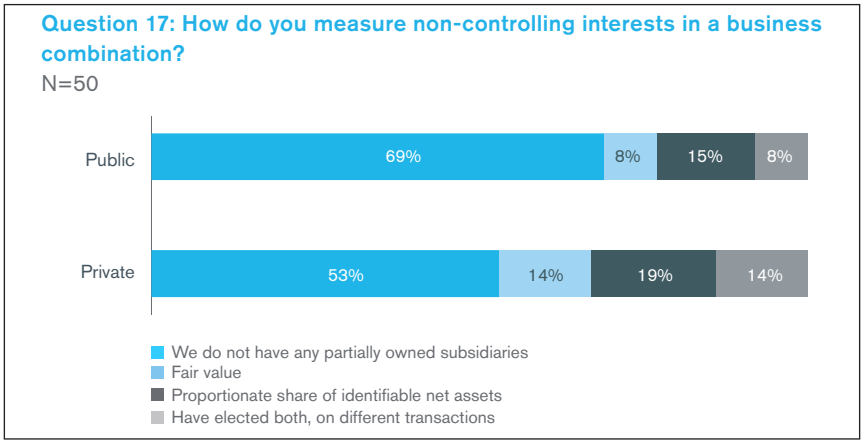
Supporting a difference between the recoverable amount and market capitalization seems to be common practice amongst the respondents.



Measuring Non-controlling Interests in a Business Combination

Of the 31% of public company respondents that have partially owned subsidiaries (8% + 15% + 8%) approximately half (15% of 31%) utilized the proportionate share of identifiable net assets when measuring non-controlling interests.

Private companies were evenly split between using fair value and alternating between fair value and the proportionate share method to account for non-controlling interests.

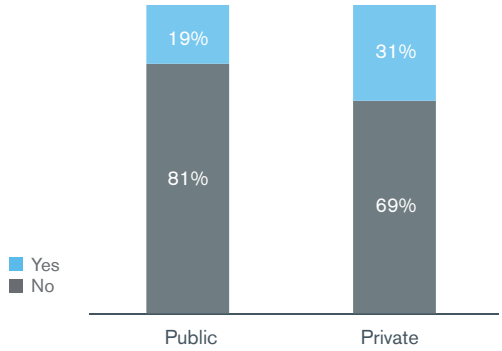


Valuation Consultant

The majority of respondents to the 2013 Survey (81% of public and 69% of private companies) perform their goodwill impairment testing in-house.

Question 18: Do you use a valuation consultant when performing goodwill impairment tests?

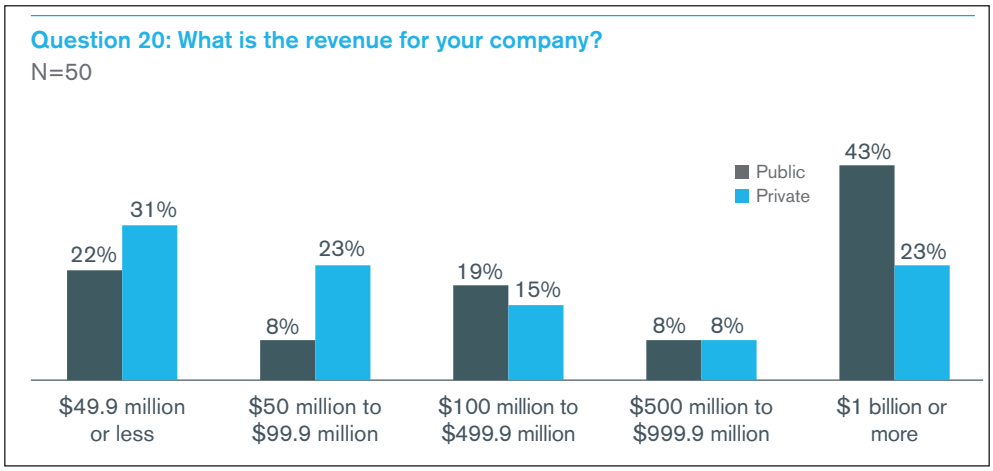
N=50

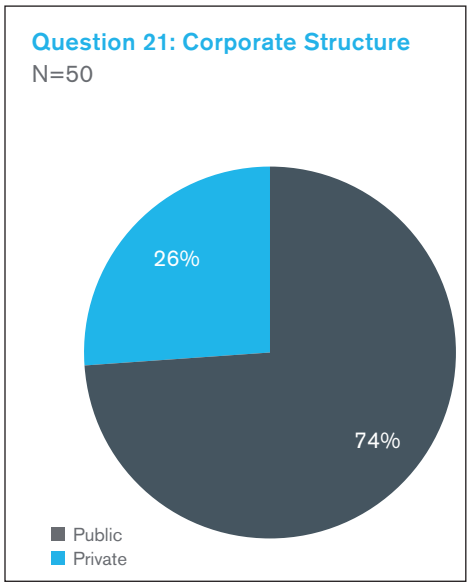


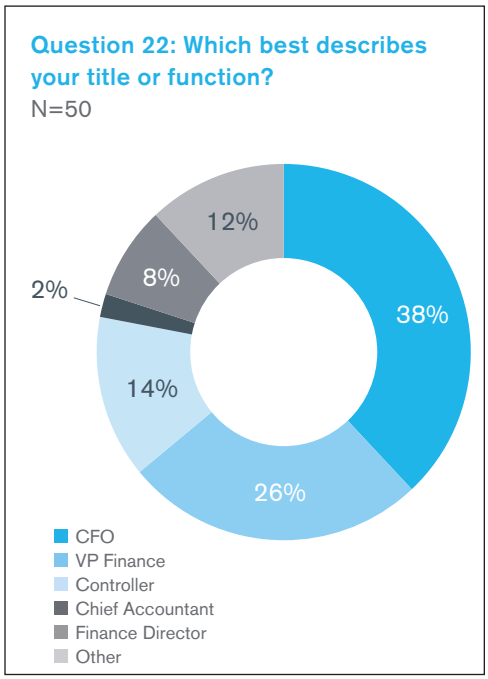
Question 19: What is your company's industry?

N=49

Public		Private	
Energy/Utilities/Oil & Gas	17%	Energy/Utilities/Oil & Gas	31%
Banking/Financial Services	14%	Banking/Financial Services	15%
Minerals/Mining	11%	Healthcare Services	8%
Manufacturing	8%	High-Tech or Software	8%
Aerospace/Defense	6%	Retail	8%
Construction/Engineering	6%	Technology	8%
Healthcare Services	6%	Telecommunications	8%
Retail	6%	Venture Capital	8%
Telecommunications	6%	Wholesale	8%
Agriculture/Forestry/Fishing/Hunting	3%		
Arts/Entertainment/Media	3%		
Capital Products (Equipment)	3%		
Chemicals/Plastics	3%		
Electronic	3%		
Insurance	3%		
Medical/Pharmaceutical	3%		
Transportation	3%		







INTERNATIONAL SURVEY INSIGHTS

In reviewing and interpreting the results of the 2013 Canadian Survey, it is informative to consider the experience of European companies, as they have been applying IFRS for a longer period of time. Below we present a few "compare and contrast" observations between our 2013 Canadian Survey and our 2013 survey of European executives, which is part of our *2013 European Goodwill Impairment Study*.

Further, while U.S. companies report under U.S. GAAP rather than IFRS, there are a few relevant areas that lend themselves to a meaningful comparison between Canada and the U.S. Accordingly, we have also included a few "compare and contrast" observations from our 2013 survey of U.S. executives, which is part of our *2013 U.S. Goodwill Impairment Study.*

Note that (in most cases) the Canadian observations made in this section combine the responses from both public and private companies. Accordingly, most statistics presented herein will differ from those cited in the preceding Canadian Survey section.

Question 1: In general, what is your most significant challenge related to goodwill impairment testing?[8, 9]

In our 2013 European Survey we found that the most significant challenge related to goodwill impairment testing was identifying the factors that indicate that a cash-generating unit may be impaired; this was cited by two-thirds of the European respondents compared to just 26% of the Canadian survey respondents overall.

Slightly fewer European respondents cited meeting financial reporting deadlines (55%) and developing cash flow projections (54%) as key challenges; this compared to only 4% and 42% of Canadian survey respondents, respectively. Identifying cash-generating unit(s) is a less frequently cited challenge by executives in the European Survey (19%), compared to 38% in the Canadian Survey. This may be partially because European companies have been applying IAS 36 for a number of years and therefore have more experience in identifying cash-generating units.

Question 4: When determining the recoverable amount of a cash-generating unit, do you estimate value in use, fair value less costs to sell or both?

Our 2013 European Survey found that approximately 58% of survey respondents only compute fair value less costs to sell (costs of disposal) and nearly 19% more respondents do this in addition to value in use. This brings the total performing a fair value calculation as part of their impairment test to 77%.

This compares to an overall total of 58% of respondents that performed a fair value calculation as part of their impairment test in our Canadian Survey (22% relied exclusively on a fair value indication, whereas 36% calculated both value in use and fair value less costs to sell (costs of disposal).

Question 6: If in your latest analysis the recoverable amount of a cash-generating unit was based on value in use, which factor(s) led to value in use being higher than fair value less costs to sell?

Of the 2013 European Survey respondents that relied on value in use to determine recoverable amount, 69% believed that the market was underpricing their company. In contrast, only 35% of Canadian public company respondents thought that their shares were being underpriced. The second most frequently cited factor for the European Survey (48%) and the most cited for public Canadian respondents (38%) was the expectation for achieving synergies not available to market participants.

Question 7: If you estimated value in use in your latest analysis, what was your terminal year growth assumption?

The majority of respondents to our 2013 European Survey, consistent with respondents to our Canadian Survey, used a long-term growth rate based on the long-term inflation rate (48% and 43%, respectively). Likewise, a similar percentage of respondents used an exit multiple: 29% in Europe and 30% of respondents in Canada overall.

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8 These questions cross-reference to the respective questions in our 2013 Canadian Survey (refer to section entitled “Survey Results” in this document).

9 Note that respondents were allowed to select more than one response on this and certain other questions, as indicated in the detailed 2013 Canadian Survey pages.

Question 9: When estimating value in use, do you perform the analysis on a pre-tax or post-tax basis:

According to our 2013 Canadian Survey, 76% of respondents overall perform the analysis on a pre-tax basis and estimate a pre-tax rate. In our 2013 European Survey, we found the inverse where the majority of respondents (71%) perform the analysis on a post-tax basis and back solve for the pre-tax discount rate.

Question 10: If you estimated value in use in your latest analysis, what was the weighted average pre-tax discount rate used?

Approximately 42% of our 2013 European Survey respondents computing value in use applied a discount rate between 11.1% and 14%, which compares to 27% of Canadian survey respondents overall.

Notably, 32% of Canadian respondents overall applied pre-tax discount rates ranging from 5% and 8%; meanwhile no European respondents applied pre-tax rates below 8.1%.

Question 15: If you compared or reconciled the aggregate recoverable amount (on a net asset basis) with the market capitalization in your latest analysis, what was the implied difference (e.g., implied control premium) between the aggregate recoverable amount and your company's market capitalization?

Only 60% of our 2013 Canadian Survey public company respondents reconcile the aggregate recoverable amount (on a net asset basis) to market capitalization, compared to 79% of respondents to our 2013 European Survey.

Another notable difference is that the vast majority of European respondents tend to have lower implied control premiums compared to those in the Canadian Survey. Specifically, 30% of European respondents reported a difference to market capitalization of less than 10%, with another 33% reporting an implied control premium between 10% and 25%; this compares to 9% and 23% of Canadian respondents, respectively.

The overall takeaway seems to be that European respondents' recoverable amounts more closely track market capitalization.

Question 16: Which approach was used to support that difference [between the aggregate recoverable amount on a net asset basis and the market capitalization]?

European Experience: Nearly twice as many Canadian Survey respondents (17%) relied on general market-based studies to support the implied control premium compared to European Survey respondents (9%). However, the majority of Canadian survey respondents (65%) used a combination of analytical methods in conjunction with general market-based studies compared to only 22% of European respondents. The European Survey respondents tended to rely more on specific analysis of incremental cash flows alone (43% in aggregate).

U.S. Experience: While a comparison to market capitalization is not required, in the U.S. this has long been considered to be a best practice. Interestingly, as our 2013 U.S. Survey revealed, 51% of U.S. public company respondents relied on general market-based studies to support the implied control premium, while 21% used a combination of analytical methods (cash flow analysis) in conjunction with general market-based studies; this contrasts with respectively 17% and 65% in our Canadian Survey. As noted in the MPAP discussion, relying *solely* on market-based studies to support an implied premium may no longer be considered a best practice, and therefore we expect the observed trends in the U.S. to change.

Question 17: How do you measure non-controlling interests in a business combination?

If we exclude those who did not have any partially-owned subsidiaries, a similar share of respondents to our 2013 European Survey and our 2013 Canadian Survey measure non-controlling interests at the proportionate share of identifiable net assets (40% and 42%, respectively).

European respondents tend to use both fair value and the proportionate share method more often than Canadian respondents (respectively 37% and 29%, excluding respondents without partially-owned subsidiaries).

The remainder of the survey respondents with partially-owned subsidiaries relied exclusively on fair value (23% in Europe and 29% in Canada).

Question 18: Do you use a valuation consultant when performing goodwill impairment tests?

More than twice as many 2013 U.S. Survey respondents from public companies used a valuation consultant when performing goodwill impairment tests compared to our 2013 Canadian Survey respondents (46% and 19%, respectively).

In contrast, this ratio was similar for private companies, whereby 27% of U.S. respondents and 31% of Canadian respondents used a valuation consultant.

SUMMARY STATISTICS BY INDUSTRY (TABLE 1)

Table 1 summarizes the annual amount of GWI and number of GWI events by industry. The table also provides the proportion of companies within each industry that carry goodwill, and which of those recorded a GWI. This format allows for a ready comparison of data across industries over time.

Industries are listed in descending order of their total GWI amounts for 2012. For example Consumer Discretionary tops the list with its $3.3 billion aggregate impairment.

Additionally, the graphs in Table 1 provide for a quick comparison of (i) the preponderance of companies with goodwill within each industry; and (ii) the proportion of those companies that have recorded a GWI. For example:

71% of Consumer Discretionary companies carried goodwill in 2012

29% of those companies recorded an impairment.

Goodwill Impairments

The first row of Table 1 data for each industry presents the annual dollar amounts of GWI (in millions), immediately followed by the number of impairment events (shown in parentheses). The statistics presented are based on financial statements filed under Pre-changeover GAAP for 2008 and 2009, and under IFRS for 2010 through 2012.

For presentation purposes, we have combined both the actual 2010 GWI restated under IFRS ($2.9 billion) and the IFRS transition date GWI ($5.5 billion), for a total 2010 GWI of $8.4 billion. For a description of how these figures were derived, refer to Appendix 2.

Due to the cumulative effects of IFRS transition, 2010 saw a $5.4 billion increase in aggregate GWI, with the largest increase ($5.1 billion) observed in Financials, reaching $6.2 billion.

In 2011, Consumer Discretionary and Materials combined had the largest aggregate amount of GWI, at $9.3 billion out of $11.0 billion in total goodwill impaired.

Consumer Discretionary remained the top industry for GWIs in 2012, recognizing $3.3 billion of GWI (41% of the total) over 12 impairment events. The largest impairment event of the year ($3.0 billion) also took place in the Consumer Discretionary segment.

In 2012, 8 out of 10 industries showed an increase in the number of GWI events, which contributed to an overall increase in events from 36 to 52. Interestingly, the total dollar value of impairments decreased, resulting in a decline in the average impairment amount.

Percent of Companies that Recorded a GWI

The second row in Table 1 indicates the portion of all companies within each industry that recorded a GWI. In 2012, Consumer Discretionary had the largest percentage of companies that impaired goodwill (20.7%) followed by Telecommunication Services (14.3%) and Healthcare (13.5%). The average percentage across all industries increased from 5.8% to 8.4% in 2012.

Consumer Discretionary and Materials more than quadrupled the number of companies actually recording a GWI from 2010 to 2012 (from 4 events up to 17 events from 2010 to 2012).

Percent of Companies with Goodwill

Obviously, companies that do not carry goodwill on their books are not susceptible to a GWI; therefore, for perspective, the third row in Table 1 provides the proportion of companies with goodwill within each industry. Over the 2008-2012 time period, Telecommunications Services had the highest percent of companies with goodwill in any given year (100% each year); while Materials had the lowest proportion (13.8% on average). Overall, approximately 45% of the companies carried some amount of goodwill on their 2012 balance sheets; this metric has remained relatively stable over the past 5 years.

Percent with Goodwill Recording a GWI

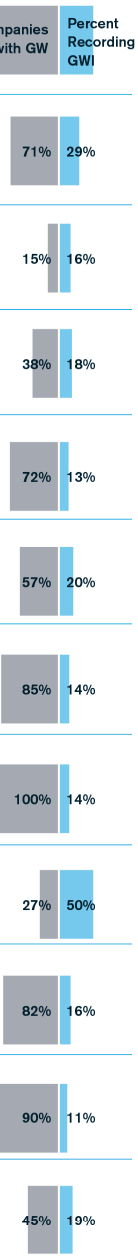
The final row indicates the percentage of the companies with goodwill that recorded a GWI. This differs from the second row where the percentages are based on all companies and is not limited to those with goodwill.

Consumer Discretionary and Materials continued with a notable upward trend from 2010 in the proportion of companies recognizing a GWI, reversing annual declines from 2008 to 2010. Healthcare has also shown a dramatic increase from 2010 to 2012.

Overall, industry average impairment percentages ranged from 11.9% to 28.9% of companies with goodwill during the 5-year period.

2012 Goodwill Impairment (Table 1)

(Companies)	2008 (GAAP)	2009 (GAAP)	2010 (IFRS)	2011 (IFRS)	2012 (IFRS)
	Goodwill Impairments: $ millions (number of events)				
	Percent of Total Companies That Recorded GWI				
	Percent of Companies with Goodwill				
	Percent of Companies with Goodwill that Recorded a GWI				
Consumer Discretionary (58)	2,582.4 (12)	1,293.3 (7)	27.4 (3)	6,257.8 (9)	3,272.8 (12)
	18.2%	10.6%	4.5%	13.6%	20.7%
	65.2%	65.2%	68.2%	65.2%	70.7%
	27.9%	16.3%	6.7%	20.9%	29.3%
Materials (204)	3,343.0 (14)	52.6 (3)	3.4 (1)	3,022.7 (3)	3,214.0 (5)
	7.1%	1.5%	0.5%	1.5%	2.5%
	13.7%	13.2%	13.2%	13.7%	15.2%
	51.9%	11.5%	3.8%	11.1%	16.1%
Energy (117)	973.8 (20)	95.1 (5)	1,870.0 (16)	121.8 (7)	474.4 (8)
	16.9%	4.2%	13.6%	5.9%	6.8%
	42.4%	39.0%	41.5%	40.7%	38.5%
	40.0%	10.9%	32.7%	14.6%	17.8%
Industrials (74)	1,048.6 (18)	311.0 (7)	85.1 (5)	554.0 (6)	356.9 (7)
	25.7%	10.0%	7.1%	8.6%	9.5%
	68.6%	70.0%	68.6%	71.4%	71.6%
	37.5%	14.3%	10.4%	12.0%	13.2%
Financials (44)	1,118.1 (2)	1,077.3 (2)	6,187.0 (5)	972.0 (2)	243.5 (5)
	3.9%	3.9%	9.8%	3.9%	11.4%
	54.9%	54.9%	54.9%	56.9%	56.8%
	7.1%	7.1%	17.9%	6.9%	20.0%
Consumer Staples (26)	20.3 (1)	85.1 (4)	135.8 (3)	8.6 (2)	170.9 (3)
	3.4%	13.8%	10.3%	6.9%	11.5%
	86.2%	86.2%	82.8%	86.2%	84.6%
	4.0%	16.0%	12.5%	8.0%	13.6%
Telecomm. Services (7)	154.0 (1)	0.0 (0)	14.1 (1)	36.0 (2)	67.0 (1)
	14.3%	0.0%	14.3%	28.6%	14.3%
	100.0%	100.0%	100.0%	100.0%	100.0%
	14.3%	0.0%	14.3%	28.6%	14.3%
Healthcare (37)	9.9 (2)	53.6 (2)	34.1 (2)	55.6 (3)	45.1 (5)
	5.7%	5.7%	5.7%	8.6%	13.5%
	28.6%	25.7%	28.6%	25.7%	27.0%
	20.0%	22.2%	20.0%	33.3%	50.0%
Information Technology (39)	1,135.5 (7)	25.5 (2)	1.6 (1)	4.6 (1)	40.0 (5)
	18.4%	5.3%	2.6%	2.6%	12.8%
	73.7%	76.3%	78.9%	78.9%	82.1%
	25.0%	6.9%	3.3%	3.3%	15.6%
Utilities (10)	43.3 (1)	0.0 (0)	58.3 (2)	7.7 (1)	19.3 (1)
	10.0%	0.0%	20.0%	10.0%	10.0%
	40.0%	60.0%	70.0%	80.0%	90.0%
	25.0%	0.0%	28.6%	12.5%	11.1%
Total* (616)	10,428.9 (78)	2,993.4 (32)	8,416.8 (39)	11,040.8 (36)	7,903.9 (52)
	12.6%	5.2%	6.3%	5.8%	8.4%
	43.5%	43.2%	44.1%	44.4%	44.6%
	28.9%	11.9%	14.2%	13.0%	18.9%
Average (Median) Impairment	134 (27)	94 (21)	216 (14)	307 (23)	152 (15)



*Amounts shown are aggregates. Differences due to rounding.

SUMMARY STATISTICS BY INDUSTRY (TABLE 2)

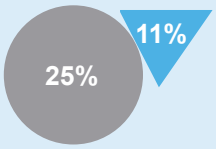
Table 1 captured the total amount of GWI and the frequency of events by industry. In Table 2 the focus shifts to the respective industries' (i) relative importance of goodwill to the overall asset base (goodwill intensity); (ii) magnitude of annual impairment relative to the carrying amount of goodwill; and (iii) magnitude of such impairment in relation to total assets (the last two being measures of loss intensity).

Goodwill intensity, defined here as goodwill as a percentage of total assets (GW/TA), measures the proportion of an industry's total assets represented by goodwill. Since goodwill arises as a result of a business combination, goodwill intensity is greater in industry sectors with significant M&A activity.

The first loss intensity measure, goodwill impairment to goodwill (GWI/GW), indicates the magnitude of goodwill impairments. In other words, it measures the proportion of an industry's goodwill that is impaired each year.

Goodwill impairments to total assets (GWI/ TA), the second loss intensity measure, quantifies the percent of an industry's total asset base that was impaired.

Goodwill of Consumer Discretionary companies represents 25% of total assets.



Goodwill impairments in 2012 made up 11% of the goodwill carrying amount.

		Intensity Measure	How?	Why?
Goodwill Intensity	Extent to which an industry's asset base includes goodwill	GW/TA	Goodwill as a percentage of total assets, measured at year end	Indicates how significant an industry's goodwill is in relation to total assets.
Loss Intensity (1)	Extent to which an industry's goodwill is affected by impairment	GWI/GW	Goodwill impairments (total) as a percentage of the prior year's total goodwill	Indicates how impairments impacted each industry's goodwill.
Loss Intensity (2)	Extent to which an industry's asset base is affected by impairment	GWI/TA	Goodwill impairments (total) as a percentage of the prior year's total assets	Indicates how impairments impacted each industry's total assets.

Goodwill Intensity

Goodwill to Total Assets (GW/TA) is illustrated in the first row of Table 2 for each industry over time, with 2012 also being highlighted in the gray circle to the right. Aggregate goodwill as a percentage of total assets for Canadian companies (across all industries) was approximately 3% to 4% over the years. However, this ratio can vary significantly, for example in 2010 it ranged from 1.1% for Financials to 36.9% for Information Technology companies. Information Technology and Consumer Discretionary industries continued to exhibit the highest goodwill intensity during the 5-year period.

Although goodwill intensity has been fairly stable, certain industries have shown a recent upward trend. Information Technology, Utilities and, more recently, Consumer Staples have notable increases. The rest of the industries have remained somewhat constant, with Consumer Discretionary, Materials and Healthcare showing some decline.

Goodwill Impairment to Goodwill

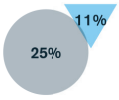
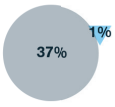
The second row of Table 2 presents the first measure of loss intensity (GWI/GW) recognized for each industry over the 5-year period, with 2012 metrics highlighted in the triangle portion of the graphic to the right.

Removing the effect of the global financial crisis in 2008, goodwill impairments by Canadian companies have represented a relatively small proportion of the overall goodwill carried on the books. In 2012, Materials showed the highest GWI/GW loss measure at 14.3%, followed by Consumer Discretionary at 10.9%.

Goodwill Impairments to Total Assets

The second measure of loss intensity is presented in the third row of Table 2 for each industry. Notably, goodwill impairment charges have a relatively small impact on a company's total asset base, although companies with higher goodwill intensity may show a more significant effect.

2012 Goodwill Impairment (Table 2)

(Companies)	2008 (GAAP)	2009 (GAAP)	2010 (IFRS)	2011 (IFRS)	2012 (IFRS)	
	Goodwill Intensity (GW/TA) Loss Intensity (1) (GWI/GW) Loss Intensity (2) (GWI/TA)					
Consumer Discretionary (58)	34.0% 10.1% 2.6%	31.1% 3.2% 1.1%	30.4% 0.1% 0.0%	26.2% 17.8% 5.4%	24.6% 10.9% 2.9%	
Materials (204)	8.1% 27.9% 2.5%	7.2% 0.4% 0.0%	8.6% 0.0% 0.0%	8.4% 16.5% 1.4%	6.7% 14.3% 1.2%	
Energy (117)	4.6% 8.6% 0.4%	4.6% 0.7% 0.0%	4.6% 14.9% 0.7%	3.6% 0.9% 0.0%	3.4% 4.5% 0.2%	
Industrials (74)	9.4% 13.5% 1.2%	9.5% 4.1% 0.4%	10.0% 1.1% 0.1%	9.5% 6.7% 0.7%	9.8% 4.7% 0.4%	
Financials (44)	1.9% 2.3% 0.0%	1.9% 1.7% 0.0%	1.7% 9.8% 0.2%	1.4% 1.6% 0.0%	1.1% 0.5% 0.0%	
Consumer Staples (26)	14.8% 0.2% 0.0%	15.4% 0.8% 0.1%	15.3% 1.2% 0.2%	14.5% 0.1% 0.0%	16.0% 1.5% 0.3%	
Telecomm. Services (7)	16.8% 1.0% 0.2%	17.3% 0.0% 0.0%	17.3% 0.1% 0.0%	19.1% 0.2% 0.0%	18.4% 0.4% 0.1%	
Healthcare (37)	16.8% 2.7% 0.4%	13.8% 10.7% 1.8%	13.9% 8.4% 1.2%	12.7% 13.4% 1.9%	8.8% 9.5% 0.9%	
Information Technology (39)	20.6% 32.9% 9.2%	22.9% 0.9% 0.2%	23.9% 0.1% 0.0%	24.9% 0.1% 0.0%	36.9% 1.1% 0.3%	
Utilities (10)	1.3% 12.4% 0.2%	2.2% 0.0% 0.0%	2.7% 7.7% 0.2%	2.8% 0.8% 0.0%	4.1% 0.4% 0.1%	
Total* (616)	3.9% 7.7% 0.3%	3.8% 1.8% 0.1%	3.7% 5.2% 0.2%	3.1% 6.6% 0.2%	2.7% 5.1% 0.2%	

*Amounts shown are aggregates. Differences due to rounding.

INDUSTRY SPOTLIGHTS

In contrast to Tables 1 and 2, the Industry Spotlights provide a summary of the 2012 statistics for the respective industries.

We selected 5 Industry Spotlights for the 2013 Study: i) Energy, ii) Materials, iii) Financials, iv) Consumer Discretionary and v) Information Technology. We also present a 2012 Composite Industry Spotlight for all the companies included in the Study. Each Spotlight displays a variety of data as well as the top three companies that recognized the highest amount of goodwill impairment for the year.

Highlights

The three largest impairment events of the year were in the Consumer Discretionary and Materials industries. Absent those two events, GWI would have been of relatively similar magnitude for 2011 and 2012.

Market-to-Book Value

While not a sole or definitive indicator of impairment, a company's market capitalization should not be ignored during a goodwill impairment test.

Understanding the dynamics of market-to-book ratios is informative, but the fact that an individual company has a ratio below 1.0 does not by default result in a goodwill impairment. Cash-generating unit structures, their respective performance, and where the goodwill resides are a few of the critical factors that must be considered in the impairment testing process

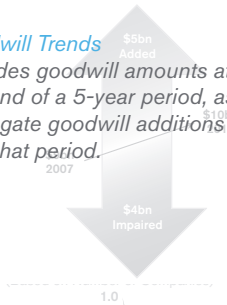
Nevertheless, companies with a low market-to-book ratio would be at a greater risk of impairment. Overall, approximately one-third of Canadian companies had a market-to-book ratio lower than 1.0 in 2012. (See Composite Industry Spotlight).

Guide

The guide below provides a brief description of the components of the Industry Spotlights.

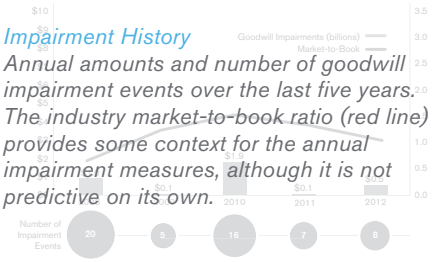
Goodwill Trends

Provides goodwill amounts at the beginning and end of a 5-year period, as well as the aggregate goodwill additions and impairments over that period.



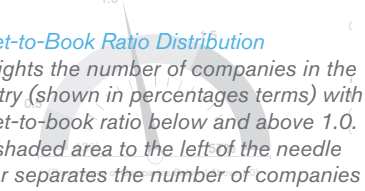
Impairment History

Annual amounts and number of goodwill impairment events over the last five years. The industry market-to-book ratio (red line) provides some context for the annual impairment measures, although it is not predictive on its own.



Market-to-Book Ratio Distribution

Highlights the number of companies in the industry (shown in percentages terms) with a market-to-book ratio below and above 1.0. The blue shaded area to the left of the needle further separates the number of companies with a ratio above and below 0.5. Although not predictive on its own, companies with a low market-to-book ratio may be at a greater risk of impairment.



Summary Statistics

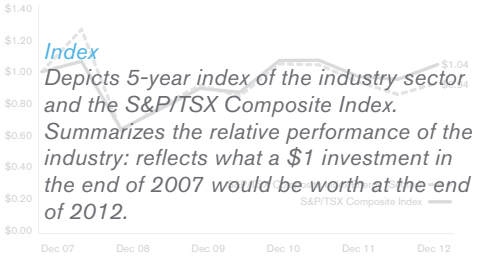
2012 Goodwill Intensity (GW/TA), Goodwill Impairment to Goodwill (GWI/GW), Companies with Goodwill, and Percent of Companies with Goodwill that recorded a Goodwill Impairment are depicted here and also in Table 2 elsewhere in the Study.

Size of Industry

Represents the size of the industry relative to the combined size of all the companies included in the Study sample, measured in terms of market capitalization.

Index

Depicts 5-year index of the industry sector and the S&P/TSX Composite Index. Summarizes the relative performance of the industry: reflects what a $1 investment in the end of 2007 would be worth at the end of 2012.



Top 3 Industry Goodwill Impairments

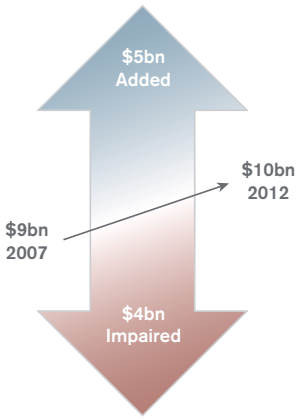
Highlights the concentration of the top 3 impairments recorded in the industry in 2012.

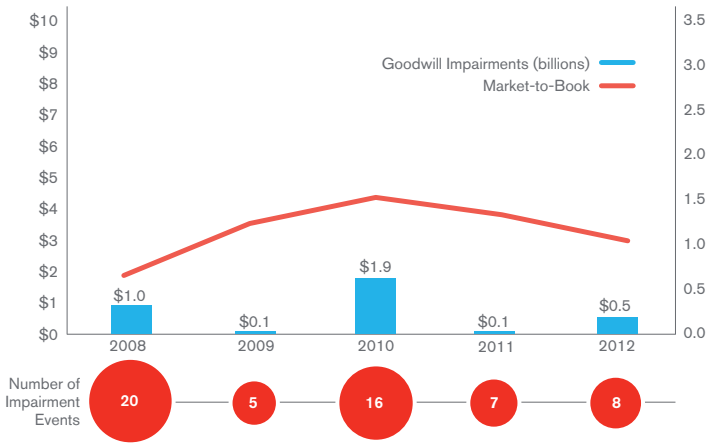
2012 Industry Spotlight

Energy

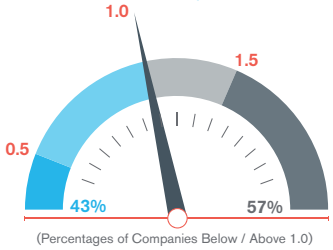
GICS Code 10

Goodwill Trends 2007–2012





Market-to-Book Ratio Distribution
(Based on Number of Companies)



(Percentages of Companies Below / Above 1.0)

117
Companies

3.4%
Goodwill to Total Assets (GW/TA)

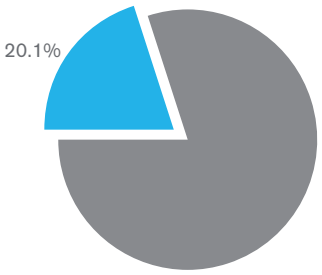
4.5%
Percent of Goodwill Impaired (GWI/GW ratio)

38.5%
Companies with Goodwill

17.8%
Percent of Companies with Goodwill that Recorded a Goodwill Impairment in 2012

1.1
Market-to-Book Ratio (median)

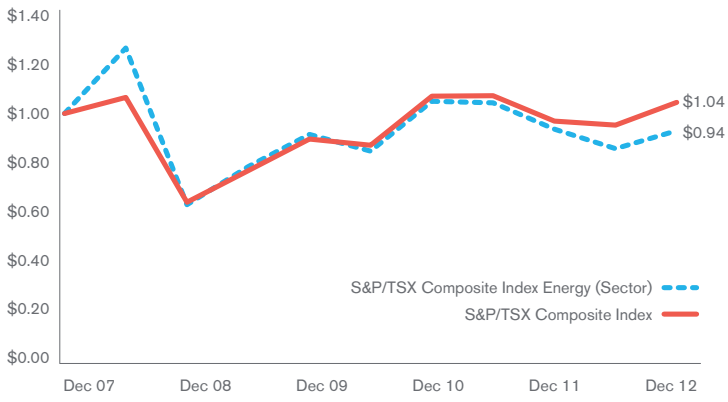
Size of Industry
(Relative to Study's Total Market Cap)



Top 3 Industry Goodwill Impairments (in millions)

Cenovus Energy Inc.	$393
Precision Drilling Corporation	$53
ProSep Inc.	$13

Index (Year End 2007 = $1)

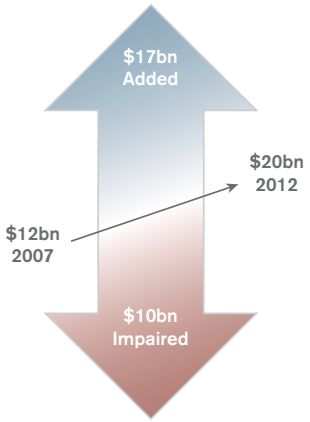


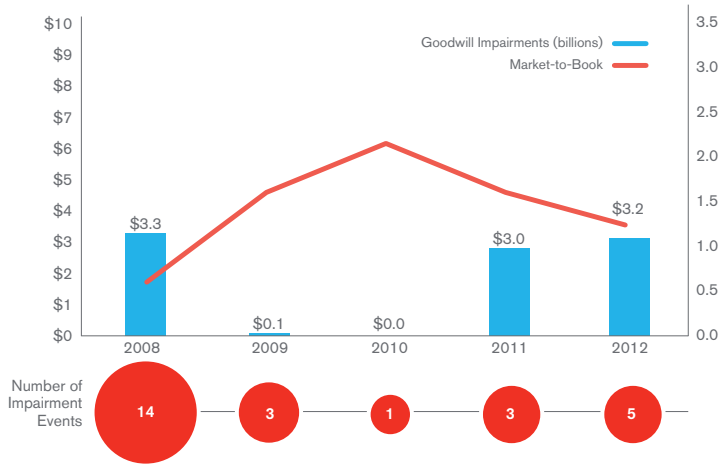
2012 Industry Spotlight

Materials

GICS Code 15

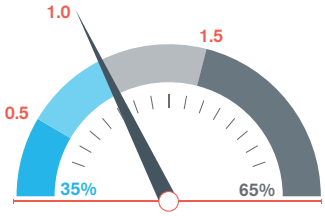
Goodwill Trends 2007–2012





Market-to-Book Ratio Distribution

(Based on Number of Companies)



(Percentages of Companies Below / Above 1.0)

204
Companies

6.7%
Goodwill to Total Assets (GW/TA)

14.3%
Percent of Goodwill Impaired (GWI/GW ratio)

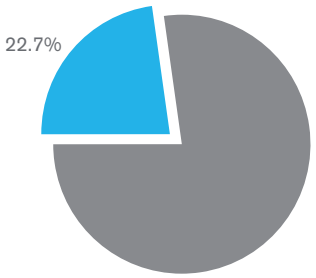
15.2%
Companies with Goodwill

16.1%
Percent of Companies with Goodwill that Recorded a Goodwill Impairment in 2012

1.3
Market-to-Book Ratio (median)

Size of Industry

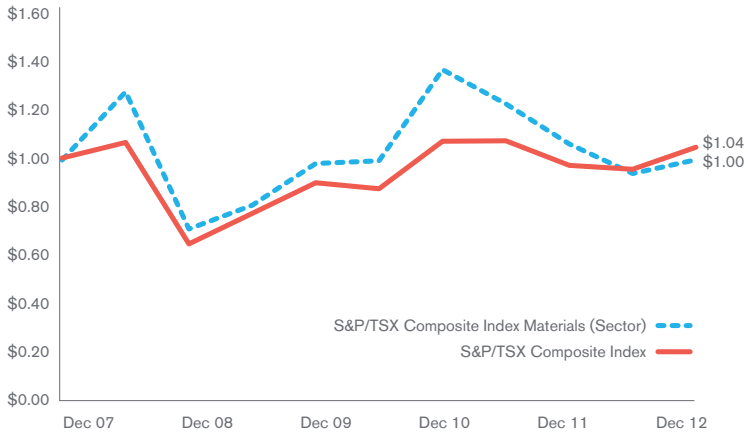
(Relative to Study's Total Market Cap)



Top 3 Industry Goodwill Impairments (in millions)

Kinross Gold Corporation	$2,242
Barrick Gold Corporation	$796
AuRico Gold Inc.	$127

Index (Year End 2007 = $1)

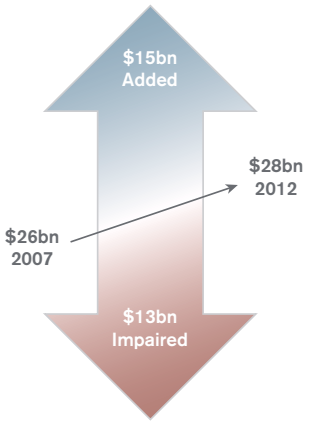


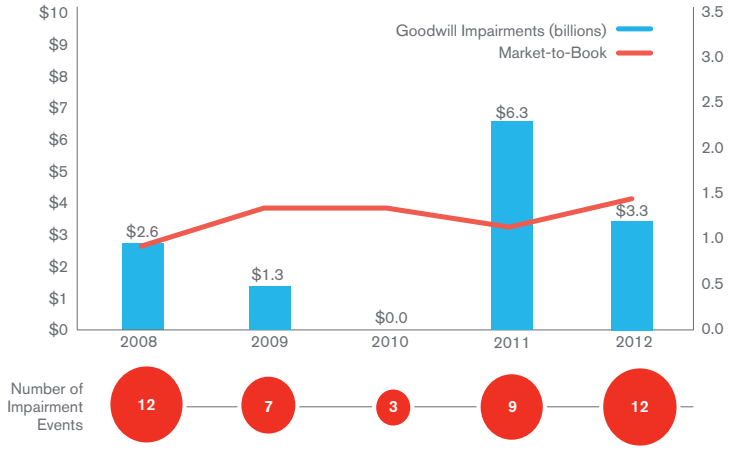
2012 Industry Spotlight

Consumer Discretionary

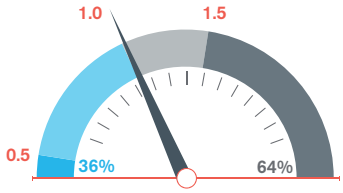
GICS Code 25

Goodwill Trends 2007–2012





Market-to-Book Ratio Distribution
(Based on Number of Companies)



(Percentages of Companies Below / Above 1.0)

58
Companies

24.6%
Goodwill to Total Assets (GW/TA)

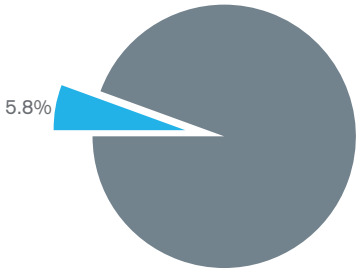
10.9%
Percent of Goodwill Impaired (GWI/GW ratio)

70.7%
Companies with Goodwill

29.3%
Percent of Companies with Goodwill that Recorded a Goodwill Impairment in 2012

1.4
Market-to-Book Ratio (median)

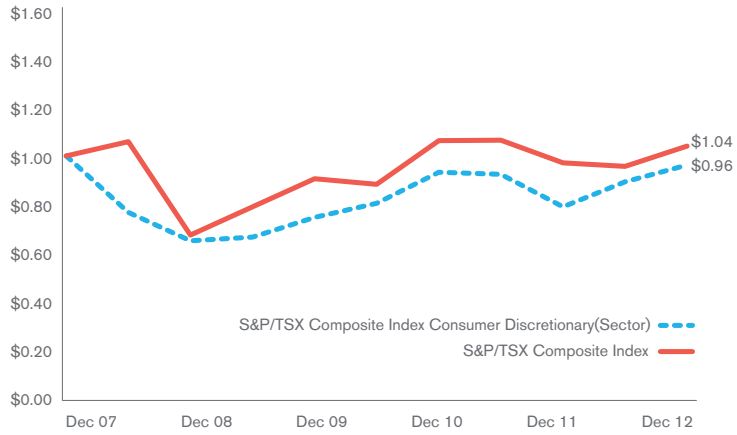
Size of Industry
(Relative to Study's Total Market Cap)



Top 3 Industry Goodwill Impairments (in millions)

Yellow Media Limited	$2,968
Quebecor Inc.	$172
Zongshen PEM Power Systems Inc.	$43

Index (Year End 2007 = $1)

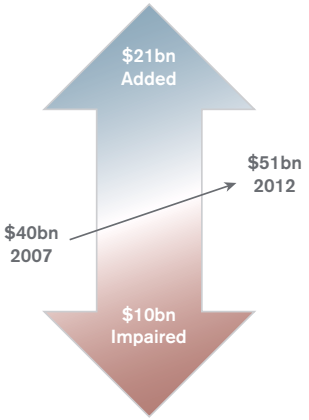


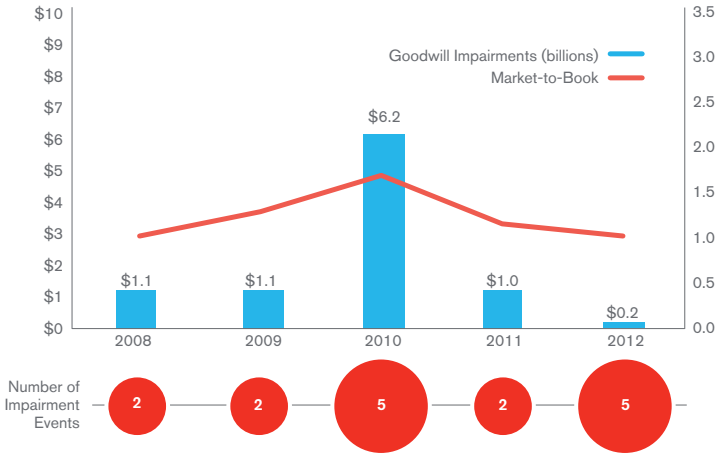
2012 Industry Spotlight

Financials

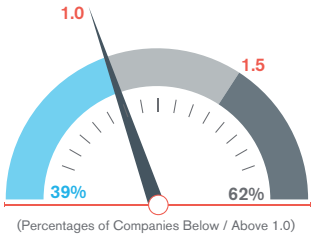
GICS Code 40

Goodwill Trends 2007–2012





Market-to-Book Ratio Distribution
(Based on Number of Companies)



(Percentages of Companies Below / Above 1.0)

44
Companies

1.1%
Goodwill to Total Assets (GW/TA)

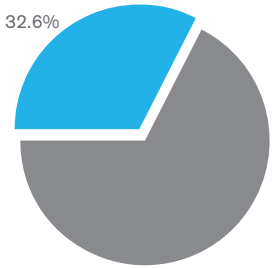
0.5%
Percent of Goodwill Impaired (GWI/GW ratio)

56.8%
Companies with Goodwill

20.0%
Percent of Companies with Goodwill that Recorded a Goodwill Impairment in 2012

1.1
Market-to-Book Ratio (median)

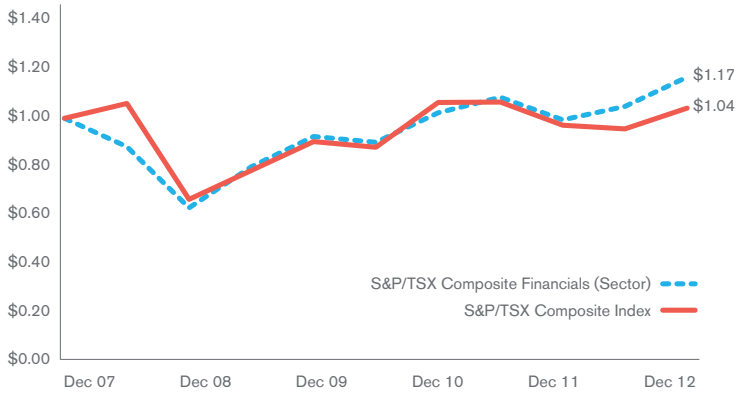
Size of Industry
(Relative to Study's Total Market Cap)



Top 3 Industry Goodwill Impairments (in millions)

Manulife Financial Corporation	$200
Altus Group Limited	$22
Industrial Alliance, Inc.	$10

Index (Year End 2007 = $1)

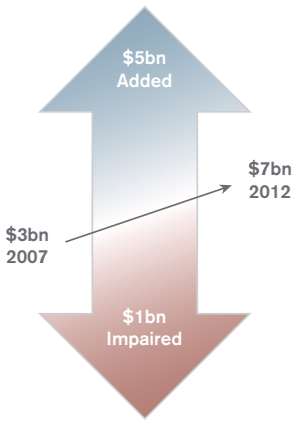


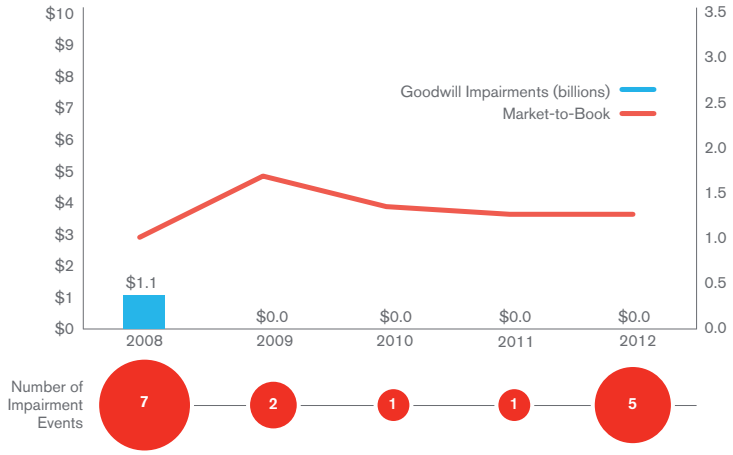
2012 Industry Spotlight

Information Technology

GICS Code 45

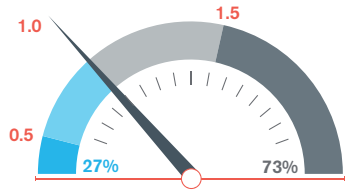
Goodwill Trends 2007–2012





Market-to-Book Ratio Distribution

(Based on Number of Companies)



(Percentages of Companies Below / Above 1.0)

39
Companies

36.9%
Goodwill to Total Assets (GW/TA)

1.1%
Percent of Goodwill Impaired (GWI/GW ratio)

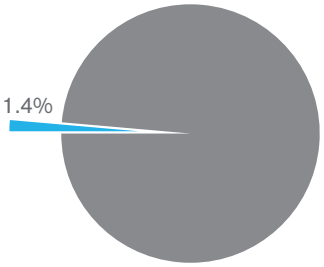
82.1%
Companies with Goodwill

15.6%
Percent of Companies with Goodwill that Recorded a Goodwill Impairment in 2012

1.4
Market-to-Book Ratio (median)

Size of Industry

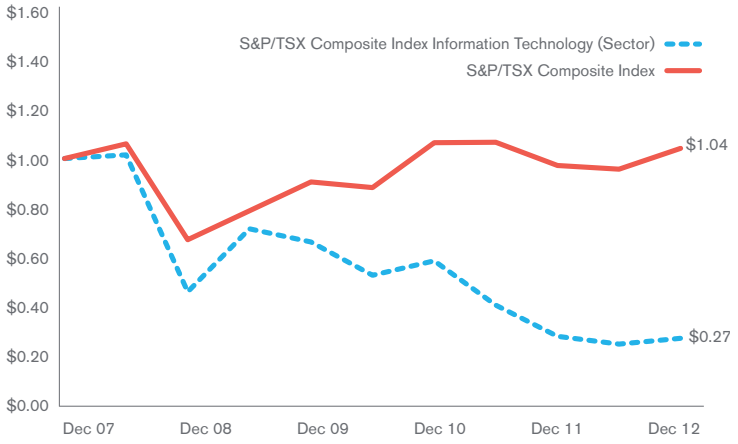
(Relative to Study's Total Market Cap)



Top 3 Industry Goodwill Impairments (in millions)

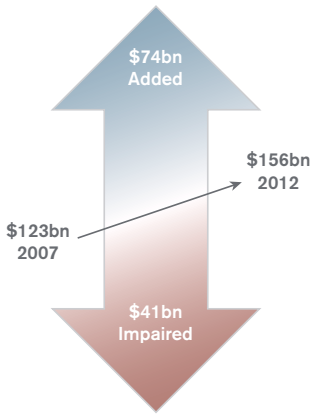
AgJunction Inc.	$21
Celestica Inc.	$15
Posera-HDX Limited	$2

Index (Year End 2007 = $1)

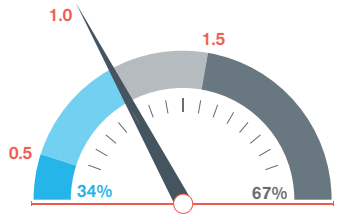


2012 Composite Industry Spotlight

Goodwill Trends 2007–2012



Market-to-Book Ratio Distribution
(Based on Number of Companies)



(Percentages of Companies Below / Above 1.0)

616
Companies

2.7%
Goodwill to Total Assets (GW/TA)

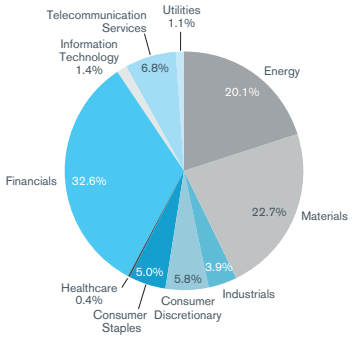
5.1%
Percent of Goodwill Impaired (GWI/GW ratio)

44.6%
Companies with Goodwill

18.9%
Percent of Companies with Goodwill that Recorded a Goodwill Impairment in 2012

1.4
Market-to-Book Ratio (median)

Size of Sectors (Relative to Study's Total Market Cap)



Top 3 Industry Goodwill Impairments (in millions)

Yellow Media Limited	$2,968
Kinross Gold Corporation	$2,242
Barrick Gold Corporation	$796

Cumulative 5-year Terminal Index Value by Industry from 2008 to 2012
Index (Year End 2007 = $1)

Goodwill Impairments by Industry Group
Calendar Year 2012

Goodwill Intensity:
- Goodwill to Total Assets (GW/TA)

Loss Intensity:
- Goodwill Impairment to Goodwill (GWI/GW)

List of Industries by Industry Group, as defined by Global Industry Classification Standard (GICS)

GICS Code	GICS Industry Group	Number Co.'s	% of Co.'s with GW	GW/TA	GWI/GW	% of Co.'s with GW that Recorded GWI	Goodwill Impairment (in $millions)	Market-to-Book Ratio
	Energy						**$ 474 (industry group total)**	
1010	Energy	117	38%	3.4%	4.5%	17.8%	$474	1.1
	Materials						**$ 3,214 (industry group total)**	
1510	Materials	204	15%	6.7%	14.3%	16.1%	$3,214	1.3
	Industrials						**$ 357 (industry group total)**	
2010	Capital Goods	46	63%	9.1%	2.0%	13.8%	$88	1.4
2020	Commercial & Professional Services	16	81%	21.8%	12.8%	23.1%	$268	1.7
2030	Transportation	12	92%	6.2%	–	–	–	1.8
	Consumer Discretionary						**$3,273 (industry group total)**	
2510	*Automobiles & Components*	8	38%	1.4%	67.8%	66.7%	$54	1.2
2520	Consumer Durables & Apparel	5	60%	16.7%	–	–	–	1.7
2530	Consumer Services	12	67%	6.1%	6.3%	25.0%	$18	1.6
2540	Media	16	94%	34.1%	11.6%	40.0%	$3,197	1.5
2550	Retailing	17	71%	5.2%	0.3%	16.7%	$4	1.2
	Consumer Staples						**$171 (industry group total)**	
3010	Food & Staples Retailing	10	100%	15.5%	–	–	–	2.0
3020	Food, Beverage & Tobacco	14	79%	16.3%	5.0%	18.2%	$155	1.8
3030	Household & Personal Products	2	50%	38.2%	4.4%	100.0%	$16	1.5
	Healthcare						**$41 (industry group total)**	
3510	Health Care Equipment & Services	13	46%	11.0%	5.4%	50.0%	$24	2.8
3520	Pharmaceuticals, Biotechnology & Life Sciences	24	17%	3.3%	64.3%	50.0%	$21	4.3

Goodwill Impairments by Industry Group
Calendar Year 2012

List of Industries by Industry Group, as defined by Global Industry Classification Standard (GICS)

GICS Code	GICS Industry Group	Number Co.'s	% of Co.'s with GW	GW/TA	GWI/GW	% of Co.'s with GW that Recorded GWI	Goodwill Impairment (in $millions)	Market-to-Book Ratio
	Financials						**$244 (industry group total)**	
4010	Banks	15	67%	0.9%	–	–	–	1.8
4020	Diversified Financials	9	56%	9.1%	1.7%	20.0%	$6	1.0
4030	Insurance	9	89%	1.6%	1.2%	37.5%	$216	1.1
4040	Real Estate	11	18%	1.2%	9.1%	50.0%	$22	0.8
	Information Technology						**$40 (industry group total)**	
4510	Software & Services	20	90%	49.4%	0.1%	16.7%	$5	2.5
4520	Technology Hardware & Equipment	19	74%	4.5%	14.2%	14.3%	$35	1.1
4530	Semiconductors & Semiconductor Equipment	0	–	–	–	–	–	–
	Telecommunications Services						**$67 (industry group total)**	
5010	Telecommunication Services	7	100%	18.4%	0.4%	14.3%	$67	2.7
	Utilities						**$19 (industry group total)**	
5510	Utilities	10	90%	4.1%	1.4%	11.1%	$19	1.4

U.S. GOODWILL IMPAIRMENT STUDY

(All currency amounts in U.S. Dollars)

Now in its fifth year of publication, the Duff & Phelps *2013 U.S. Goodwill Impairment Study* continues to examine general U.S. goodwill impairment trends and trends within different U.S. industries.

The graphic below captures the evolution of U.S. goodwill from 2008 through 2012. If one examines this graphic from the top down, the source of goodwill is provided with a deal summary (both number of deals and value) for transactions to acquire a controlling equity interest of 50% or more [see M&A Activity]. In 2012, while the deal volume declined, there was a 30% increase in deal value leading to $211 billion in additional goodwill.

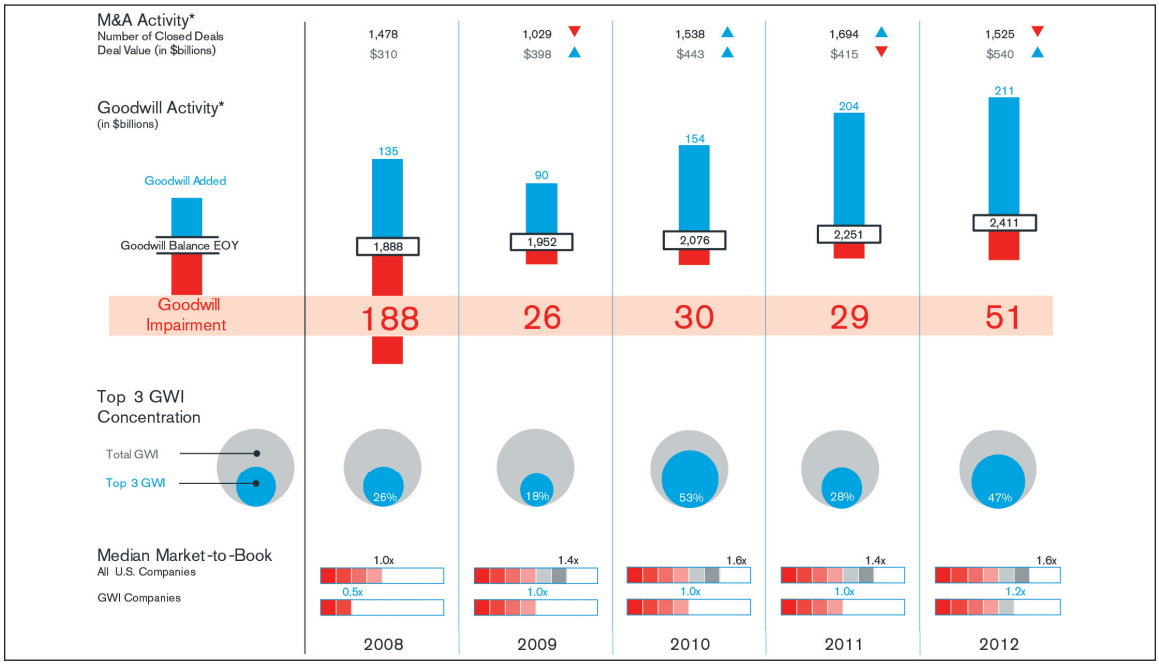
The Goodwill Activity bar chart shows the annual aggregate GWI (see amounts in the red font shaded area), as well as the amount of goodwill added annually (see amounts in blue font), with the end-of-year (EOY) aggregate goodwill balance sliding along the scale. For example, we can observe the increase in the goodwill impaired by U.S. companies from $29 billion in calendar year 2011 to $51 billion in 2012.[10]

A limited number of events can have a dramatic impact on the annual impairment amounts. To provide perspective, the graphic below highlights the concentration of GWI amounts recorded in the top three events. For instance, the top 3 events accounted for 47% of the 2012 aggregate GWI amount, in contrast to 18% in 2009.

Lastly, while not a sole or definitive indicator of impairment, market capitalization should not be ignored during a goodwill impairment test. Market-to-book ratios for both the entirety of the 2013 U.S. Study as well as for those companies that recorded a GWI are also provided [see Median Market-to-Book].

The Duff & Phelps 2013 U.S. Goodwill Impairment Study and the inaugural 2013 European Goodwill Impairment Study are now available.

Visit www.duffandphelps.com to download these studies.



10 The total goodwill impairment amount of $51 billion is based on the company base set selection and methodology used to prepare the 2013 U.S. Study. It provides a consistent basis for comparison of goodwill impairments over the study period. In addition, General Motors Company's $27 billion goodwill impairment charge in the fourth quarter of 2012 was excluded due to the unique circumstances related to the initial recording and subsequent impairment of its goodwill.

APPENDIX 1

2013 STUDY: COMPANY BASE SET SELECTION

In addition to company annual reports, the primary source of data for the 2013 Study was Standard & Poor's (S&P) Capital IQ © database 2013. This database was screened to isolate the companies that had characteristics consistent with the purpose of this study, as described below. Canadian-based companies that traded on the Toronto Stock Exchange (TSX) as of July 19, 2013 were the starting point for the data set.

The following additional procedures were applied to arrive at the data set:

- Exchange traded funds (ETFs) and income funds were excluded leaving 862 Canadian-based, Canadian-traded companies.
- From this subset, companies that did not have a Global Industry Classification Standard (GICS) designation, and companies that did not have returns data and market capitalization data over the 2008-2012 period were excluded.
- The data set was then assessed to identify any company with a controlling interest in any other company within the data set, because in such cases the controlling investor (the parent) would have consolidated the underlying entity's (the subsidiary's) financial results. To avoid double-counting the parent's and the subsidiary's reported financial information, we excluded the financial results of any subsidiary companies that met this criterion.
- These initial screens resulted in a universe of **670** Canadian-based publicly-traded companies. This universe included companies reporting under a mix of different accounting standards.
- The sample universe was further restricted to include only those companies that adopted IFRS as of the 2011 or 2012 calendar years, resulting in a base set of **616** companies (refer back to Figure 1).

IFRS Background & Impact on Data Set

In 2006, the Canadian Accounting Standards Board (AcSB) announced its intention to adopt IFRS for publicly accountable enterprises and in 2008 confirmed a January 1, 2011 mandatory adoption for these entities.

Certain entities were granted optional deferral periods, allowing them to adopt IFRS at a later date. Specifically:

Entities With Rate-Regulated Activities

In February 2013, the AcSB extended the existing deferral of the mandatory IFRS changeover date for entities with qualifying rate-regulated activities for an additional year. Such entities now have the option to defer their changeover to IFRS to January 1, 2015.[11]

Investment Companies

The AcSB had previously provided investment companies and segregated accounts of life insurance enterprises the option to defer the IFRS changeover date, in order to allow the IASB to complete its project on consolidation requirements of qualifying investment entities.[12] In December 2012, the

11 For additional details on this decision refer to: http://www.frascanada.ca/accounting-standards-board/item64425.aspx.

12 On October 31, 2012 the IASB published Investment Entities (Amendments to IFRS 10, IFRS 12 and IAS 27), providing an exception to the consolidation requirements in IFRS 10 for investment entities.Instead, the amendments require an investment entity to measure any investments in other entities it controls at fair value.

AcSB confirmed mandatory adoption is required for annual periods beginning on or after January 1, 2014.[13]

Furthermore, private enterprises can elect to apply IFRS. While private companies may generally prefer to adopt the less complex rules under Part II of the CPA Canada Handbook–Accounting, some of the Canadian private companies participating in the 2013 Survey have indeed adopted IFRS.

Finally, it is noted that in 2008, the Canadian Securities Administrators (CSA) issued a notice allowing Canadian issuers, who are also U.S. Securities and Exchange Commission (SEC) issuers, to continue to use the option to report under U.S. GAAP as permitted under National Instrument 52-107.

APPENDIX 2

QUANTIFYING THE IMPACT OF IFRS ADOPTION – FLASHBACK

In February 2013, the Canadian Financial Executives Research Foundation (CFERF) and Duff & Phelps released its inaugural 2012 Study which undertook a detailed analysis of publicly-traded Canadian company disclosures regarding the transition from prior Canadian (or Pre-changeover) GAAP to IFRS and its effect on goodwill impairments. Mandatory IFRS adoption was required for fiscal years commencing on or after January 1, 2011 for most publicly accountable enterprises, or PAEs, with certain entities being granted optional deferrals.

IFRS Adoption Recap

IFRS 1 requires (a) first-time adopters to present full comparative financial information for the year preceding the adoption and an opening balance sheet at the date of transition to IFRS. This "transition date" was January 1, 2010 for Canadian calendar-year companies.

In general, IFRS 1 calls for full retrospective application of IFRS standards. In theory, this would mean that all past business combinations occurring prior to the transition date would have to be restated under IFRS.

However, IFRS offers an optional exemption to this requirement. If a company opts out, then goodwill balances must be tested for impairment at the transition date. In addition, in most cases the company must recognize any resulting transition-related impairment loss in retained earnings.

Highlights of the 2012 Study

2010 provided a great opportunity to measure the impact of IFRS adoption on goodwill. For comparison purposes, goodwill impairment was presented under both sets of accounting rules for 2010: (i) as originally reported under Pre-changeover GAAP; and (ii) as restated under IFRS. As a result of IFRS adoption, calendar 2010 GWI increased from $1.3 billion as originally reported under Pre-changeover GAAP to $2.9 billion as restated under IFRS (see graph below).

In addition, under the optional exemption related to IFRS adoption, an incremental $5.5 billion of cumulative "transition date" goodwill impairment was recognized in the opening balance sheet. This amount approximates the cumulative impairment that would have been recognized under IFRS, had companies restated their prior business combinations.

Further information on the impact of IFRS adoption can be found in our 2012 Study available at www.duffandphelps.com.

13 On October 3, 2013 the Canadian Securities Administrators (CSA) also published a final amendment requiring investment funds to adopt IFRS for financial years beginning on or after January 1, 2014.

Impact of IFRS Adoption on Goodwill of Canadian Public Companies (in CAD $billions)