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LETTER FROM THE EDITOR

This edition of *The Journal of Business Valuation* features papers presented at the 2008 National Conference of The Canadian Institute of Chartered Business Valuators held in Quebec City, as well as the 2009 Eastern Regional Conference held in Niagara Falls. It also includes articles from other well-respected publications as well as the 2009 winning research paper from CICBV's Ian R. Campbell Research Competition.

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

The Journal of Business Valuation features an expanded array of content, including presentations from National and Regional Conferences of the CICBV, articles from other publications and the award winning paper from CICBV's research competition. As a result of the increased number of articles, *The Journal of Business Valuation* is published twice a year.

I would like to thank all of the authors who have submitted papers to our journal and also the volunteers and staff who made this edition possible.

Robert Doran, CBV
Chair, Editorial Committee

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CONTROL PREMIUMS: EVIDENCE AGAINST MARKET INTEGRATION

by Paul Komiak, PhD, ASA, CFE
Memorial University of Newfoundland, St. John's

If investors hold the optimal portfolio the invested resources are allocated to their most effective use. If not, then what are the explanations for these inefficiencies and what is the interpretation and implication of these explanations on the behaviour of the global economy? There is much evidence that, despite the gains from cross-border diversification, investors hold too little of their wealth in foreign assets. This has been termed "home bias." Home biases exist in trade, in companies that pursue foreign direct investments, and even in domestic geographically proximate transactions. However, we do not know the root cause of home bias, nor do we know if there are home bias differences across investors.

In this study, I provide evidence of home bias in the foreign direct investment decisions of acquiring firms in merger and acquisition activities (M&A). In doing so, I draw upon a large sample of developed and developing countries from a contemporary statistical database. My research examines home bias from the market integration perspective. The notion of home bias is related to the degree of financial integration; home bias should disappear when financial markets are perfectly integrated. A comparison of the relative *controlling acquisition premiums* paid for domestic acquisitions, acquisitions of foreign firms that have subsidiaries or operations in the acquirer's home market, and acquisitions of foreign firm's without a presence in the acquirer's home market provides evidence of home bias in M&A activities and, therefore, a lack of evidence of market integration.

1. INTRODUCTION

If investors hold the optimal portfolio and effectively hedge risks, the resources are allocated to their most effective use. If not, then what are the explanations for these inefficiencies and what is the interpretation and implication of these explanations on the behaviour of the global economy? There is much evidence that, despite the gains from cross-border diversification, investors overweight domestic stocks in their common stock portfolios—this observation that investors hold too little of their wealth in foreign assets has been termed "home bias"(cf. Chan et al., 2005; French and Poterba, 1991)—which holds true also for corporate bonds (Portes et al., 2001). Home biases exist in trade and in aggregate investments (McCallum, 1995; Nitsch, 2000; Feldstein and Horioka, 1980; Obstfeld and Rogoff, 2000) in companies that pursue foreign direct investments – i.e., international mergers and acquisitions (Shatz and Venables, 2000; Berger et al., 2004)—and even in domestic geographically proximate transactions (Coval and Moskowitz, 1999). The existence of the home bias is the least controversial stylized fact in international finance (Dahlquist et al., 2003).

However, a home bias "puzzle" exists in the international finance literature. We do not know the root cause of home bias, nor do we know if there are home bias differences across investors. There have been many explanations for the home bias phenomenon and equally prevalent empirical evidence. Informational advantages have been identified as main drivers of the international home bias (Gehrig, 1993; Dvorák, 2005; Ahearne et al., 2004;

Strong and Xu, 2003; Chan et al., 2005). Lower credibility of the financial information (Covrig et al., 2006) and differential corporate governance systems (Dahlquist et al., 2003) are potential sources of this home bias. Geographical proximity also explains investing decisions of firms internationally (Pagano et al., 2002; Sarkissian and Schill, 2004). Earlier, Stulz (1981) developed the international capital flow barrier theory and Adler and Dumas (1983) and Uppal (1993) derived models from the standpoint of purchasing power parity to explain how investors prefer domestic securities to hedge against inflation. More recently, the research on market liquidity has been associated with the home bias literature (Kang, 2005). Other factors explaining the choice of foreign market are the country's stock market development and demographic characteristics such as cultural backgrounds and spoken languages (Dahlquist et al., 2003, Grinblatt and Keloharju, 2001).

In this study, I explore home bias in the foreign direct investment decisions of acquiring firms in merger and acquisition activities. The existing literature on cross-border takeovers in the home bias context has to date largely focused on proximate factors, e.g., companies that pursue foreign direct investments generally prefer host countries that are close to their headquarters (Berger et al., 2004; Shatz and Venables, 2000) or on differences in investor protection along with the rigor of legal enforcement standards (Lins, 2003; La Porta et al., 2002). I interpret these as evidence for the familiarity hypothesis brought forward by Huberman (2001). Missing in the extant research are studies of acquisition activity within other aforementioned hypotheses, i.e., Stultz's (1981) barriers to international capital flows, Merton's (1987) investor recognition hypothesis, or Serrat's (2001) nontradability of goods across international boundaries. My paper attempts to at least partially fill this gap in the literature. I am motivated to study this phenomenon because important inferences pertaining to valuation issues and its relationship to the issue of capital market integration and segmentation can be drawn from the behaviour of cross-border acquisitions.

My proposed research examines home bias from the market integration perspective (cf. Chen and Knez, 1995). The notion of home bias is related to the degree of financial integration; home bias should disappear when financial markets are perfectly integrated. By the same token, the presence of home bias reveals a lack of integration. As capital markets become more integrated companies are able to carry out acquisitions across national boundaries more easily so that cross-border acquisition activity intensifies relative to domestic acquisition activity. Similarly, financial markets are integrated when the law of one price holds. This states that assets generating identical cash flows command the same return, irrespective of the market (cf. Bekaert and Harvey, 1995 and references therein). A pre-requisite for measuring financial market integration is the identification of assets generating identical cash flows. Lacking this, one might consider slightly different assets, provided it is possible to control for the differences in the risk associated with their cash flows. If one fails to identify identical assets or does not correct appropriately for their risk differences, one will conclude that financial markets are segmented even when they are, in fact, integrated. This highlights the crucial role of measurement issues for the problem at hand.

The first hypothesis test I propose is concerned with a differences of means comparison of the relative acquisition premiums paid for domestic acquisitions, acquisitions of foreign firms that have subsidiaries or operations in the acquirer's home market, and acquisitions of foreign firms without a presence in the acquirer's home market. The second hypothesis test I propose consists of a regression to examine the relative acquisition premiums and controls for factors that are identified in previous studies and have the theoretical support to be associated with acquisition premiums. Statistically significant differences among the relative acquisition premiums would be a negative indicator of financial market integration while providing additional evidence on the determinants or non-determinants of acquisition premiums.

Determining the existence of home bias in cross-border acquisitions is additionally important as the majority of aggregate foreign direct investment (FDI) flows are created through cross-border merger and acquisition activity (Kang and Johansson, 2001). Inflows of FDI were substantial in 2005. They rose by 29 percent—to reach $916 billion—having already increased by 27 percent in 2004; global FDI outflows amounted to $779 billion (UNCTAD, 2006). Cross-border M&A, especially those involving companies in developed countries, have spurred the recent increases in FDI. The value of cross-border acquisitions rose by 88 percent over 2004, to $716 billion, and the number of deals rose by 20 percent, to 6,134 (UNCTAD, 2006). On average 72 percent of all FDI take place in the form of "brown-field" FDI, i.e., M&A. Between developed countries this figures reaches 84 percent and

into developing countries 41 percent (UNCTAD, 2003). Given the increasing importance of multinational firms and international acquisitions, whether there is a tendency for multinational firms to favour investments within the country where it has its domicile over investments in other countries where it also has production facilities, has potentially important consequences.

My research contributes to the existing literature in several significant ways. First, my research represents the first study to examine whether acquiring firms pay higher relative premiums for firms that have presence in their home country than those that do not—an overarching valuation question. Second, it contributes to the literature on market integration. My contribution utilizes a methodology that allows for a differing acquisition level across countries, which may depend on country-specific factors. My research question revolves around the point that there may (or may not) be home bias in foreign M&A based decisions. In doing so, it draws upon a large sample of developed and developing countries, as well as a new statistical database that, to my knowledge, has not yet been used in empirical studies of cross-border acquisitions.

Excellent data on acquisition premiums exists in the Mergerstat database which is a high content and potentially complete listing of international controlling acquisition data. This source classifies each acquisition by location—both the buyer and target country are noted. Different from other such data sources, this source provides information on the value of the acquisitions. Only mergers or new acquisitions assuring majority ownership are included; acquisitions that increment existing minority ownership percentages are excluded. Data from January 1998 through December 2006 covers over 5,000 completed acquisitions of public company takeovers. Approximately 58 percent of the transactions represent U.S. based companies, with the remainder being international companies.

The next section provides a select overview of the relevant literature. This is followed by a description of the cross-border acquisition data utilized in this study. I then present the models to be estimated. The statistical results are presented and evaluated. The final section will offer a summary and conclusions.

2. THEORETICAL BACKGROUND

Three streams of literature form the building blocks for this study. The review starts with the literature examining home bias in foreign direct investments. The discussion then turns to the research on motives for and wealth effects of M&A. Lastly, the literature suggesting that corporate control has a significant value helps explain an acquiring firm's willingness to pay a premium in international acquisition transactions.

2.1 Home Bias in Foreign Direct Investments

Home biases exist in companies that pursue foreign direct investments. John Dunning's (1971) Ownership/Location/Internationalization Advantage (OLI) framework offers the paradigmatic theory of the multinational firm's investment decisions, where firms invest internationally for reasons of ownership, location and internalization. Closely related to Dunning's work, other scholars have developed a number of theoretical models to explain firms' decisions to invest abroad. These models can be roughly classified as theories based on "vertical" firms, "horizontal" firms and the "knowledge capital model" of multinational firms. Teece (1986) applies the Transaction Costs Theory to Multinational Enterprises (MNEs) and identifies horizontally integrated MNEs and vertically integrated MNEs. Vertical firms separate activities by the level of capital intensity, producing different goods and services at different physical locations (Helpman, 1984). Although an important contribution to the understanding of multinationals' investment decisions, theories based on vertical multinationals fail to account for the existence of firms replicating the production of the same goods and services in different physical locations. Markusen (1984) explains this pattern of replicating production by creating a model of "horizontal firms" with firm-level economies of scale that integrate horizontally across national borders. Markusen's (1997) knowledge-capital model weaves these horizontal models into the existing vertical models of multinational firms. In this framework, multinational firms can produce the same product or service in multiple locations (horizontal) or

geographically separate their firm's headquarters from the production location (vertical). Horizontal FDI is usually seen as substituting for exports; the higher the transport costs, increasing with distance, the less economically viable the export and the more horizontal FDI could be expected. Thus, horizontal FDI should increase with distance. Problematic is the issue that most data on FDI does not classify it as horizontal or vertical and is usually a mix of horizontal and vertical FDI (IADB, 2006). Regardless, in empirical studies, the evidence shows that companies pursuing foreign direct investments, mostly international M&A, generally prefer host countries that are close to their headquarters (Shatz and Venables, 2000; Berger et al., 2004), thus, evidence of market segmentation.

There is mixed theoretical evidence for the propensity of firms to locate FDI in proximate countries. The existing literature on cross-border M&As has to date largely focused on product and factor market imperfections (Errunza and Senbet, 1981; Williamson, 1975), asymmetries in capital markets (Scholes and Wolfson, 1990; Froot and Stein, 1991) and/or deal-specific variables discussed in the single-countries, traditional merger literature (Jensen and Ruback, 1983; Pautler, 2003). Several researchers address the problem that exists in examining a home bias in M&A transactions because of the fact that most economic activity is far from evenly distributed in space but clustered in a few areas. A bias in equity holdings usually is measured by comparing an observed portfolio with the market portfolio and computing the respective distances. Looking at M&A transactions, there is no obvious portfolio but only one observed deal and there is no market portfolio—so how to analyze whether there is a tendency for firms to merge with other firms close by? Grote and Umber (2006) construct a hypothetical portfolio of potential targets for each subject transaction and compare the average distance to this portfolio with the distance to the subject transaction. They show that in domestic transactions there is a strong preference for local mergers and acquisitions, even when controlling for a variety of other characteristics. Moreover, they conclude that the observable home bias in M&A deals is relevant for judging the achieved degree of integration of capital markets.

2.2 Motivations and Wealth Effects of M&A

There are two broad streams in the literature on M&A. The first stream investigates the motives for undertaking acquisitions. The M&A literature suggests that there are three main motivations for acquisitions. The first motivation is the creation of synergies so that the value of a new combined entity exceeds the sum of its previously separate components. The second motivation arises due to agency conflicts between managers and shareholders. Jensen and Ruback (1983) suggest that managers may rationally pursue their own objectives at the expense of shareholders' interests and shareholders have both the incentives and the means to restrain the self-serving behaviour of managers. Finally, the third motivation for takeovers is managerial hubris (Roll, 1986). Roll's hubris hypothesis suggests that managers of acquiring firms make valuation errors because they are too optimistic about the potential synergies in a proposed takeover. As a result, they overbid on target firms to the detriment of their stockholders.

The second stream investigates the wealth effects of acquisitions. If managers act to maximize shareholders' wealth, then an acquisition can be seen as adding value to both target and acquirer through the creation of synergies that are expected to produce economic gains and hence increase wealth. However, there is a consensus amongst empirical studies that acquisitions are value enhancing for stockholders in target firms but on average are at best value-neutral for stockholders in acquiring firms. In their survey of U.S. evidence, Andrade, Mitchell, et al. (2001a) find a positive abnormal return of 16 percent to targets that is remarkably consistent over time, and a negative, but insignificant, abnormal return to acquirers. Walter and da Silva Rosa (2004) survey the Australian evidence and report similar conclusions.

Several explanations have been offered for this disappointing outcome for acquirers. If the market for potential targets is sufficiently competitive, then the benefit of a proposed acquisition should be neutralized, leading to a mean return of zero for acquirers (Holl and Pickering, 1988). However, the negative return to stockholders in acquiring firms could be explained by agency costs: the managers of acquiring firms pursue personal objectives instead of maximizing shareholder wealth (Morck et al., 1990). For instance, managers often expand their firm

beyond its optimal size and overpay for rapidly growing firms (Schleifer and Vishny, 1989). Such managerial behaviour is rational but not in the interests of the stockholders. Alternatively, the negative return to acquiring stockholders may be explained by hubris or overconfidence on the part of the CEO of the acquiring firm (Roll, 1986). This explanation suggests that the CEO may sincerely believe that a merger is in the best interests of the stockholders but that this belief is not rationally based.

Thus, rational responses to agency costs and non-rational managerial hubris are the two main theories that have been suggested to explain the wealth effects in mergers and acquisitions. Additionally, finance theory states that the market value of a firm is an unbiased estimate of value—the share market prices and the capital market rates of return estimated from these will be unbiased estimates of the future benefits arising as a result of takeovers (Fox et al., 2003; Jensen, 1969). Yet, on average, firms acquire other firms at substantial premiums over market value (Saunders, 1998). Agency costs and/or managerial hubris may also be more likely in the case of diversifying acquisitions. Scharfstein and Stein (2000) suggest that there may be increased agency costs in diversified firms. Findings on the diversification discount have recently been the subject of a debate that has been well summarized in Martin and Sayrak (2003). Diversifying acquisitions have, therefore, been linked to the existence of agency costs as diversification may benefit managers (Morck et al. 1990). Morck, et al. (1990) find that a significant negative abnormal return accrues to bidding firms upon the announcement of a diversifying acquisition.

2.3 Concept of Control and the Acquisition Premium

The existing literature on this subject offers a variety of explanations for the premium a firm is willing to pay to acquire another firm. Existing explanations offer acquisition premiums as a function of the gains from acquisition, bargaining power of the target and the acquirer, agency costs, managerial hubris and overvaluation (Walkling and Edmister, 1985a; Comment and Schwert, 1995; Travlos, 1987a; Roll, 1986; Varaiya and Ferris, 1987; Holl and Kyriazis, 1997).

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" (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 that the separation of ownership and control may lead managers to pursue their own objectives at the owner's 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 1980; Fama and Jensen 1983).

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, et al., 1990; Nathan and O'Keefe, 1989) and this value has been empirically observed when a firm exhibits a separation of ownership and control, e.g., a widely-held and therefore diffuse ownership undergoes a change-of-control transaction, such as an acquisition or leveraged buyout (Finnerty and Douglas, 2004; Walkling and Edmister, 1985a; 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 concept of control premium indicates that some shares are more equal than others. Saunders (1998) provides various reasons for the existence of a control premium, including that stockholders with a controlling interest in a company can determine the nature of the business. They can select management, enter into contracts,

buy, sell and pledge assets, borrow money, issue and repurchase stock, register stock for public offerings and liquidate, sell or merge the company. The controlling party can also set management compensation and perquisites, declare (or not declare) dividends, make capital distributions and control contracts and payments to third parties. In privately held companies the ability to set compensation is critical for owner/managers frequently distribute proceeds as compensation rather than dividends in order to avoid double taxation. Minority stockholders often have minimal influence on these key activities (Saunders, 1998). A stockholder would only be willing to pay a premium if he or she believes in the potential of the acquisition to increase the value of the firm. The percentage of the control premium thus depends on various factors. Saunders' (1998) study of acquisitions during 1997 showed 487 cases in which purchases of major blocks of stocks in publicly traded companies commanded a premium. The premiums ranged from zero to 733 percent with a median of 27.5 percent and mean of 35.7 percent.

The rest of this paper is devoted to the results of an empirical study of acquisition premiums. The aim is to identify nuances of M&A transactions and investigate their relation to home bias practices in order to illustrate the level of market integration.

3. DATA SOURCES, DESCRIPTION AND METHODOLOGY

3.1 Methodology

The research model examines the premiums in acquisitions across multiple countries. In this model the relative size of the premiums offered by acquiring firms for target firms from various nations are measured against each other. In other words, among target firms located in different countries, why are some control premiums higher than others? Can home bias help explain this?

Home bias is an important predictor of behaviour. Recently published articles have set a research agenda covering the role of home bias in FDI (Head 2005) and the impact of national differences on outsourcing (Gurung and Edmund, 2006). The importance of home bias sensitivity has also been studied in joint ventures (Luo, 2005) and in various industries, e.g., accounting (Parboteeah et al., 2005) and pharmaceuticals (Howell, 2004). The model presented in this paper hypothesizes that the locations of acquiring and target firms affect the willingness to offer acquisition premiums. The first hypothesis test I propose is concerned with a differences of means comparison of the relative acquisition premiums paid for domestic acquisitions, acquisitions of foreign firms that have subsidiaries or operations in the acquirer's home market and acquisitions of foreign firms without a presence in the acquirer's home market. The second hypothesis test I propose consists of a regression to examine the relative acquisition premiums and controls for factors that are identified in previous studies and have the theoretical support to be associated with acquisition premiums. The model is consistent with prior M&A research: corporate acquirer versus passive investor (Bradley and Korn, 1979); financial determinants of bid premiums (Walkling and Edmister, 1985b); wealth effects of corporate acquisitions (Datta et al., 1992); and corporate takeover bids and methods (Travlos, 1987b).

3.2 Data Analysis

Control premium data from January 1998 through December 2006 comes from the Mergerstat/Control Premium database. A control premium is the premium that one pays to gain control of the company and this reflects the substantial influence the shareholder exerts over the company. This influence enhances the buyers' ability to alter management, change dividend policies or streamline operations. Minority shareholders usually have little authority over business decisions and this lack of control may allow for a discount to be applied when valuing their interests. The control premium in the Mergerstat/Control Premium database is computed by comparing the per share total consideration price for one share of the target company's common stock to the unaffected price. This pre-

announcement price is selected by Mergerstat and based on volume and price fluctuations during the period prior to the acquisition announcement (Pratt, 2006).

The Mergerstat/Control Premium study covers 4,855 completed acquisitions of public company takeovers. The data are gathered from multiple countries' national stock exchange filings (e.g., NYSE, TSE, FTSE, SEHK). The criteria for inclusion are that the acquirer ends up with over 50 percent of the voting equity and the deal value is over $1 million. Approximately 58 percent of the transactions represent U.S. based acquiring companies, with the remainder being non-U.S. based companies. The study contains over 690 deals in business services, over 620 deals on depository institutions and 165 deals in the communications industry. Fifty-two percent of the deals in the database have net sales less than $100 million, with the remainder having net sales greater than $100 million. Prior to performing the analyses, I ensured that the basic assumptions of analysis of variance (ANOVA) and regression analysis were satisfied. Figures 1 and 2 contain descriptive statistics for my study.

Figure 1 Mergerstat/Control Premium Study—Descriptive Statistics

Statistic	Count	Range	Mean	Std. Dev.
Effective Date	4855	1/5/1998 - 12/31/2006	N/A	N/A
Mergerstat Control Premium	4855	-0.98 - 7.31	0.339	0.536
Net Sales LTM (USD millions)	4855	$0 - $174,332	$765	3973.58
EBITDA CashFlow LTM (USD millions)	4838	($6,464) - $39,299	$157	995.42
Deal Value (USD millions)	4855	$0.0 - $116,705	$1,033	4662.33
Price/Sales	4498	0.000 - 10.051	1.983	1.878
Price/Income	2690	0.006 - 39.89	18.069	8.790
Price/Book Value	4109	0.001 - 9.957	2.508	1.929
Target Invested Capital/EBIT	2099	0.02 - 34.81	14.07	7.07
Target Invested Capital/EBITDA	2345	0.01 - 24.80	9.65	5.03

I use two different model specifications to differentiate between the levels of acquisition premiums. I am particularly interested in the effects of the location of the target company operations (i.e., domestic acquisitions, acquisitions of foreign firms that have subsidiaries or operations in the acquirer's home market and acquisitions of foreign firm's without a presence in the acquirer's home market) on acquisition premiums. I use dummy variables to capture this unique aspect of the target company operations. To examine the mean differences in acquisition premiums between target company locations, analysis of variance (ANOVA) tests to determine the statistical significance of observed mean differences were conducted.

I also examined the correlations between control premiums and target firm market value, target size, deal value, deal size and earnings. These variables, along with the control variables of interest, were included in a round of hierarchical regressions. Having done that, I then conducted post hoc tests to examine whether statistically significant differences exist among industries.

Figure 2 Descriptive Statistics for the Country Location of Firms

Location of Acquirer Firm	Frequency	Percent	Frequency of Foreign Target Firm	Percent
United States	2692	55.4%	1109	41.20%
England	426	8.8%	105	24.65%
Canada	417	8.6%	100	23.98%
Japan	180	3.7%	19	10.56%
France	114	2.3%	69	60.53%
Australia	113	2.3%	20	17.70%
Germany	100	2.1%	70	70.00%
Sweden	80	1.6%	37	46.25%
Netherlands	67	1.4%	52	77.61%
Italy	55	1.1%	27	49.09%
South Africa	50	1.0%	13	26.00%
United Kingdom	42	.9%	20	47.62%
Switzerland	42	.9%	35	83.33%
Spain	32	.7%	19	59.38%
Denmark	32	.7%	13	40.63%
Norway	32	.7%	11	34.38%
Singapore	29	.6%	14	48.28%
Hong Kong	28	.6%	5	17.86%
Belgium	27	.6%	18	66.67%
Greece	25	.5%	5	20.00%
Ireland	25	.5%	18	72.00%
Bermuda	24	.5%	23	95.83%
Finland	22	.5%	13	59.09%
Taiwan	20	.4%	4	20.00%
India	15	.3%	5	33.33%
Malaysia	13	.3%	2	15.38%
Scotland	13	.3%	12	92.31%
Israel	12	.2%	7	58.33%
China	11	.2%	4	36.36%
Mexico	9	.2%	6	66.67%
South Korea	9	.2%	0	0.00%
Austria	8	.2%	5	
Iceland	7	.1%	3	
Portugal	7	.1%	1	
British Virgin Islands	7	.1%	5	
Thailand	7	.1%	1	
Philippines	6	.1%	1	
New Zealand	5	.1%	2	
Poland	5	.1%	0	
Russia	4	.1%	4	
Bahrain	4	.1%	4	
Indonesia	3	.1%	2	
Hungary	3	.1%	0	
Chile	3	.1%	0	
Other	30	.6%	13	
Total	**4855**	**100.0%**		

3.3 Results

The one-way ANOVA for the acquisition premium data is shown in Figure 3. I have very strong evidence against the null hypothesis of no difference in average level of control premium across the location of target firm operations. The control premium clearly changes with the change in location. ANOVA assumes a level of equality of variance; I therefore include a test of the equality of variance assumption, which indicates this assumption is not violated. The standard deviation and standard error statistics confirm that location of target firm operations indicate differences in control premiums. The significant F-tests in the ANOVA tables ($p<0.01$) allow us to reject the hypothesis that the average control premiums are equal. Therefore the Mergerstat/Control Premium Study data provide support for my theoretical arguments that home bias may account for the relative differences of control premium offerings, confirming my first hypothesis in the research model.

Although the location dimension of the target firm remained significant, the results of my second hypothesis test did not support the expectations developed from existing literature. Controlling for factors identified in previous studies and having theoretical support to be associated with acquisition premiums did not provide a statistically significant result. The explanatory power of the total model—including target firm market value, target size, deal value, deal size and earnings—was not strong ($r^2=.17$). I suggest one of a possible number of explanations for this result.

Figure 3 ANOVA and Regression Results on the Differences in Relative Control Premiums

Target Firm Location Dimension	F-value	N	Mean	Std. Dev.	ß	t
Domestic	8.81 [a]	3366	.2941	.5031	.107	2.968[a]
Foreign	17.234 [a]	1109	.2603	.4814	-.201	-4.151 [a]
Foreign with Domestic Subsidiary	10.029 [a]	380	.3201	.6553	.115	3.224 [a]

[a] $p<0.01$.

Figure 4 Regression Results for Variables (Dependent Variable = Control Premium)

	Beta	Sig. (*t*)
Domestic (D)	.166	(9.041) [a]
Foreign (F)	.024	(1.139)
Foreign w/ Domestic Subsidiary (FDS)	.141	(13.680) [a]
Net Sales LTM	-.008	.703 (-.381)
EBITDA LTM	-.034	.094 (-1.675)
BV Target Common Equity	-.031	.127 (-1.528)
Total Implied MVE	-.002	.930 (-.088)
Book Value per Share	-.010	.614 (-.505)
Common Shares Outstanding	-.005	.799 (-.255)
Net Profit Margin	.018	.375 (.887)
Adjusted R^2		.17
F-Statistic		24.632

[a] Denotes significance at the 1% level.

Tax benefits have been analyzed as a potential explanation for acquisition activities. Accounting standards and tax laws are an important predictor of corporate behaviour. Recently published articles have researched the impact of the adoption of accounting changes (cf. Colley et al., 2006) and the economic effects of compliance with accounting changes (cf. Hall and Gaetanos, 2006). The sample period examined in this paper includes the accounting change imposed by Statement of Financial Accounting Standards (SFAS) 141, which has been hypothesized to affect the willingness of firms to offer control premiums. However, the empirical evidence on the tax explanation of acquisitions is not compelling. A few academic studies have analyzed the impact of tax incentives for mergers but find little support for the hypothesis that tax changes have a significant effect on takeover activity. Romano's (1992) review of the literature on tax incentives for mergers and a related study by Breen (1987) found little evidence that tax policy affected the pattern of acquisitions. Even the tax effect of the *Tax Reform Act of 1986* was solely reflected in the timing of acquisitions, but not in the long-run number of mergers. Furthermore, tax advantages can be exploited without the necessity of undertaking an acquisition (Gilson et al., 1988; Andrade et al., 2001b). Consequently, the tax explanation of acquisitions and the effects of tax law and accounting changes (e.g., SFAS 141) may or may not be significant. As U.S.-based acquiring firms predominate in the sample, further

analysis of this exogenous event was conducted. I hypothesized that the control premium decreases after SFAS 141 due to the restriction of accounting for the transaction with the purchase method. This was not supported. Rather, my results confirmed previous research on the immunity of M&A activity to exogenous events such as changes to the federal tax law.

3.4 Post Hoc Analysis: Tests for Industry Differences

My original research question focused on the impact of the location of target firm operations on the relative level of acquisition control premiums. However, once the results from the second hypothesis did not support the expectations drawn from existing literature, I decided to explore whether the industry classification of the acquiring firm impacts the relative levels of control premiums.

I used multiple regression analysis to test the effects of industry. Regressions were run at the 2-digit and 3-digit hierarchical North American Industry Classification System (NAICS) classification level. The results show that for all industry classifications, except one, the levels of control premiums were not significantly different. The banking and financial intermediary industry (i.e., NAICS 522—Credit Intermediation and Related Activities) is the anomaly. The difference in control premiums is significant at $p < 0.05$ but in the opposite direction hypothesized. As stated above, my hypothesis implies that the relative level of acquisition premiums should increase with the existence of home bias. Therefore, I expect the coefficients of the domestic target industry variables to be positive. These results are presented in Figure 5.

4. DISCUSSION AND CONCLUSION

4.1 Contributions

First, I provide evidence of home bias in the foreign direct investment decisions of acquiring firms in M&A activities. Important inferences pertaining to the issue of capital market integration and segmentation can be drawn from the behaviour of cross-border acquisitions documented in this study. As indicated in my results, target firm location impacts the control premiums offered in acquisition transactions. 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 control premium. 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 created in a merger or acquisition. The financial economics perspective states that the total economic value and its partitioning between acquirer and target are determined by market characteristics. While the two have different frames of reference and emphasize different determinants, they do not address the question of market integration or the influence of location—national, cultural or geographic.

Figure 5 Regression Results by Industry

NAICS Code	NAICS Title	Coefficient (*t*-statistic)
11	Agriculture, Forestry, Fishing and Hunting	-.351 (-.729)
21	Mining	-.175 (-1.522)
22	Utilities	.120 (1.049)
23	Construction	-.046 (-.130)
31	Food Manufacturing	-.212 (-1.530)
32	Non-Metallic Manufacturing	.079 (.930)
33	Primary Manufacturing	-.092 (-1.874)
42	Wholesale Trade	-.065 (-.341)
44-45	Retail Trade	-.079 (-.765)
48-49	Transportation and Warehousing	.176 (.651)
51	Information	.067 (.842)
52	Finance and Insurance	-.065 (-2.197)*
522	Credit Intermediation and Related Activities	-.077 (-2.373)*
5221	Depository Credit Intermediation	-.070 (-2.124)*
5222	Nondepository Credit Intermediation	-.459 (-2.538)*
5223	Activities Related to Credit Intermediation	-.220 (-1.386)
53	Real Estate and Rental and Leasing	.328 (1.723)
54	Professional, Scientific, and Technical Services	.170 (1.699)
56	Administrative and Support and Waste Management and Remediation Services	.902 (1.674)
61	Educational Services	-.050 (-.152)
62	Health Care and Social Assistance	-.105 (-.523)
71	Arts, Entertainment, and Recreation	.419 (.488)
72	Accommodation and Food Services	-.024 (-.107)

* Denotes significance at the 5% level.

Second, my results confirm and extend previous research on the immunity and resilience of the level of acquisition activity to exogenous events. SFAS 141 did not impact the control premiums offered in acquisition (change-of-control) transactions. Several efforts were made to discourage takeovers through the U.S. federal income tax laws in the late 1980s but these did not affect the long-run level of acquisition activity. In this study, the accounting changes contained in SFAS 141 showed no effect in the levels of control premiums offered in acquisitions for the period 1998 through 2006.

Finally, this study used control premium data from January 1998 through December 2006 from the Mergerstat/Control Premium database. The data covers 4,855 completed transactions of public company takeovers. The purpose of this database is to aid analysts in pricing and structuring M&A transactions. The idea behind using transaction databases like this is to relate the price paid in other transactions to the transaction under consideration. To the best of my knowledge, this database has not been analyzed by the method described in this study—a comparison of the relative acquisition premiums paid for domestic acquisitions, acquisitions of foreign firms that have subsidiaries or operations in the acquirer's home market and acquisitions of foreign firms without a presence in the acquirer's home market.

4.2 Practical and Policy Implications

Mergers and acquisitions form a complex market and the complexity is increasing. *Practitioners* need to consider the many factors that influence M&A transactions. Awareness of their own, and others', behaviours, may enable the development of better acquisition strategies. Equally as important as this environment is to the practitioner, the observable home bias in M&A deals is relevant for judging the achieved degree of integration of capital markets. Knowing the determinants of acquisition behaviour may help *policymakers* enhance the effectiveness of investment-related trade measures and especially domestic anti-trust (e.g., merger) policies.

4.3 Limitations and Future Research

Although I did not find any significant correlation between control premiums and target market value, target size, deal value, deal size and earnings, other moderating variables may exist. Variables to consider can include consideration (method of payment), attitude (friendly, neutral or hostile), form of the acquisition (acquisition, tender offer, Management Buyout (MBO), going private) and purpose (conglomerate, financial, vertical or horizontal). For instance, my post hoc analysis of industry sector suggests that control premiums in the banking industry may be trending upward over the sample period. Over the last several decades, the deregulation movement in the U.S. has removed many of the competitive restraints in the banking industry (Streeter, 2006). In doing so, it has established conditions for a substantial intensification of competition. Future research may examine the relationship of control premiums, bank merger policy, the impact of merger policy on banking structure and competitive issues that are raised as a result.

Future studies can extend this research in additional ways. Previous studies have been classified into three broad categories: segmented markets, integrated markets and partially segmented markets (Bekaert and Harvey, 1995). The disadvantage of these studies is that the degree of segmentation is fixed through time. This runs counter to the intuition that some markets have become more integrated through time. Future research can utilize a methodology that allows one to examine whether the degree of market integration has changed through time.

While my research did not find a significant difference in control premiums between the two periods of pre- and post-SFAS 141, many relevant refinements and extensions beckon. For example, evidence was found of a greater volatility in control premiums after SFAS 141 implementation. Perhaps different interpretations of the meaning of SFAS 141 and its contemporaneous standard, SFAS 142, can generate hypotheses to explain this phenomenon.

4.4 Conclusions

I empirically investigated the impact of target firm location on the willingness of an acquiring firm to offer a premium for a controlling acquisition of a target firm. By doing so, I obtained evidence of home bias in M&A activities and, therefore, a lack of evidence of market integration. Therefore the Mergerstat/Control Premium Study data provide support for my theoretical arguments that home bias may account for the relative differences of control premium offerings, confirming my first hypothesis in the research model. Lack of support for my second hypothesis—that statistically significant differences among the relative acquisition premiums, controlling for factors that are identified in previous studies and have the theoretical support to be associated with acquisition premiums, would be a negative indicator of financial market integration—and no evidence of a change in a firm's willingness to pay a control premium after SFAS 141 implementation, demonstrates the need to consider specific dimensions, like synergy gains, reduction in agency costs and even value-maximizing expropriation, in explaining M&A strategies. A variety of arguments concerning the causes of M&A transactions remain to be investigated. These motivations may be particularly important for practitioners and policymakers.

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2

MERGERS AND AQUISITIONS TRENDS IN CANADA

by Jim Osler
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Bankers have taken on the role of the villains in the financial crisis of 2008, and perhaps rightfully so in some cases. There were definitely excesses through the last cycle, and transactions that, in retrospect, appear to have been based on pretty shaky logic. Activity, at least up until a few months ago, seemed to be grinding to a halt, so it certainly has left time to reflect on what has happened and what the future might hold for the mergers and acquisitions (M&A) industry. I would like to touch on three questions regarding M&A as it is conducted today. First, in the broadest sense, is M&A activity something that should be encouraged, or, as some critics seem to conclude, an activity that is more often than not detrimental to corporate wealth creation efforts? I have an obvious axe to grind here, but I would like to make a brief defence of M&A as an activity that is integral to a healthy economy. Second, what are the historical drivers of M&A, and where are they headed? Third, what does this mean on the ground for clients and advisors? What should we expect going forward?

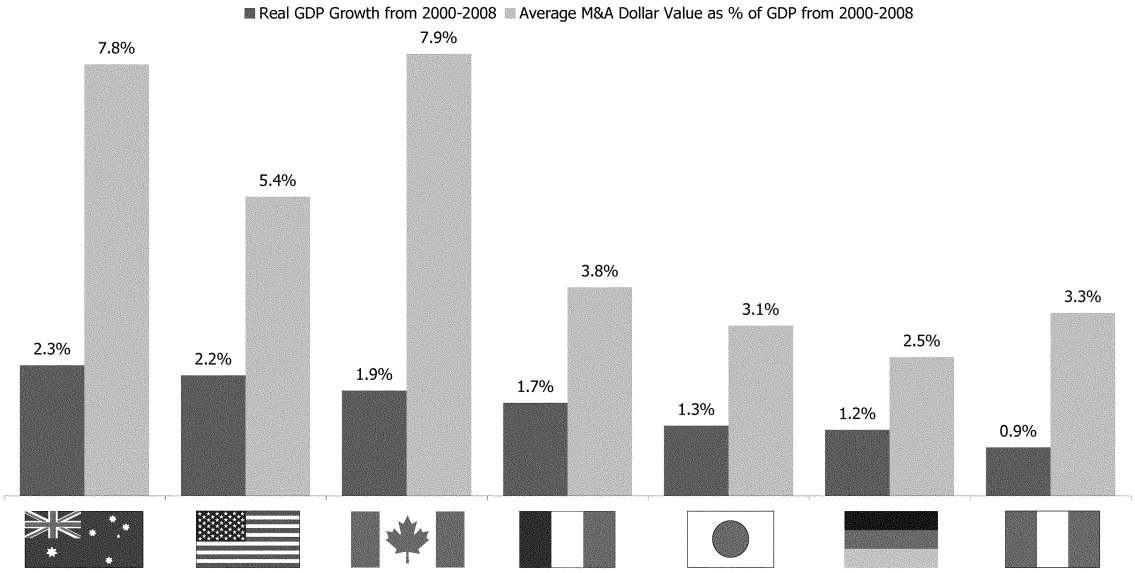
1. DOES M&A BENEFIT THE ECONOMY?

There have been a number of consulting studies that have concluded that M&A activity creates little value or can be detrimental to wealth creation. I do not claim to have done a thorough critique of these studies, but my sense is that they fall short in a few respects:

1. they focus on periods of intense M&A activity when admittedly there may have been a bubble mentality with all of the shortcomings experienced in any other bubble market;
2. they focus on the buyside, and do not necessarily give credit to the value created for the economy as a whole of moving capital to the areas of greatest economic returns; and
3. they use a control set with a successor bias built into it. By this I mean there is a complaint that if a company underperforms it gets linked back to doing a "bad deal"; but often it is not always clear that it had as much to do with the company they bought as with the state that their existing business was in that may have pushed them to look at M&A in the first place.

While M&A can be highly disruptive if not well planned or integrated, it is rarely a zero sum game or, worse, a case in which the sum of the parts is greater than the whole (see Figure 1). Usually, there are real synergies arising from transactions that will create value for somebody. Whether this value is fairly divided between the buyer and the seller depends on their relative bargaining power and the care with which the transaction is negotiated and due diligence is performed.

Figure 1 M&A and the Economy



Source: Bloomberg, CapitalQ

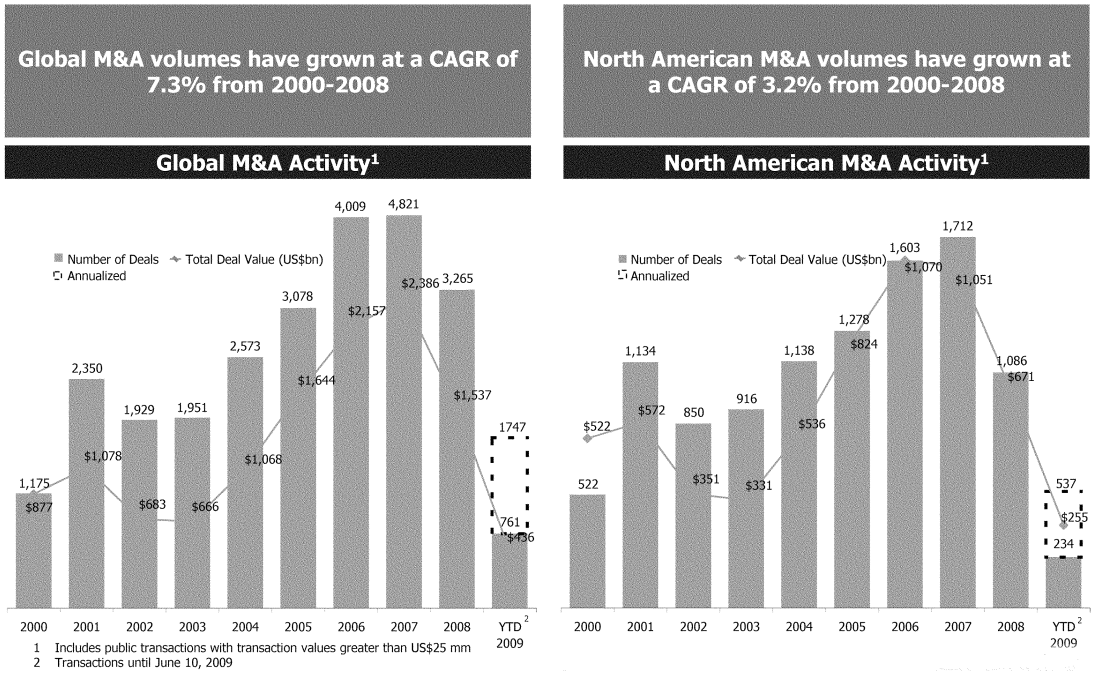
M&A is the natural lubricant that moves capital from older and less productive industries into growth-oriented opportunities. When a mature business is bought out, the buyers can often offer attractive values because they, in turn, will benefit from the rationalization of their industry. For the sellers, the capital does not disappear, but tends to get reinvested in younger, growing businesses that can benefit from the turnover of capital. You frequently see this in the resource sector where the capital gets reinvested in new properties that become developed and turn into attractive targets, thus beginning the cycle over again.

M&A is usually undertaken for broader strategic reasons such as larger market penetration, expanded geographic scope or greater economic clout and capabilities that allow companies to be more productive and effective. It is rarely driven purely by near term costs savings. However, the threat of M&A does put a discipline on public company management. If management cannot find ways to run its business efficiently it runs the risk of being replaced. Capitalism is the financial form of Darwin's premise of "the survival of the fittest," and M&A is one of the forces of nature that facilitates the movement of capital resources from the weaker players to those where economic returns and productivity can be optimized.

2. BROAD TRENDS IN M&A

Global M&A activity has been on a fairly continuous climb. Although activity has slumped in the past 18 months (see Figure 2), you can see the trend has been upwards, sloping across most major markets for the past decade.

Figure 2 M&A Activity



Source: Bloomberg

Over this period there have been a number of broad trends driving higher levels of M&A activity:

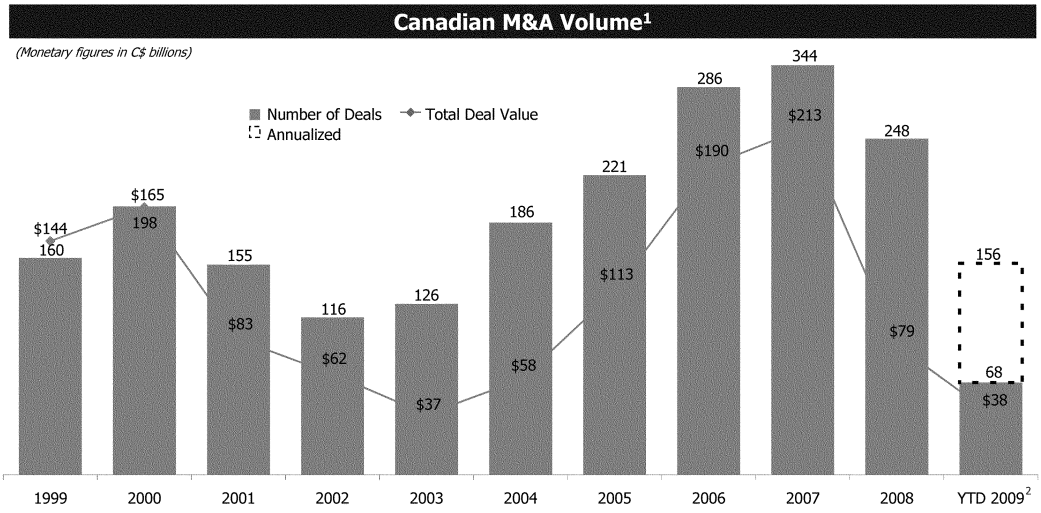
1. globalization of trade and access to markets;
2. increased access to financing;
3. deregulation, or the freeing up of the economy to the private sector;
4. demographics and a trend towards monetization of entrepreneurial businesses and
5. technology and the shortening of the life cycle of products and businesses.

These forces have built a reinforcing cycle supporting increasing levels of M&A activity over at least the past decade. However, it is not clear that these drivers of M&A activity will continue.

Focusing on Canada now in Figure 3, one can make the following observations: (1) activity has been growing in Canada as in most of the rest of the world; (2) M&A activity is clearly cyclical—it generally tracks the equities market over time and (3) we appear to be in a down cycle as 2009 is off to a weak start. Deal values and volumes were very weak in the first five months of the year. While there are signs that the second half of the year could be stronger, and over time one would expect the same broad drivers of M&A to reassert themselves, the underlying drivers of M&A activity will face significant challenges.

Figure 3 Canadian M&A Volume Declines

- Deal volumes have declined due to economic uncertainty and a very challenging credit environment



1 Includes public transactions with Canadian involvement and transaction values greater than C$25 mm
2 Transactions until June 10, 2009

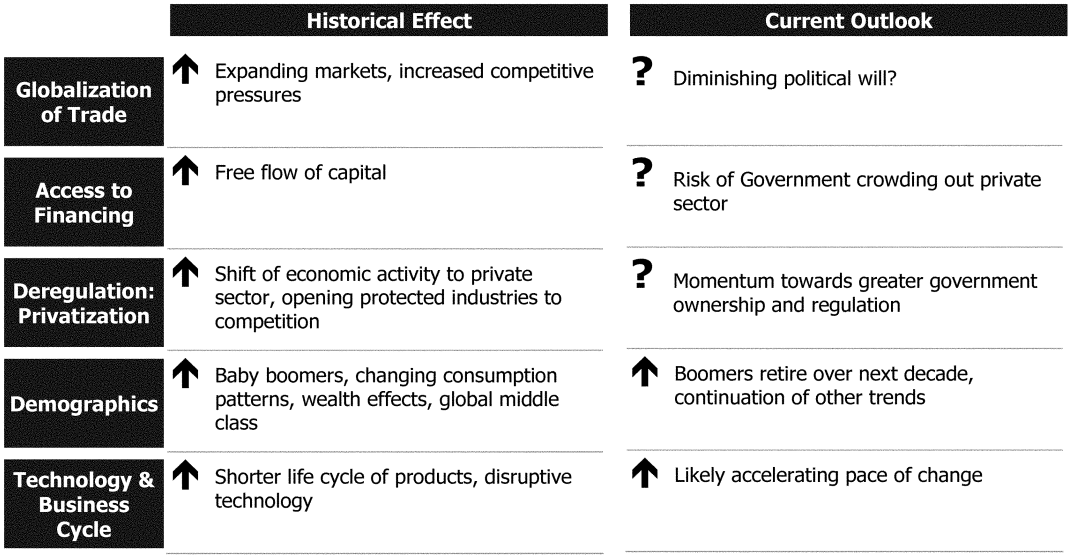
Source: Thomson Bloomberg

2.1 Globalization

Globalization has been a great driver of M&A activity historically (see Figure 4). Approximately half of the deal flow I have worked on over the past decade has had a cross-border element to it. Capital formation, particularly in the U.S., but also increasingly in Europe and Asia, has been deployed into Canadian markets and vice versa. At Genuity, we have seen our clients following their customers and trading patterns into markets around the world. The U.S. has always been the predominant cross-border partner for Canadian companies, but in recent years we have worked on combinations of companies with interests in China, India, Brazil and the U.K. Most recently, we have been working with Viterra, Canada's largest publicly listed grain company, in pursuing a combination with one of Australia's largest grain companies. Likewise, another client of ours, Alliance Grain Traders Income Fund, recently purchased a Turkish company to roughly double its size.

However, as far as globalization goes, there are reasons to be concerned that the political will to open up trade is in retreat. The financial crisis of 2008 has challenged many of the tenets of a free market movement, which had enjoyed increasingly open borders and trade since the fall of the Soviet Union. For many years now, business models of Canadian companies based on an open border with the U.S. have been facing various basic logistical challenges. In addition, new protectionist barriers are being erected today in the form of "Buy America" programs and currency devaluation. In a world economy of higher oil prices, transportation costs add further impediments to the free flow of goods and services. (See Figure 4.)

Figure 4 Broad Drivers of M&A Activity



2.2 Deregulation and Privatization

Although public sector employment in the economy in Canada and the U.S. has remained fairly stable over the past 20 years, there has been a significant amount of deregulation of the economy in the financial, railway and telecommunications sectors, among others. In Canada, over the past 25 years, successive governments have shown increasing openness to foreign investment into Canada, while governments have also quietly exited a number of businesses and industries. At Genuity we sold the Teranet assets for the Ontario government and Telecom Ottawa for the City of Ottawa in recent years.

However, just as meltdowns such as those of Enron and Worldcom spawned a crackdown on financial reporting—that have had questionable benefits—so too has the financial crisis stirred strong interest in re-regulation of the financial sector globally while governments are taking increasingly large ownership roles in the economy such as we saw last fall with the bailouts in the financial and auto sector. I think in the long run governments will realize that they have gone too far and that may in fact drive more M&A activity as they unwind their holdings; but in the short run this means more government intervention in the economy, and an unwillingness by the private sector to compete with governments. Further, it could mean that political interests rather than economic benefits drive decisions.

2.3 Demographics

As the first wave of baby boomers begin retirement in the coming decade, with them will go a wave of entrepreneurs looking at succession plans for their businesses. These succession plans may involve M&A, as well as pools of capital forming with increasingly shorter investment time frames, lower appetite for risk and a higher income orientation. Pension funds will stop growing and begin facing reductions in their holdings, which, in turn, may push pension funds into a larger weighting in shorter term and more liquid investments. This could be one of the most interesting and challenging effects, as the ability to secure longer-term capital to finance enterprises becomes increasingly challenging. It was, after all, the banking system's dependence on very short-term money in the form of deposits, overnight repos and commercial paper to finance long-term assets like mortgages and commercial real estate that led to the financial crisis in the first place. If there is going to be a permanent shortage of longer term

financing going forward, we are either facing more instability or significant premium expectations for "patient capital."

2.4 Technology and Business Cycle

No company lasts forever or can ride the success of a single product, as exemplified by the North American auto, airlines and department store industries, to name just a few. However, the pace of innovation, the pace at which products become obsolete and the pace at which companies must adapt seems to be increasing. Communications technology has allowed Wal-Mart to create sophisticated global logistics systems and Amazon.com to disintermediate the retail channel while conventional retailers have gone out of business. However, even many of the new industrial giants are struggling to maintain a competitive position. For example, much of the consumer sector and most of the major cell phone companies have partnered and sold or ceded production to Asian manufacturers (as IBM did with their PC division). Companies like Thompson Corp have used M&A successfully to reposition themselves from old declining industries, like newspapers, into newer growth industries like information services. Others have followed consolidation opportunities to grow in an otherwise stagnating market, often the favourite strategy for private equity because of the low valuations and high cash flows of these types of businesses.

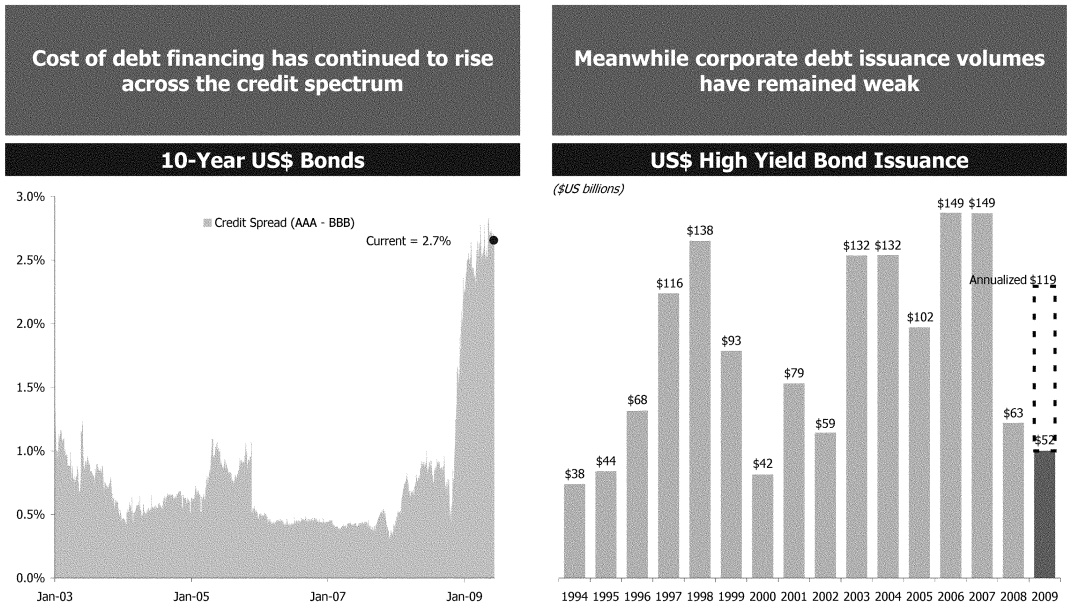
2.5 Financing

M&A activity has benefited from an almost unbroken reinforcing cycle for almost two decades due to declining interest rates, appreciating assets, increased affordability and access to financing. However, it appears likely that this cycle is about to reverse as inflation pressures build and access to capital diminishes with an unhealthy combination of government deficits, commodity price pressures, and declining asset affordability. The risk premium of investing across virtually all asset classes has gone up, as the vulnerability of the financial system has been exposed. The structural deficits of governments can be expected to crowd out access to capital in the corporate sector in these markets through larger levels of borrowing, higher interest rates and increased taxation.

If one looks at the debt markets (see Figure 5), one can see a clear explosion in the near-term cost of financing with credit spreads at dramatically higher levels. This, in turn, has the effect of slowing down financing activity. Given how low interest rates are, the all-in rates can still be attractive where financing is available; however, if we are moving to a world of higher interest rates—as seems likely as inflation pressures will inevitably cause the central banks to raise rates above the current near zero levels—we run the risk of slipping into a reinforcing cycle where higher rates cause higher defaults and more difficult financing.

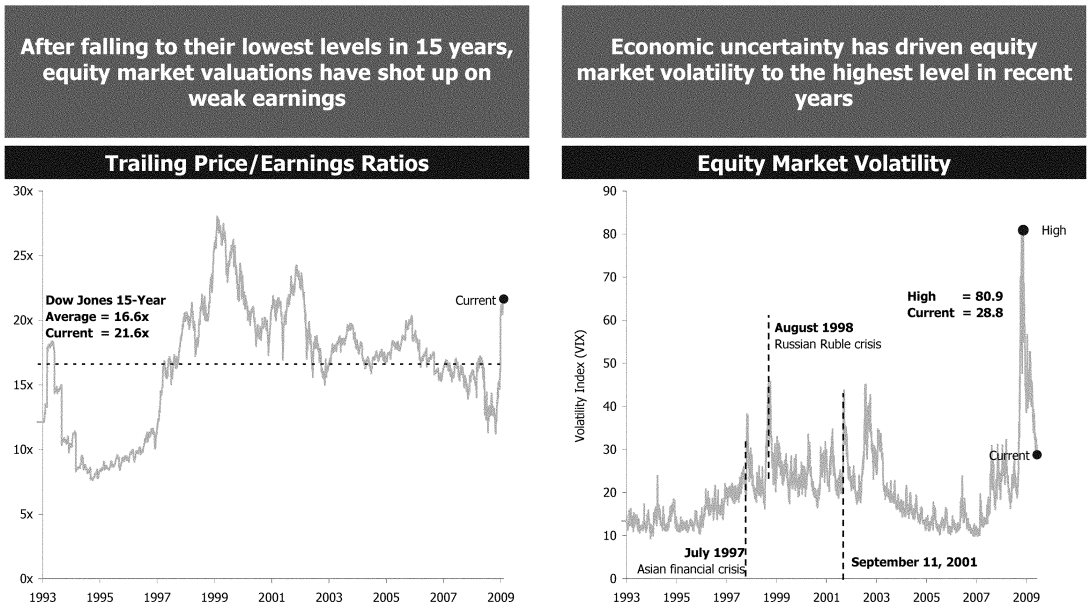
Similarly, the trend in equity valuations has been towards lower valuations ever since the tech meltdown, before which time we were working off the 2000 bubble (see Figure 6). The Chicago Stock Exchange (VIX) index measuring equity volatility has been at historic highs, which means that the markets are having unprecedented difficulty assessing value. Neither of these effects help M&A activity, however. For people to enter into deals there has to be some value stability and there is reluctance to transact in a volatile market. A case in point is what happened to Bank of America or Teck-Cominco as a result of dealmaking in what appeared to be favourable market conditions; conditions that later revealed downsides far more serious than initially anticipated.

Figure 5 Debt Market Conditions



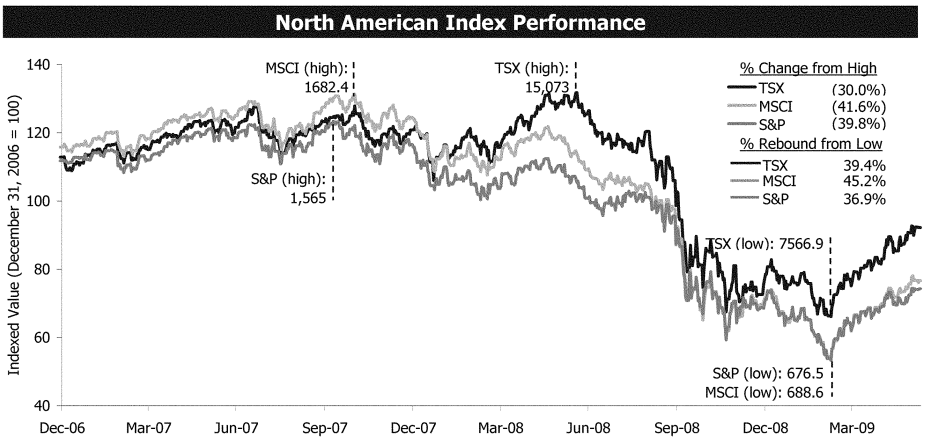
Source: Bloomberg

Figure 6 Equity Market Valuations



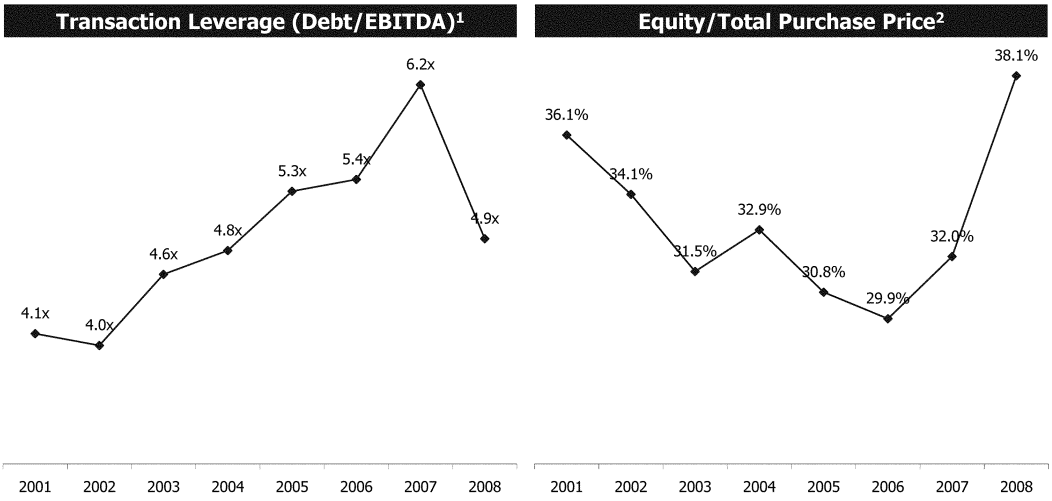
Source: Bloomberg

Figure 7 Stock Market Performance



Source: Bloomberg

Figure 8 Private Equity Leverage

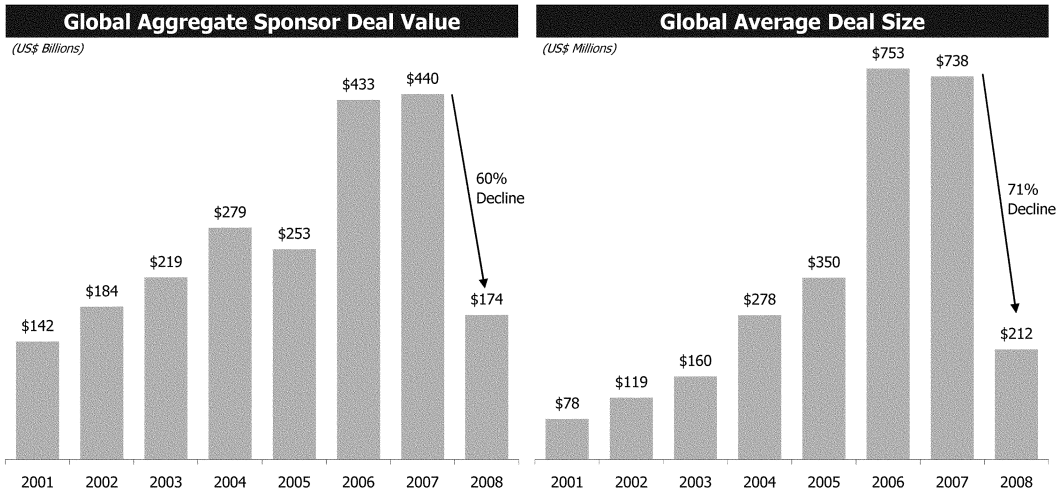


1 S&P LCD, leverage date for all U.S. LBO's w/EBITDA greater than US$50 mm
2 S&P LCD, equity data for all U.S. LBO's with total sources greater than US$1 bn

Private equity is a proxy for the many large pools of capital that have been spilling across borders as a result of an increasingly global financial market. Prior to 2006/7 there was an abundance of capital, which translated into a willingness to pay high valuations (see Figure 7). Leverage levels are also clearly coming down as Debt to EBITDA on deals we are seeing right now are rarely above 3.0x (see Figure 8).

The result (see Figure 9) is that where financial sponsor activity had been increasing 50% or more per year over the past decade, today private equity is generally scarcer and sees risk in smaller deals.

Figure 9 Private Equity Activity



Source: Dealogic

So to summarize:

- financing is way down as capital formation has swung from abundance to scarcity;
- risk premiums are way up as uncertainty and the reversal of often 20 year trends are causing the limited capital to seek high returns and
- M&A activity is probably facing as great headwinds today as it has at any point in the past few decades.

3. WHAT DOES THIS MEAN FOR THE OUTLOOK OF M&A?

Uncertainty means buyers and sellers are being extremely cautious and anything to reduce uncertainty, in turn, will reduce the costs of transacting in this market. Thus, there are probably three broad trends that will emerge if the risk premium of transacting remains high. First, this market will likely favour smaller deals where the risk of failure is inherently lower, and the difficulty in financing is less of an issue. Second, auctions may be less prevalent as the challenges of this market require that buyers take more time in due diligence, and need more flexibility in many cases than a conventional auction allows. Third, cash is king (again) as the ability to attract financing will be critical to getting a deal done, and a real differentiator in any sort of competitive situation.

There were a number of failed deals in Q4 of 2008 and Q1 of 2009, with Bell Canada Enterprises (BCE) being the most notable in Canada. In this environment the trend again points to the certainty of the deal being worth more than the price. The flip side is there will generally be less time pressure to complete a deal. As a consequence, this means more time for diligence, to line up financing and to understand the deal dynamics properly than may have existed in the past. In 2007, showing up with a bid at a premium valuation might have just started an auction that someone else might win. Today, however, it is more likely to lead to a transaction.

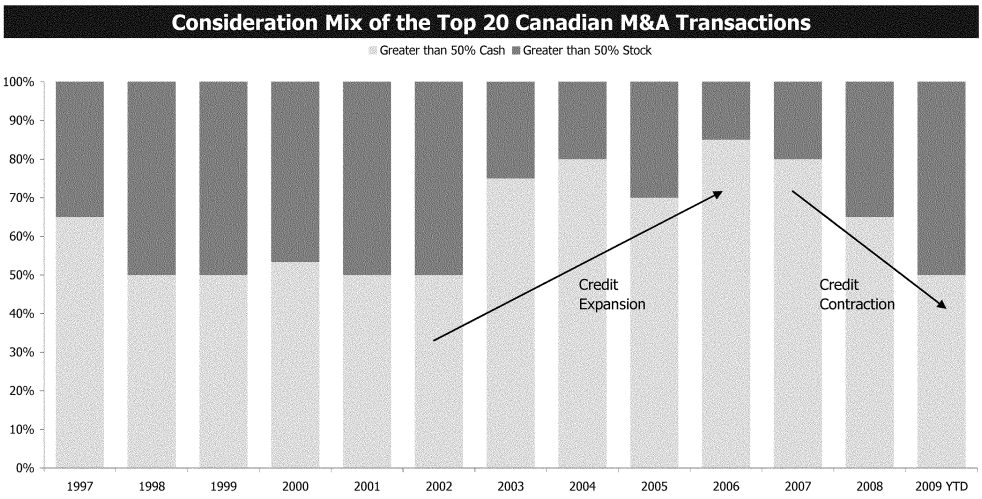
In the late 1990s, when technology stocks were flying high, deals were done using paper with big notional valuations. With the rapid loosening of credit over the last cycle, cash was king again. You can see how, despite weak share prices, the inability to get credit is pushing companies back into mostly share deals. This suggests the balance of power is shifting more to the buyers that can dictate terms. See Figure 10.

Notwithstanding "bargain" valuations available today, buyers are not going hostile as hostiles usually need a large cash component to be successful; an inability to complete due diligence and secure financing is a limiting factor (see Figure 11).

What does all this mean for M&A? The income trust sector is a bit of a bell-weather for the small- to mid-cap market (see Figure 12). After the October 31, 2006, change in trust laws, valuations traded off about 15 percent and 4-6 months after that there was a wave of M&A activity fed by robust financing markets and the ability to pay big premiums. In the summer of 2008, valuations fell again. Four to six months later, activity started to pick up briefly but was curtailed by the dramatic sell-off in September of 2008.

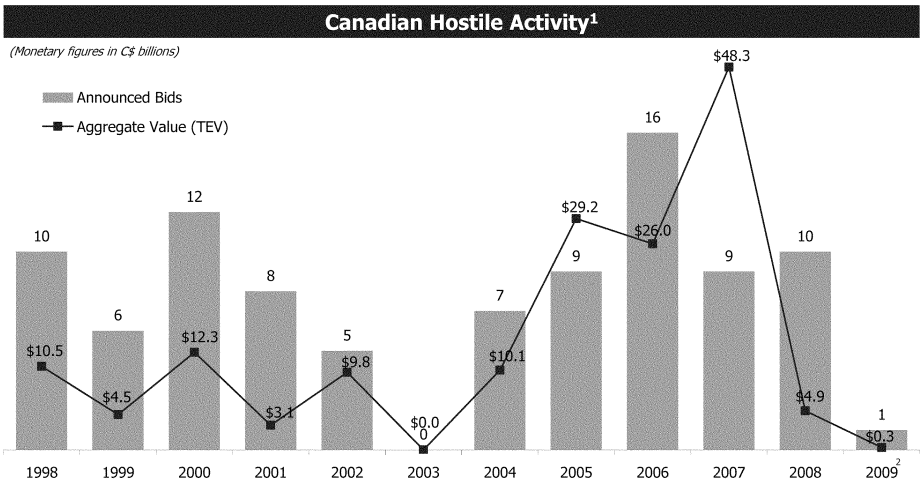
The long-term uptrend in M&A activity has seen a hiatus, but will eventually resume with the broader equity and credit market recovery and stability. We have already started to see this pattern and, if it is sustained, M&A activity will pick up, particularly in the small- to mid-cap markets. So, on an optimistic note, while many companies may regret deals done at the height of the bubble, acquisitions at this stage in the market are likely to pay big dividends in the long run as the targets have weathered the toughest market conditions and are available on reasonable terms.

Figure 10 Transaction Activity – Top 20 Deals



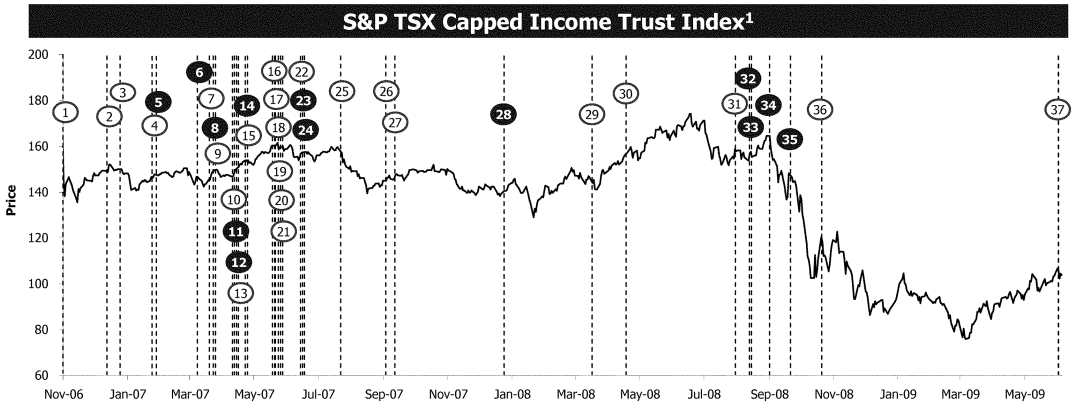
Source: Bloomberg, June 10, 2009

Figure 11 Hostile Activity



1 Includes only hostile transactions with offer values greater than C$100mm and in which targets are Canadian entities
2 Year to date - Includes pending deals

Figure 12 Trust Index Performance and Income Trust Events

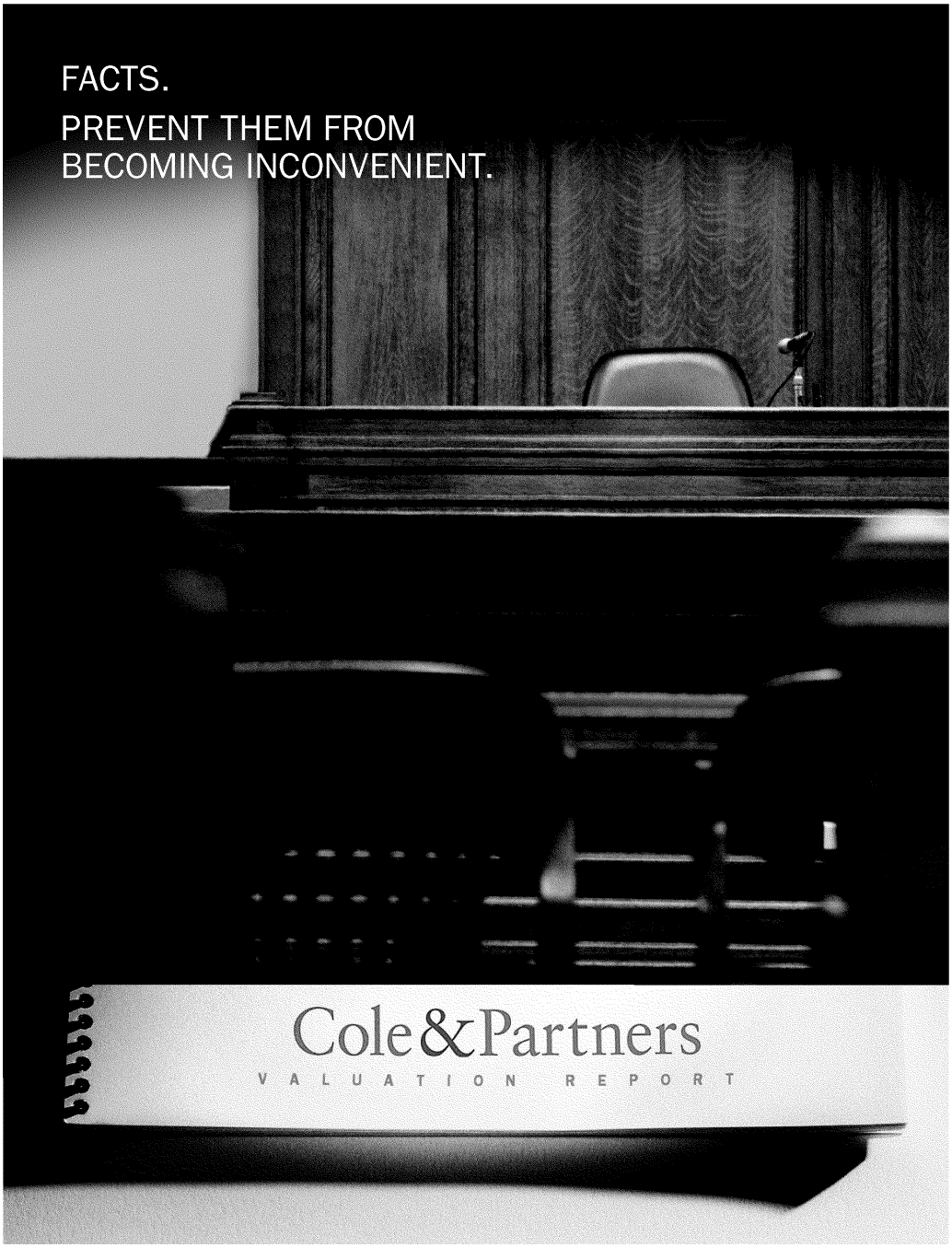


Income Trusts Announcing Sale

1 Halterm	6 Associated Brands	11 Voxcom	16 Stephenson's	21 Osprey Media	26 Spinrite	31 Fording	36 OFI
2 Calpine Power	7 Great Lakes Carbon	12 UE Waterheater	17 Liquor Barn	22 Countryside	27 Oceanex	32 ATS Andlauer	37 Resolve Business Outsourcing
3 Lakeport Brewing	8 KCP	13 Amtelecom	18 CanWest MediaWorks	23 E.D. Smith	28 Medisys	33 Sleep Country	
4 Norcast	9 Gateway Casinos	14 Custom Direct	19 Versacold	24 Movie Distribution	29 Royal Utilities	34 Teranet	
5 Entertainment One	10 Clean Power	15 Canada Cartage	20 Arriscraft	25 Golf Town	30 Creststreet	35 Connors Bros.	

Genuity involvement

1 Excludes oil & gas income trusts


FACTS.
PREVENT THEM FROM
BECOMING INCONVENIENT.
Cole&Partners
VALUATION REPORT

3

THE INDEPENDENCE OF EXPERT WITNESSES

by Glenn Hainey
Gowling Lafleur Henderson LLP, Toronto

by Mark Crane
Gowling Lafleur Henderson LLP, Toronto

1. INTRODUCTION

All too frequently, experts view themselves as the alter ego of their clients and often lose sight of the fact that courts and tribunals require expert witnesses to demonstrate a sufficient level of independence and objectivity before they will be permitted to give expert opinion evidence.

Lord Wilberforce of the English House of Lords described this important requirement as follows:

> While some degree of consultation between experts and legal advisers is entirely proper, it is necessary that expert evidence presented to the court should be, and should be seen to be the independent product of the expert uninfluenced as to form or content by the exigencies of litigation.[1]

We have focused on four main areas relating to expert evidence.

1. We have summarized the requirements for the admissibility of expert evidence and have outlined a number of recommendations one should consider before agreeing to be retained as an expert witness.
2. We have attempted to provide some guidance concerning the appropriate relationship between an expert and legal counsel in order to preserve the credibility and independence of the expert witness.
3. We have reviewed a number of the recent trends in jurisprudence dealing with the credibility and independence of experts and have examined cases in which expert witnesses have been disqualified due to a lack of independence.
4. Finally, we have suggested a number of Do's and Don'ts for expert witnesses.

2. ADMISSIBILITY OF EXPERT EVIDENCE

The leading case dealing with the admissibility of expert evidence is the Supreme Court of Canada's decision in *R. v. Mohan.*[2] In *Mohan*, the Supreme Court reiterated that expert opinion evidence will only be admitted in circumstances where it is relevant, necessary, not subject to any exclusionary rule and given by a properly qualified expert.

1 Ruling of Justice Mandel, in *Aviaco International Leasing v. Boeing Canada Inc.* (2004) (Ont. S.C.).
2 [1994] S.C.J. No. 36 (*Mohan*).

Relevance is, of course, a threshold requirement for the admission of all evidence at trial, however, when it comes to expert opinion evidence the trial judge must be satisfied that the evidence is relevant to the matters in issue and that its prejudicial effect does not outweigh its probative value. Expert opinion evidence must also be necessary in the sense that it will provide the trier of fact with information that is outside the knowledge and experience of the trial judge or jury and is necessary to allow the trier of fact:

- to understand complex facts due to their technical nature and/or
- to form a correct judgment on the matter if ordinary persons are unlikely to do so without the assistance of persons with special knowledge in the area.

As with all other evidence, expert opinion evidence must also not run afoul of any exclusionary rules of evidence. For example, expert opinion evidence may be excluded by reason of the rule that prevents the Crown from adducing evidence of an accused's disposition to commit the crime charged unless the latter has placed his or her character in issue.

Finally, the expert witness must be properly qualified, which can be satisfied by demonstrating that he or she has acquired special or peculiar knowledge through study or experience with respect to the matters that the expert witness is to testify about.

2.1 The Retainer Agreement

- **Prior to entering into a retainer with counsel, an expert should be satisfied that what he/she is being asked to opine on is within the expert's area of expertise**

As most of you know from your own experience as expert witnesses, before you will be permitted to give your opinion at trial, you must first be qualified as an expert in a *voir dire*. Although opposing counsel will often admit that an expert is properly qualified, this will likely only occur where your opinion falls squarely within your area of expertise and you are considered to be independent and objective. It is therefore important that you establish with counsel who retains you exactly on which issue or issues you are being asked to give your opinion to ensure that you are, in fact, not being asked to venture outside your area of expertise and you must also ensure that you maintain your objectivity.

3. RELATIONSHIP BETWEEN EXPERT AND COUNSEL

As an expert witness, your relationship with counsel who retains you is most important. Experienced trial counsel will generally establish a relationship with you from the outset of your retainer that allows you to arrive at your opinion and prepare your expert's report in a manner that preserves your independence and impartiality. However, occasionally you will encounter legal counsel who, either through inexperience or overzealousness, attempts to improperly influence your opinion in a manner that may affect your credibility at trial. As experts you should be vigilant in resisting counsel who interfere with your independence as it will not only damage your credibility in the case at hand, but may well affect your reputation generally and impair your credibility in future cases in which you are retained to testify as an expert witness.

3.1 Preparation of Draft Reports and Input from Counsel

- **An expert's willingness to permit counsel to actively participate in preparing or amending a report may impact the weight assigned to the evidence and may affect its admissibility into evidence**

We recommend that you discuss with counsel at the very outset how your relationship will proceed and what role counsel expects to take in respect of the formulation of your opinion and preparation of your expert's report. In this regard, a decision of the Chief Justice of British Columbia when he was a trial judge in the case of *Vancouver*

Community College v. Phillips Barratt[3] is instructive. The case involved a claim for cost overruns in connection with a construction project. The plaintiff relied upon the opinion evidence of four expert witnesses, each of whom filed expert reports and also testified at trial. Justice Finch had the following to say about the primary expert witness's report:

> A principal problem with Mr. Atkins' evidence stems from the way in which his report. . . was prepared. Following his retainer in July 1986, his report was substantially revised on about ten different occasions. The re-writing of this report was done with considerable advice and commentary from counsel. . .
>
> I in no way wish to condemn the practice of an expert's editing or rewriting his own reports prepared for submission in evidence, or for that matter, prepared solely for the advice of counsel or litigants. Nor do I wish to condemn the practice of counsel consulting with his experts in the pre-trial process while "reports" are in the course of preparation. It is, however, of the utmost importance in both the rewriting and consultation processes referred to that the expert's independence, objectivity and integrity not be compromised. I have no doubt that in many cases these ends are achieved, and counsel and experts alike respect the essential boundaries concerning the extent to which a lawyer may properly discuss the expert's work product as it develops towards it final form.
>
> Regrettably, in this case, the boundaries were not observed. I will refer to some particular examples presently, but I cannot avoid saying that generally counsel participated far too much, and inappropriately in the preparation of Atkins' reports. Atkins willingly permitted such participation by counsel and seriously compromised the objectivity of his opinions. Counsel suggested, and Atkins agreed to, many additions and deletions to his report. These suggestions went far beyond statements concerning factual hypotheses, their evidentiary foundation, the definition of issues, or other matters on which counsel might properly have advised or commented. Rather, the suggestions went to the substance of Atkins' opinions and the way in which they were expressed. The suggested changes were all one way. . . .The reports and other documents he prepared have none of the objectivity or independence that the Court looks for in reliable opinion evidence. They really amount to nothing more, nor less, than arguments advanced on [the plaintiff's] behalf through the mouth of "an expert".

The trial judge ultimately concluded:

> In the end, I find Atkins' evidence both written and oral to be of no value whatever. It is so warped by the process of its creation, so one-sided and partisan, as to be completely devoid of any credibility. I have no confidence in anything that Atkins told me, either in writing or orally.

Needless to say, the plaintiff lost the case and Mr. Atkins' professional reputation as a credible expert witness suffered.

Obviously, as expert witnesses you want to avoid this type of finding by a court in respect of your credibility and you should therefore be cautious about the extent to which you allow legal counsel to actively participate in the formulation of your expert opinions. We would distinguish allowing counsel to be involved in the preparation of your report when it comes to the factual underpinning of your opinion as distinct from the actual formulation of the opinion itself. It is common, and quite proper, for legal counsel to have a good deal of input into the factual underpinnings of experts' opinions since it will be legal counsel who will have to establish those factual underpinnings by calling evidence at trial. However, when it comes to the actual formulation and articulation of your opinion, this is where it is essential to maintain your independence from legal counsel so as to ensure that the actual opinions you express are your own and not simply counsel's arguments delivered under the guise of "expert opinion evidence."

As mentioned earlier, most counsel with whom you will deal understand their role and will keep their distance in respect of the formulation and articulation of your opinion. However, to maintain your credibility as an expert witness, you should be prepared to tell an overly intrusive counsel to "back off" if need be. It is for this reason that it is a good practice to have a candid discussion with counsel at the very outset of the retainer to establish clear guidelines as to how your opinion and your report will be prepared and what counsel's role in the process will be.

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3 [1988] B.C.J. No. 710 (B.C. S.C.).

3.2 Two Experts

- **One strategic expert who can act as a confidential advisor to counsel**
- **One objective and independent expert to testify**

A practice has developed in certain cases of retaining two experts, one of whom will perform the role of a consulting expert and will be actively involved in an adversarial and strategic role with counsel. The second expert, who will prepare the expert report and testify at trial, will be kept at a distance in order to preserve his or her objectivity and impartiality. All discussions between counsel and the consulting expert will remain privileged and will not be subject to disclosure because the consulting expert will not testify at trial. The expert witness who will testify at trial will not participate in any of the strategic discussions between the consulting expert and counsel and will remain insulated and untainted from the adversarial role of the consulting expert. In highly complex and technical cases where counsel requires a good deal of strategic assistance from an expert, this is an approach that can work very well and essentially provides the best of both worlds. In appropriate cases you may wish to discuss this approach with counsel at the outset of your retainer.

3.3 Disclosure of Correspondence Between an Expert and Counsel

- **Assume that communications between an expert and counsel prior to the expert's report being finalized may be producible**

As an expert witness you should always proceed under the assumption that all of the contents of your file, including your correspondence with legal counsel, may have to be disclosed to the other side. Although your work product, including your communications with counsel, are initially privileged, once it is confirmed that you will be testifying at trial, your entire file, including your communications with counsel, may be made available to opposing counsel to review and you may be cross-examined on its contents. This is also true of your retainer agreement with counsel, which should be drafted in a manner that preserves your independence and impartiality.

Any notes you make during discussions with legal counsel or the client are also producible and you may be cross-examined on those as well. All drafts of your report may be ordered to be produced and you may be cross-examined on why you made certain changes to your draft reports. It is for this reason that you should not reduce your opinions to writing until you have fully developed your thoughts and have discussed them with legal counsel. It is my practice to always caution expert witnesses not to prepare any draft reports of their opinions until I have thoroughly discussed their opinions with them and I am satisfied that they fully understand the factual underpinnings and all of the relevant evidence and we have reviewed orally what their report will contain. Another source of information regarding your work product that has recently been ordered produced are your time dockets. In the *Alfano* case, which we will discuss below, the court ordered the expert's time dockets produced and this led to the production of over 300 e-mails between the expert and counsel that demonstrated the expert's lack of objectivity and independence.

So, the bottom line is assume everything you record regarding your retainer as an expert witness may be produced and you may be cross-examined on it to demonstrate your lack of independence and objectivity.

4. TRENDS IN JURISPRUDENCE

A number of recent decisions in which the issues of qualifications, independence and objectivity of expert witnesses have been considered are highlighted below.

4.1 Witness Disqualified as Expert

The first case we want to deal with is the decision of Justice Todd Ducharme of the Ontario Superior Court in the *Dulong v. Merrill Lynch Canada Inc*.[4] In this case, the issue revolved around whether the proposed expert witness, who was a lawyer who had practised securities law for 15 years, was properly qualified to give evidence as to the standards and practices of the retail stock brokerage industry.

The case involved an action to recover stock market losses suffered by the plaintiff that were alleged to have resulted from the advice given by two of Merrill Lynch's retail investment advisors. In determining whether the lawyer qualified as an expert witness, Justice Ducharme applied the *Mohan* four-part test. However, before embarking upon his analysis of the admissibility of the proposed expert evidence, he expressed concern regarding the recent trend whereby courts admit expert opinion evidence into evidence and then compensate for its questionable admissibility by attaching less weight to it. Justice Ducharme criticized this approach and said the following:

> There is no question that, in civil cases at least, the path of least resistance in matters such as these seems to be to admit the evidence and then compensate for any of its weaknesses by attaching less weight to the opinion. But such an approach is an abdication of the proper function of a trial judge and was explicitly rejected by Binnie J. in *R. v. J.-L.J.*, 2000 SCC 51:
>
> > The Court has emphasized that the trial judge should take seriously the role of "gatekeeper". The admissibility of the expert evidence should be scrutinized at the time it is proffered, and not allowed too easy an entry on the basis that all of the frailties could go at the end of the day to weight rather than admissibility.

It is clear that our courts have become more proactive in exercising a gatekeeper role and will generally not admit into evidence expert opinions that do not meet the stringent requirements articulated by the Supreme Court of Canada in *Mohan*. In evaluating whether the securities lawyer was a properly qualified expert witness, Justice Ducharme quoted from Justice Charron of the Ontario Court of Appeal:[5]

> The evidence must be given by a witness who is shown to have acquired special or peculiar knowledge through study or experience in respect of the matters on which he or she undertakes to testify. . .
>
> Opinion evidence can only be of assistance to the extent that the witness has acquired special knowledge over the subject matter that the average trier of fact does not already have. If the witness's "special" or "peculiar" knowledge on a subject matter is minimal, he or she should not be qualified as an expert with respect to that subject.

Justice Ducharme ultimately concluded that the securities lawyer was "not qualified to testify as to the standards and practices of the retail broker industry. . ." because "he does not have the requisite 'special' or 'peculiar' knowledge about the retail brokerage industry to qualify him for the purpose for which he was tendered. . ." This decision highlights how courts will adopt a gatekeeper role and will not admit expert opinion evidence unless the expert can be demonstrated to possess special or peculiar knowledge that is beyond the knowledge of the trier of fact and is essential to an issue within the trial.

The next case for review is a recent decision, rendered in March 2009 by Justice Ellen Macdonald of the Ontario Superior Court, in the case of *Alfano (Trustee of) v. Piersanti.*[6]

In *Alfano*, the impartiality and independence of the defendant's expert witness had been challenged on a *voir dire* notwithstanding that both parties acknowledged that the expert in question was very experienced and qualified to give expert opinion evidence in respect of the matters in issue. In order to assess the objectivity of the expert witness Justice Macdonald referred to the following test:

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4 (2006), 80 O.R. (3d) 378 (Ont. S.C.) (*Dulong*).
5 *R. v. A.K.* (1999), 137 C.C.C. (3d) 225 (S.C.C.).
6 [2009] O.J. No. 1224 (*Alfano*).

> . . .The Court expects objectivity on the part of the expert. In other words, he or she cannot "buy into" the theory of one side of the case to the exclusion of the other side. To do so, poses the danger that could taint the Court's understanding of the issues that must be decided with impartiality and fairness to both sides. The fundamental principle in cases involving qualifications of experts is that the expert, although retained by the clients, assists the court. If it becomes apparent that an expert has adhered to and promoted the theory of the case being advocated by either plaintiffs or defendants, he or she becomes less reliable and is not an expert in the way that the role has been defined in the recent and well-known jurisprudence.

Justice Macdonald concluded that the content of the e-mails exchanged between the expert and defence counsel (which she had ordered produced after having seen them referred to in the expert's time dockets) revealed that the expert had based his analysis of the defence's position on the theories advanced by defence counsel. In assessing the admissibility of the expert's evidence, she referred to the importance of the court acting as a gatekeeper with respect to the admissibility of expert evidence and ultimately concluded on the strength of the e-mail correspondence that the defendant's expert evidence was inadmissible. In arriving at this conclusion she stated:

> An expert should exercise extreme caution on analyzing the facts that support his or her client's position. In this *voir dire*, it was very apparent that Mr. AC [the defendant's expert] was committed to advancing the theory of the case of his client, thereby assuming the role of an advocate. The content of many of the e-mails exchanged between Mr. AC and Mr. Piersanti reveal that Mr. AC's role as an independent expert was very much secondary to the role of "someone who is trying to do their best for their client to counter the other side. . ." Mr. AC became a spokesman for Mr. and Mrs. Piersanti and, in doing so, did not complete independent verification of key issues in accordance with the standards that are expected of an expert. The key issues crucial to the determination of this case, if determined on the basis of Mr. AC's reports would be tainted by the lack of impartiality that is clearly apparent from the content of the e-mails.

Justice Macdonald's decision in the *Alfano* case highlights the increasing trend of our courts to be more vigilant in scrutinizing expert opinion evidence to ensure that it is not only tendered by qualified experts but that it also meets very high standards of independence and objectivity.

In October 2008, Justice Stephen Goudge released his report relating to the Inquiry into Pediatric Forensic Pathology in Ontario that examined the role that forensic pathologist, Dr. Charles Smith, had played in contributing to numerous miscarriages of justice, primarily in cases involving the death of a child. Commissioner Goudge's conclusions with respect to expert evidence strongly encourages judges to become more vigilant in adopting a proactive "gatekeeping" role in respect of the admissibility of expert evidence. This is what he had to say regarding the role of the court in assessing the admissibility of expert opinion evidence:

> Judges play an important role in protecting the legal system from the effects of flawed scientific evidence. Although this objective will be greatly assisted by the use of rigorous quality assurance processes in preparing expert opinions, by the integrity and candour of expert witnesses, and by vigorous testing of expert evidence by skilled and informed counsel, the judge must bear the heavy burden of being the ultimate gatekeeper in protecting the system from unreliable expert evidence. Such evidence can, as we have seen, contribute to the miscarriage of justice.

4.2 The Role of the Court as Gatekeeper

- **Paradigm shift to gatekeeper role**
- **Judges are becoming more vigilant in exercising their role as gatekeeper**
- **Defining the limits of expertise is one of the key parts of the trial judge's role as gatekeeper**

I fully expect as a result of cases such as *Dulong* and *Alfano* and the comments of Justice Goudge, that our courts will become increasingly more proactive in ensuring that only properly qualified, relevant and independent expert opinion evidence is admitted into evidence.

It is important to note that the requirement of independence not only applies to expert evidence tendered in court proceedings, but also in alternative dispute resolution proceedings such as arbitrations. In this regard, the

arbitrator's decision in the *CEP Atlantic Communications v. Bell Aliant Regional Communications Limited Partnership*,[7] case is instructive.

The arbitration involved a grievance under the Canadian Labour Code concerning the employees' stock savings plan and the employees' unit purchase plan. The arbitration was heard in January of 2009 in Halifax and one of the issues before the arbitrator was the admissibility of an expert's report by an expert retained by the Union. The arbitrator rejected the expert's report on the grounds of both relevance and lack of objectivity.

With respect to the issue of the report's relevance, the arbitrator stated in part:

> In the present case, the expert report which the Union seeks to put into evidence through its author, Dr. R, is a harsh critique of income trusts. . . .I further find that any probative value in the report is more than outweighed by the inordinate amount of time which would be spent pursuing the issues raised therein. Accordingly, I find that the report fails the threshold requirement of relevance as described in *R v. Mohan*.

The arbitrator then considered the objectivity of the proposed expert witness and concluded that his report crossed the line that separates opinion from advocacy and was therefore not admissible into evidence. In arriving at this conclusion, he stated in part:

> Even if the report satisfied the relevance test, it is objectionable on other grounds. It is trite law that an expert witness must demonstrate independence and objectivity. Likewise, the expert must not assume the role of advocate or express opinions on the very question that the adjudicator is being called upon to decide.

The last case is one in which I was personally involved as counsel representing the Boeing Company in *Aviaco International Leasing v. Boeing Canada Inc.*[8] The case involved a claim for damages for breach of contract and conspiracy arising from the proposed sale of a number of aircraft to an airline in the Bahamas. The plaintiff proposed to call an expert witness to establish the value of the business they claimed had been destroyed as a result of the breach of contract and conspiracy. I objected to the admissibility of the expert's evidence on the ground that his long-standing business relationship with the plaintiff made it impossible for him to be viewed as an independent expert witness. The principal of the plaintiff company, Aviaco, was a well-known businessman from Newfoundland by the name of Craig Dobbin. Mr. Dobbin was a long-time friend and supporter of the Honourable John Crosbie who had served for many years as a federal Cabinet Minister. The proposed expert witness, Robert Foster, had been a long-time business consultant to Mr. Dobbin and a very active political fundraiser for Mr. Crosbie.

Mr. Crosbie was called as a witness a week before the expert, Mr. Foster, was scheduled to testify. When I cross-examined Mr. Crosbie, I asked him a few questions to try to demonstrate that he had a close relationship with Mr. Foster. I suggested to him that he was a friend of Mr. Foster's and Mr. Crosbie, with his typical candour, said: "Oh, yes, he's a great friend of mine, in fact, I'm staying at his home here in Toronto while I am testifying this week." Of course when I got to cross-examine Mr. Foster the following week, I started out my cross-examination by saying: "Good morning Mr. Foster, I understand you had a famous houseguest staying at your home last week." This, of course, went a long way to demonstrate how closely aligned he was with the plaintiff's side of the law suit.

I should emphasize that I did not allege any actual bias on the part of Mr. Foster and acknowledged that he was a highly-qualified and knowledgeable expert but I simply relied on the very close and long-standing relationship he had with the plaintiff to disqualify him as an independent expert witness. In concluding that Mr. Foster could not be qualified as an expert witness, the trial judge, stated:

> Counsel for the defendants have made it abundantly clear that they do not attribute any biasness on the part of Mr. Foster or that he has in fact been influenced. . .

7 Preliminary Decision of Arbitrator, Bruce Outhouse, Q.C., January 20, 2009.

8 *Supra,* note 1.

> The defendants base their submissions solely on the ground of public policy that justice must be seen to be done and that a reasonable observer might think that the close relationship, association and friendship that Mr. Foster has with Craig Dobbin and the Dobbin family as well as his dealings with respect to Aviaco and the Dobbins are such that they are capable of affecting his views so as to make him unduly favourable to the plaintiffs.

Justice Mandel then went on to cite a judgment from the U.K. in which it was held:

> Where it is demonstrated that there exists a relationship between the proposed expert and the party calling him which a reasonable observer might think was capable of affecting the views of the expert so as to make him unduly favourable to the party, his evidence should not be admitted however unbiased the conclusions of the expert might probably be. The question is one of fact, namely the extent and nature of the relationship between the proposed witness and the party.

Justice Mandel found that a reasonable observer would not consider Mr. Foster to be sufficiently independent to be permitted to give expert opinion evidence and he rejected the plaintiff's counsel's submission that his lack of independence should only go to the weight of his evidence. In other words, Justice Mandel fulfilled his gatekeeper function and refused to admit the expert opinion evidence because of the appearance of a lack of independence. This was a severe blow to the plaintiffs as they were left with no independent evidence as to the value of the business.

5. THE SPECIAL ROLE OF EXPERTS

- **Conferring expert status on a witness is a very special privilege that requires those selected individuals to stay committed to independence and objectivity**

A final word on the special role of experts. It is important not to lose site of the fact that conferring expert status on a witness in a legal proceeding is a very special privilege that should not be taken for granted. Expert witnesses are entitled to give their opinions relating to important issues that cannot be easily understood by the trier of fact. This provides expert witnesses with a powerful platform to give evidence that will often materially affect the outcome of litigation. This in turn highlights the need for experts to remain objective and independent.

The expert witness profession has grown dramatically over the last few decades. It is rare today to be involved in any complex litigation that does not involve one or more expert witness opinions. It is of significance to note that the use of court-appointed experts appears to be a growing trend in Canada. The use of experts appointed not by the parties but by the court itself, was the practice centuries ago. It fell into disuse as the adversarial system developed and opposing parties engaged their own expert witnesses. The Ontario Rules of Civil Procedure now provide that a judge may appoint, on his or her own initiative, one or more independent experts to enquire into and report on any question of fact or opinion relevant to an issue in the action. The rule makes it clear that the role of the court-appointed expert will be that of a witness at trial, as opposed to an expert who sits with and advises the judge. In addition, many judges have adopted the practice of requiring opposing experts to meet with each other in order to more precisely define the issues in an effort to highlight for the court those areas in respect of which the experts agree and the precise issues in respect of which they disagree. We expect to see this trend develop further in an effort to improve the efficiency of the litigation process and to assist the court in complex cases.

The expert witness profession will undoubtedly continue to grow and in conjunction with that growth you can expect our courts and tribunals to continue to adopt a more proactive gatekeeping role in determining whether to admit expert opinion evidence. It is for this reason that we strongly encourage all of you to respect the very special status that is conferred upon you when you are engaged to appear as expert witnesses and that you remain committed to your independence and objectivity—the most important hallmarks of the professional expert witness.

6. DO'S AND DON'TS

6.1 Do's

- **Do expect an increasing number of challenges by opposing counsel to the admission of expert evidence, where there may be a lack of independence/objectivity, or where there may appear to be a lack of independence/objectivity**

Because of decisions such as Justice Macdonald's in *Alfano*, we expect legal counsel will become more aggressive in challenging the independence and objectivity of expert witnesses. Counsel will likely push harder for production of previous drafts of your expert's report, correspondence and other communications with counsel and even your time dockets in an effort to determine whether any of this material demonstrates a lack of objectivity on your part or an undue influence by legal counsel. Keep this in mind as you prepare your expert report and liaise with legal counsel.

- **Do expect the court to play a gatekeeper role in disallowing some expert evidence**

As can be seen from the cases we have reviewed, this trend is clearly increasing and it is unlikely that courts in the future will simply admit questionable expert evidence and compensate by attaching less weight to it. There will be more contested *voir dires* where your expertise and your independence will be challenged.

- **Do adopt an objective approach when analyzing the facts that support the client's position**

Your expert opinion is only as strong as the facts you have assumed for the purpose of your opinion. Accordingly, it is essential to ensure that counsel will be able to establish in evidence the factual underpinnings for your opinion. Certainly a strategy attempting to undermine an expert's opinion usually revolves around an attack on the factual underpinnings and the opposing party's inability to lay an appropriate evidentiary basis for the expert's opinion. Make sure counsel has carefully reviewed the facts you are assessing for the purpose of your opinion and confirmed there is evidence to support them.

- **Do assume that correspondence between the expert and counsel may be disclosed**

It has become routine for experts to be required to produce all communications with counsel during the period leading up to the formulation of their opinion and the preparation of their expert report and, accordingly, all such communications must demonstrate independence and objectivity and should not reflect an undue influence by legal counsel.

- **Do tell an overly intrusive lawyer to "back off"**

As can be seen from the cases we have reviewed, too active an involvement by legal counsel in the formulation and articulation of your opinion can be devastating and, accordingly, it is important to keep your distance from legal counsel when it comes to the formulation of your opinion and the preparation of your report. That is not to say that counsel should not be involved in certain aspects of the preparation of your opinion and report such as the factual basis of your opinion. There is no problem with counsel's involvement as long as the involvement is not seen as an interference in your formulation and your articulation of an independent and objective opinion.

- **Do provide oral updates to counsel with your preliminary findings**

It is important to discuss your thoughts and the approach you intend to take to your expert's report with counsel before you reduce any of your thoughts to writing. It is difficult to cross-examine on oral discussions that have not been reduced to writing so that your preliminary communication with counsel should always be oral. Beware of ill-advised e-mail communications!

- **Do suggest the use of two experts, where appropriate (one to testify and one to participate in an advisory role)**

This can be a very effective means of ensuring that the expert witness who testifies at trial is completely independent and yet there is still a great deal of expert advice incorporated into the litigation strategy.

6.2 Don'ts

- **Don't become an advocate**

You must never be seen as an advocate for the client or the credibility of your opinion will be destroyed. This is particularly important when you are being cross-examined. You will occasionally have to give in on certain points made by examining counsel, otherwise, if you fight opposing counsel on every point you will quickly begin to look like an advocate for your client and your credibility will be damaged. Stick to your guns on the fundamental issues of your opinion but don't be concerned about giving in on smaller points and try not to argue with counsel.

- **Don't assume non-objective expert evidence will be admitted into evidence**

This is just another way of stressing that the court will adopt a proactive gatekeeper role with respect to the admissibility of expert evidence that does not appear to be reasonably objective and independent. Always remember you are there to assist the court and not to argue the client's case. That is counsel's role.

- **Don't let counsel impact your independence/impartiality**

This will not only damage your credibility in the case at hand but may damage your overall reputation as an expert witness and must be avoided.

- **Don't give opinion evidence that is not within your area of expertise**

It is important that you consider carefully what you are being asked to opine upon to ensure that it is squarely within your area of expertise. We have often seen expert witnesses venture outside their area of expertise and give opinions. This can be fatal to their credibility. You should never venture outside your area of expertise as this can seriously damage your credibility, not only in respect of any opinions you give outside your area of expertise, but also in respect of those opinions that fall squarely within your area of expertise. In other words, it will damage your overall credibility and the court will be reluctant to rely on you.

4

BUSINESS VALUATORS: NEW TARGETS FOR PLAINTIFFS?

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1. INTRODUCTION

Chartered Business Valuators (CBVs) are today hired by a wide range of actors. They are called upon to work in a variety of fields of business, ranging from mining ventures to food retail chains. CBVs provide a wide range of services, including notional valuations, financial litigation support activities, corporate finance and transaction-based activities, regulatory activities, strategic planning and valuations for financial reporting. Their tasks are complex and require specialized knowledge. Value is after all often based on intangible assets, for example, employee expertise or branding rights. Moreover, the current value of a company frequently hinges on future operations, making it all the more difficult to assess.

In an effort to guide CBVs through the meanders of valuation, the Canadian Institute of Chartered Business Valuators has put in place mandatory Practice Standards that seek to reflect the current state of knowledge of the business valuation community. The Institute has also developed practice guidelines and recommendations to provide guidance to CBVs on how to interpret the Practice Standards. It has furthermore elaborated a Code of Ethics that establishes guiding principles to which CBVs must conform in the conduct of their practices. For example, they are expected to display throughout their work high degrees of honesty, prudence, competence, objectivity, truthfulness and impartiality. Guidelines and recommendations are also in place to help CBVs interpret the Practice Standards and Code of Ethics. In addition, business valuators often belong to other professional bodies, for example, chartered accountants belong to the Canadian Institute of Chartered Accountants, and are therefore subject to the respective practice standards and codes of ethics of their other professional orders or institutes.

The regulatory context in which CBVs operate is however rapidly shifting. Greater disclosure is now required for valuations pursuant to securities regulations and policies (for example, OSC rule 61-501 and AMF Q-27) so that shareholders may possess the tools to form rational views on opinion conclusions. In turn, directors of corporations are faced with expanding fiduciary duties. They are in ever greater need of professional advice regarding their decision-making process if they are to invoke a due diligence defense should anything go wrong. CBVs are therefore frequently called upon to assist directors in the discharge of their duties. Accounting rules are also in constant evolution and are impacting the role of valuators as VFR (valuation for financial reporting) valuation reports are prepared according to applicable financial accounting standards and financial statement

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requirements. For example, as accountants will now be allowed to pass over historical costs in several situations, the role of CBVs in the audit process is likely to grow.

Clients and third parties increasingly rely on CBVs for their valuations. The tasks undertaken by CBVs are consequently rapidly expanding. Ever greater responsibility entails that they are increasingly exposed to litigation as clients and third parties rely on their opinions without necessarily understanding that valuation reports only constitute an opinion and are most often based on a series of assumptions, forecasts or projections. Given their particular vulnerability to litigation, it is crucial for CBVs to understand their rights and obligations in Canada's various jurisdictions and how they may best protect themselves from costly legal procedures.

2. THE LAW

2.1 Canada's Legal Systems

There are two legal systems in Canada. The province of Quebec is regulated by a civil law system whereas the rest of Canada is governed by a common law system. CBVs must understand that different rules and methods of analysis apply depending on the system of law at play. They should be constantly mindful that the appropriate jurisdiction will be determined according to where the negligent act was committed, where the parties reside and where the contract for professional services is concluded. Important differences exist between the common law and the civil law, especially regarding third party claims against valuators. Broadly stated, common law jurisdictions will have a narrower approach to potential claimants whereas Quebec civil law will have a much more expansive notion of who can claim against valuators. It is thus key for CBVs to understand the ramifications of each legal system on the evaluation of their professional behaviour.

2.2 The Standard of the Reasonable Valuator

Generally, courts and disciplinary bodies will evaluate the appropriate standard of behaviour by comparing it to standards and ethical rules governing a professional body. In so doing, they will assess what constitutes the reasonable behaviour of a professional by comparing him or her to other members of the profession. However, in certain instances, the accepted practice of a given profession may not be judged sufficient to meet the criterion of what constitutes reasonable behaviour. For example, in *Roberge v. Bolduc*[1] the Supreme Court of Canada held that a common practice of Quebec notaries in the performance of title searches did not meet the required standard of reasonableness. Individual CBVs are thus encouraged to err on the side of cautiousness and not blindly imitate the practices of colleagues if they seem at all inappropriate.

2.2 Potential Plaintiffs

A CBV may owe a duty of care to two different categories of people: their clients, to whom they are bound contractually, and third parties who rely on the information provided to clients by CBVs. A good example of a third party is a bank wishing to extend a loan based on a CBV's valuation report of a company's assets. While the report may have been prepared for the company, the bank will rely on its conclusions when deciding whether to advance the requested funds or not. If the report grossly misevaluates the company's assets, the valuator may be liable toward the bank for damages it will have suffered. CBVs should therefore be constantly mindful that their audience is probably not simply confined to their clients.

1 (1991) R.C.S. 374 (S.C.C.).

3. THE COMMON LAW

3.1 The Duty of Care

In common law jurisdictions, plaintiffs must first demonstrate that the defendant owed a duty of care to them for a professional to be found liable for the representations contained in reports or assessments. Professionals owe a general duty to clients and certain third parties to carry out their work with a reasonable degree of care, knowledge and skill (see *Raylon Investment Ltd. v. Bear Realty*[2]).The principal component of this duty of care consists of the duty to inform oneself. In *Avco Financial Services Canada Ltd. v. Holstein,*[3] a finance and mortgage company sued a real estate appraiser for damages alleging that the property against which it had consented to a loan had been negligently appraised. The court found that the appraiser had failed to discharge his duty to inform oneself as he did not acquaint himself with the property, its surroundings or the general state of the neighbourhood. More recently, in *Kokanee Mortgage MIC Ltd. v. Concord Appraisals Ltd.*,[4] an appraiser was found liable for having breached his duty of care by failing to adequately inform himself about the comparables he had chosen to assess the property. It was also established that he failed to verify their reliability. Moreover, it was found that the appraiser had made several glaring errors and omissions in his report, such as double-counting and failing to identify a "no build" restrictive covenant, thus further increasing his liability.

3.2 To Whom Is the Duty of Care Owed in Common Law?

In common law jurisdictions, the potential liability of CBVs for a breach of their duty of care is not limitless. Rather, it is narrowed down to certain categories of claimants who must demonstrate that the CBV should have had them in mind when drafting his or her assessment. It will come as no surprise that clients, to whom CBVs are contractually bound, are owed a duty of care by the CBVs they hire. However, professional valuators should also be very much aware that they may be also held liable by third parties whose existence they might not even suspect. They must therefore be constantly mindful of the ramifications of an inaccurate report.

In *Graham v. Picot, Gorman,*[5] the court was adamant that a duty of care is owed by an appraiser not just to his client but also to third parties:

> An appraiser owes a duty of care not only to the client on whose instructions he prepares his appraisal but to all other persons to whom it may be shown and who might be expected to rely on it in dealing with the subject matter by way of purchase, mortgage, security or otherwise.

The challenge the courts constantly face is to delineate to which parties exactly a duty of care is owed. One should understand that the courts have been anxious to restrict the class of claimants as they have always been fearful of what American Supreme Court Justice Benjamin Cardozo once referred to as "liability in an indeterminate amount for an indeterminate time to an indeterminate class."

In *Hercules Management Ltd. v. Ernst & Young,*[6] the Supreme Court of Canada elaborated on a two-pronged test to delineate what third parties might actually claim for a breach of a duty of care.

1. Professionals need not know the actual identity of third parties relying on their work to be held liable for any damages suffered by the said parties. Claimants need only demonstrate that they belong to a class of people whose use of the work is known to the professional. This is known as the limited class test.
2. The plaintiff third party must demonstrate that the professional could reasonably have foreseen the use

2 [1981] 20 R.P.R. 288 (B.C.S.C.).
3 [1980] S.J. No 820 (C.A.).
4 [2000] B.C.J. No. 1629 (B.C. S.C.).
5 [1985] A.N.-B No. 332 (Q.B.).
6 [1997] 2 S.C.R. 165.

of financial statements by a class of people to which the third party belongs. This is known as the foreseeability test.

The scope of the duty will however be limited by whether a *prima facie* duty of care was owed to the plaintiffs by the defendants based on the two-prong test and whether this duty of care, if it exists, is negated or limited by policy considerations. Policy considerations are to be evaluated on a case-by-case basis and are thus difficult to generalize. The policy considerations part of the test should thus be viewed as a discretionary tool that allows for greater flexibility in determining whether justice demands that particular victims be compensated.

In *Hercules*, the Supreme Court of Canada found that the purpose of an auditor's reports was to assist the collectivity of shareholders of the audited companies in overseeing management. Third parties relying on the information contained in the auditor's reports for personal investment decisions were deemed to fall outside of the scope of the class of people to whom the auditors owed a duty of care. *Hercules* provides a good example of how valuators may owe a duty of care to third parties, but not necessarily to all third parties.

3.3 Negligent Misrepresentation

CBVs in breach of their duty of care will usually be held liable professionally for negligent misrepresentation, meaning that their inaccurate opinions have caused a prejudice to parties relying on them and that these parties are consequently entitled to compensation. In Canada, the test for negligent misrepresentation was elaborated in *R. v. Cognos Inc.*[7] where the Supreme Court of Canada concluded that for a negligent misrepresentation claim to be successful, a plaintiff had to demonstrate the following:

1. that there was a duty of care owed to the plaintiff by the defendant;
2. that the representations in the report were untrue, inaccurate or misleading;
3. that the defendant acted negligently in its representations;
4. that it was reasonable for the claimant to rely on the defendant's negligent misrepresentations and
5. that the plaintiff's reliance on the defendant's misrepresentations was detrimental and resulted in damages to the plaintiff.

Negligent misrepresentation is a well established way of framing an action in professional liability in common law jurisdictions. CBVs should therefore be keenly aware that if they are careless in their evaluations, and their clients or third parties relying on these assessments suffer a loss as a result of a CBV's negligence, they will most probably be held liable for negligent misrepresentation.

3.4 Legal Issues in Common Law Jurisdictions

(a) Overvaluation of Assets and Differences of Opinion Between Appraisers

Appraisers and business valuators are particularly vulnerable to the accusation that they have overvalued assets. As financial institutions will generally base a decision to loan money on an appraisal of assets, they stand to suffer a loss as a result of having relied on an inaccurate valuation. However, the mere fact that assets have been overvalued is not necessarily indicative of negligence, though a gross overvaluation will likely be interpreted as strong evidence of negligence. This principle was enounced in 1939 in *Baxter v. Gapp & Co.*[8] and reaffirmed in 1996 in *Royal Bank of Canada v. Burgoyne*.[9]

7 [1993] 1 S.C.R. 87 at 110.
8 [1938] 4 All E.R. 457 (K.B.).
9 [1995] 28 C.C.L.T. (2d) 191 (N.S. S.C.), reversed on other grounds (1996), 152 N.S.R. (2d) 150 (C.A.).

In determining whether an appraiser should be held liable for an overvaluation, courts have been mindful of the inherent difficulties of assessing the value of assets. They have thus recognized that the valuation process involves both judgement and opinion:

> The profession of appraisal is not an exact one. It comes down essentially to the opinion of one person arrived at in large part by assessing the opinions of other persons.[10]

Mere differences of opinion between appraisers are thus unlikely to trigger an appraiser's liability as courts are sensitive to the fact that an appraisal is subjective by nature and that differences between appraisers are common. This approach was followed in *Haven Investment v. Harper,*[11] where one appraiser employed a cost approach method whereas another appraiser used the income approach to arrive at a lesser value for the same property. The court concluded that the discrepancy did not indicate any negligence as it was deemed reasonable that appraisers might employ different methods.

In assessing the behaviour of an appraiser or business valuator, courts adopt an objective approach: they examine what was accomplished or not by the valuator and then contrast this behaviour against that of the reasonable valuator (i.e., the normal and prudent appraiser).[12] For example, in *Phelan v. Realty World*[13] the court stated that:

> At the end of the day, the onus rests with the plaintiffs to prove, on a balance of probabilities, that Mr. Allen (the appraiser) was negligent when he advised the Phelans (the Plaintiffs) about the listing and selling prices of their property, or that Realty World (the appraisal firm) failed to fulfill its contractual obligations. The Phelans have not met that onus. They have not proved that Mr. Allen failed to demonstrate the requisite standard of care, skill and diligence required of a real estate agent in British Columbia. They have failed to prove, on a balance of probabilities, that he was even wrong. Their action must be dismissed.

In *Newton v. Marzban,*[14] a recent case involving a CBV's conduct, the plaintiff brought an action against a chartered accountant, a chartered accountant/business valuator, her matrimonial lawyer and their respective firms seeking damages for breach of contract and negligence. She alleged that she had accepted an improvident divorce settlement based on their negligent advice. More particularly, she claimed that the business valuator:

1. had failed to give advice about an appropriate valuation date;
2. was negligent in relying on the advice of the chief financial officer of her ex-husband's company regarding the proper value of the said company;
3. had failed to consistently endorse the valuation of the company on a "going concern" basis rather than on a liquidation basis;
4. had failed to take into account the equity held by the company in leased equipment and
5. had acted as an advocate in relation to the plaintiff's matrimonial dispute and settlement.

The court, however, found that the valuator had acted in the manner of a reasonable valuator in the discharge of his duties to this client, given that:

1. all professionals involved had approved the valuation date;
2. dealing with a chief financial officer to assess the value of a company is a common practice for CBVs;
3. the selection of one valuation method over another was a matter of professional judgement and
4. the valuator was not directly involved in the settlement negotiations and had thus not acted as an advocate.

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10 *Cari-Van Hotel Ltd. v. Globe Estates Ltd.*, [1974] B.C.J. No. 705 (B.C. S.C.), Justice Ruttan, at para. 66.
11 [1986] B.C.J. No. 2187 (B.C. C.A.).
12 *Debora v. Debora* , [2006] O.J. No. 4826 (C.A.) at para. 51.
13 [1994] B.C.J. No. 752 (B.C. S.C.) at para. 57.
14 [2008] B.C.J. No. 472 (B.C. S.C.).

In *Transamerica Life Insurance Co. of Canada v. Hutton*,[15] an appraiser was instructed to evaluate a property on the assumption that proposed improvements would be carried out, rather than on an "as is" basis. This was clearly indicated on both the report and the cover letter. The appraiser was careful to evaluate the building's current status and clearly stated that his evaluation was contingent upon the quality of materials and workmanship of the improvements being of good quality. The fact that no one from Transamerica had actually read the report was noted in disbelief by the court. The judge found the appraiser's actions to have been beyond reproach as he was operating according to the specific instructions of his client.

As demonstrated in the above case review, appraisers and valuators will only be found liable if it can be demonstrated that they were negligent in failing to consider or review key information. Mere differences of opinion are common between valuators and thus do not constitute negligent behaviour. They will not be deemed liable if they can establish that they acted as a reasonable valuator would have in similar circumstances.

However, if an appraiser's behaviour falls short of the standard of the reasonable valuator, he or she will be made liable for damages accruing to the injured party. In *Avco Financial Services Canada Ltd. v. Jakubiec*,[16] a real estate professional was found negligent for his appraisal of a property, as he had relied entirely on the home owner's assessment of the resale value of the property. He therefore did not base his appraisal on the sale of comparable properties in the neighbourhood, nor did he communicate with local real estate agents or neighbours as a reasonable and prudent appraiser would have done. In *Indian Head Credit Union Ltd. v. Hosie A. & Co.,*[17] an appraiser's behaviour was also deemed to fall below the standard of the reasonable appraiser as he only spent 30 minutes inspecting a building with obvious structural problems that rendered it valueless. The appraiser also failed to speak to owners of neighbouring properties or to obtain an engineer's report on the structural integrity of the building. He was therefore held liable to the plaintiff who had advanced a loan of $65,000 based on this assessment. In *Finance America Realty Ltd v. Block, Prossin & Schelew*,[18] the Supreme Court of Nova Scotia found that the appraiser breached his duty of care to the plaintiff when he omitted to inform Finance America that a subdivision plan had not yet been approved and that his appraisal was only applicable pursuant to obtaining such authorization.

Courts are adamant that valuation is not a precise science. The standard of care, skill and diligence that a reasonable valuator must exhibit allows for honest errors in judgement. Discrepancies between two appraisals of the same asset are common and will usually not trigger a CBV's liability. Only acts of gross negligence, notably the failure to collect basic information about an asset, will result in a finding of negligence for which the valuator will be deemed liable.

(b) Presence or Absence of a Disclaimer

The insertion of a disclaimer in a report may allow an appraiser to limit his or her liability toward clients and third parties. Professionals usually preface their reports with an express limitation that they are not to be used or relied upon by anyone other than the client. For such a clause to be effective, the behaviour of the professional, however, must be consistent with the disclaimer.

In *Wolverine Tube (Canada) Inc. v. Noranda Metal Industries Ltd.*,[19] the defendant, Noranda, retained the services of a valuator named Arthur Little to prepare environmental assessment reports on three of its properties. The defendant and the valuator, however, had inserted a clause into their agreement to the effect that the reports would not be used outside of Noranda's organization without prior authorization.

15 [2000] O.J. No. 2240 (S.C.).
16 [1981] 22 R.P.R. 219 (Alta. Q.B.).
17 [1992] 103 Sask. R. 213 (Q.B.), affirmed [1994], 120 Sask. R. 73 (C.A.).
18 [1979] N.S.J. No. 61 (S.C. App. Div.).
19 [1995] O.J. No. 3529 (C.A.).

> Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Little accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

The court decided that Little owed no duty of care to Noranda as the disclaimer was sufficiently broad to exclude any liability toward third parties.

In *Royal Bank of Canada v. Burgoyne*,[20] the Royal Bank loaned Mr. Hiltz $200,000 that was secured by a second mortgage on his inn. The Royal Bank relied on an appraisal report prepared by Burgoyne for Hiltz when it decided to extend the loan. When Hiltz defaulted on the loan, the Royal Bank alleged that the appraisal of the inn prepared by Burgoyne had significantly overvalued the property at $860,000, thus causing a significant loss when it sought to enforce its security on the property. However, the court concluded that the disclaimer contained in the report was sufficient to protect the appraiser from a third party claim.

> The distribution of values in this report, between land and improvements, apply only under the program of utilization as identified in this appraisal. The separate evaluation, as estimated herein, must not be used in conjunction with any other appraisals, and may be invalid if so used.
>
> The client to whom this report is addressed may use it in deliberations affecting the subject property only, and in so doing, this report should not be extracted, but used in its entirety.
>
> (. . .)
>
> In preparing the foregoing Appraisal Report, the undersigned appraiser has employed the usual methods and procedures used by Appraisers in Nova Scotia, and the result is the product of his careful and considered opinion, however this Appraisal Report is the opinion of the appraiser only – *and under no circumstances whatsoever shall the Appraiser personally, be held liable for any loss or damage that may occur to any person or persons by reason of their reliance upon this Appraisal Report.* (Emphasis added)

Though the court stated that the disclaimer would not have been sufficient to limit Burgoyne's liability toward his client, it deemed it broad enough to prevent any claim from a third party, such as the Royal Bank. It further indicated that the bank should have sought the appraiser's permission to use the report or, at the very least, have asked Mr. Hiltz to provide an unqualified report.

In *Rumack v. Armstrong*,[21] the court found against the appraisers who attempted to have the case dismissed by invoking the fact that there was a lack of cause of action. The appraisers were, throughout their relationship with their client, aware that their report would be used by their client to obtain refinancing from a third party despite not knowing when this event would take place or which institution would advance the funds.

While disclaimers may be very useful to limit the liability of professional valuators, especially toward third parties, they must nonetheless be aware that these disclaimers will not provide an invincible shield against potential claimants. It is crucial that the behaviour of CBVs be consistent with the spirit of the disclaimer.

(c) Causation

Even when it has been demonstrated by a plaintiff that a valuator was negligent in the discharging of his or her duties, a defendant may still escape liability by invoking a lack of causation between the negligence and the damage suffered. In *Episcopal Corporation of Saskatoon v. Chyz Appraisals Ltd.*,[22] the parties agreed that the significant overvaluation of the property in question amounted to negligent misrepresentation by the appraiser. However, the court found that the most significant factor having led to the plaintiff's loss was the downturn in the economy

20 *Supra.*
21 [1998] O.J. No. 3382 (Ont. Gen. Div.).
22 [1994] S.J. No. 100 (Q.B.).

that in turn led to punitive interest rates, thus negating any hope of transforming the operation into a profitable venture.

(d) Scope of the Retainer

A client must be precise when delineating the limits of a valuator's mandate. In *Nussbaum v. Rajesky*,[23] the court held that an appraiser was not liable for having only given a "ball park" figure when evaluating a property given that this was what the client had asked for. An appraiser will not be held liable if he delivers on what he has been hired to accomplish.

4. QUEBEC CIVIL LAW

4.1 The Standard: Article 1457 of the Civil Code of Quebec

Rules governing civil liability in Quebec differ from the approach in common law provinces. A CBV may be held liable by his client if he fails to honour his contractual undertakings, for example, if he fails to look at assets he had promised to evaluate. This would put a valuator in breach of article 1458 of the *Civil Code of Quebec* (CCQ): "Every person has a duty to honour his contractual undertakings."

Third parties may also lodge extra-contractual claims against a CBV if the plaintiff can demonstrate that a damage has been suffered and can be causally linked to a fault. A fault will be measured against what is considered to be the behaviour of a reasonably prudent and diligent person. It is an open texture norm, and thus very much subject to a judge's interpretation of what exactly constitutes reasonable behaviour. Article 1457 of the CCQ enshrines this principle:

> Every person has a duty to abide by the rules of conduct which lie upon him according to the circumstances, usage or law, so as not to cause injury to another.

In *Crédit Bail-Banque Royale Inc. v. Les services professionnels Warnock Hersey Ltée*,[24] Crédit Bail-Banque Royale alleged that Warnock Hersey was negligent in its equipment appraisal. The court found that the appraiser was responsible for:

1. failing to verify the date of manufacture of a piece of equipment;
2. affirming that the evaluated equipment was in good condition despite relying solely on the oral representations of its owner;
3. failing to take notes during the inspection;
4. failing to cross-reference with comparables to establish the precise value of the equipment and failing to make its clients aware of this fact;
5. failing to verify on-site notes written by a different inspector and
6. failing to mention in the report the complete lack of previous experience in evaluating this type of equipment.

Having established that the appraiser had not met the standard behaviour required of the reasonably prudent and diligent appraiser, the court found Warnock Hersey liable toward Crédit Bail-Banque Royale for having committed a fault in evaluating the quantum of its appraisal. Moreover, the court emphasized that a reasonable valuator is aware that an appraisal will generally be shown to a third party for financing or tax purposes, for the audit of financial statements or in the context of a property transaction. This third party had a right to expect that

23 [1988] 3 R.P.R. (2d) 108 (Ont. H.C.), affirmed [1991] 16 R.P.R. (2d) 78 Ont. (C.A.).
24 AZ-95021755 (S. C.).

an appraiser would conduct him- or herself competently and professionally and that a counter-expertise would not yield significantly different results. Having suffered a damage, Crédit Bail-Banque Royale was entitled to compensation despite its third party status.

The obligation to conduct oneself according to the standard of the reasonably competent and diligent valuator was recently reiterated in *Digico Réseau Global Inc. v. Évaluations Val Beq Inc.*[25] In this case, Digico acquired control of AGL Technologies Inc. on the basis of Évaluations Val Beq's appraisal. This evaluation consisted of a visual inspection of AGL's equipment. However, the inspectors neglected to view the equipment in action. They then proceeded to evaluate the prices of the assets through a specialized website. Before the court, Val Beq defended its behaviour by arguing that it was incumbent upon AGL to request a more detailed inspection and that it was not expected to be aware of Digico's needs.

The court disagreed and held that as Val Beq provided a specialized service, it was responsible for explaining to its clients the various methods available for the performance of an evaluation and the respective implications of each method. At a minimum, Val Beq should have viewed the equipment in operation for a reasonable period of time and then cross-checked these visual observations against contemporary production run records. Moreover, before the contract for services was signed between Digico and Val Beq, the valuators should have explained the various applicable methods and costs attached to each option. They could then have advised as to which was in the client's best interest. Val Beq's conduct thus fell well short of the applicable standards of the appraisal industry.

4.2 To Whom Is the Duty of Care Owed in Civil Law?

While the common law restricts claimants to certain categories of people to whom a duty of care is owed, there is no such restriction in Quebec civil law. No definition exists as to what constitutes "another" pursuant to article 1457 CCQ. Liability in Quebec civil law is therefore more expansive given that the category of potential claimants is theoretically limitless. One must only demonstrate that the defendant has committed a fault that is linked to an injury sustained by the plaintiff. There is no test similar to that in *Hercules Management* limiting the category of potential plaintiffs. In *Caisse populaire de Charlesbourg v. Michaud,*[26] a contractor submitted a balance sheet prepared by a chartered accountant so as to secure financing. Yet, the balance sheet had been prepared for the purpose of obtaining the required permits from a provincial association of contractors. Justice Baudouin of the Quebec Court of Appeal clearly stated that common law principles governing professional liability are not applicable to the province of Quebec:

> It is not a question of applying to the case at hand the rules of negligent misrepresentation, of detrimental reliance or of implied condition of merchantability, but simply those governing civil liability.[27] (our translation)

Quebec courts will thus not hesitate to extend the liability of professionals for damages sustained by third parties, however remote their connection to the plaintiffs.

> When an accounting firm agrees to render a professional service, it must bear the consequences of its representations, regardless of the initial intended use of the document. Professionalism is founded on the public's confidence in the quality of an accountant's actions.[28] (our translation)

In *Caisse populaire de Charlesbourg*, the chartered accountant and his accounting firm were found liable as the court looked to recognized practices of accounting firms and deontological principles set out in the profession's code of ethics to determine that the behaviour constituted a fault.

25 [2008] Q.J. No. 5442 (Sup. Ct.).
26 [1990] R.R.A. 531 (C.A.).
27 *Ibid.* at p. 535.
28 *Ibid.* at p. 537.

In *Garnet Retallack and Sons Ltd. v. Maheux*,[29] the Quebec Court of Appeal found an accountant liable to a third party although he could not have foreseen that the third party would rely upon his statements for the purpose of merger discussions. Similarly, in *Irwin Management Consultants Ltd. v. Thorne Riddell*,[30] a firm of auditors failed to detect a fraud perpetrated by the management of a client company while performing an audit. Unbeknownst to the auditors, a third party relied on these financial statements and suffered a loss. The court concluded that the third party had been lulled into a false sense of security and found the auditors liable for their representations.

Unlike in common law provinces, appraisers and valuators in Quebec may be held liable for their representations regardless of whether they could have foreseen that their work would be used by a certain category of persons. The category of claimants is thus much more expansive. However, a plaintiff must still demonstrate that the appraiser or valuator failed to act in the manner of a reasonably prudent and diligent professional placed in a similar situation. The courts will therefore examine the behaviour of the appraiser or valuator to determine whether it fell below the required standard.

4.3 Disclaimers

An interesting issue arises in Quebec civil law regarding the use of disclaimer clauses. Whereas courts tend to uphold their validity in common law provinces as exemplified in *Burgoyne*, *Wolverine Tube* and *Rumack*,[31] Quebec courts are hesitant to endorse them. This further increases the potential liability of CBVs as they may not benefit from the increased protection afforded by a disclaimer.

In *Caisse populaire de Ste-Ursule v. Yvon Plante et un autre*,[32] the appraiser inserted a limitation of liability clause that read:

> Possession of this report, or a copy thereof, does not confer a right of publication or right of use by any other person but the client, unless a written authorization has been obtained from the appraiser or the client. Even then, authorization is only granted to persons possessing the necessary qualifications to understand its content. (our translation)

The Caisse populaire extended a loan on the basis of a report drafted a few years earlier by the appraiser for the debtor. The debtor defaulted on his loan and the bank suffered a loss. It therefore initiated an action against the appraiser, alleging that he had erroneously calculated the total square footage of the land. The appraiser was, however, already aware of his mistake, which he had rectified earlier, yet the bank had only received the original version of the report.

The court stated that though the Caisse populaire had not obtained the appraiser's consent to use the report, it was a common practice for financial institutions to rely on such appraisals. The court decided the case on the basis that the appraiser's behaviour did not amount to gross negligence as the bank itself had been negligent in its analysis of information pertaining to the debtor. Thus, while the court dismissed the action against the appraiser, it failed to clearly establish whether the disclaimer had effectively barred the bank's use of the report.

The degree of protection afforded in Quebec civil law by disclaimers is still unclear. Though these disclaimers should be inserted into contracts, CBVs must remain keenly aware that they can not rely entirely on them for protection against potential claimants.

Furthermore, valuators should be aware of the difference between clauses that limit liability and those that restrict the intended scope of the report. In Quebec, the *Code of Ethics of Chartered Accountants* prohibits its members from inserting clauses that may limit their liability. The only way to avoid liability is thus to narrow the

29 [1990] R.R.A. 303 (C.A.).
30 [1995] R.R.A. 589 (C.A.).
31 *Supra*, notes 20, 19 and 21.
32 [1987] R.R.A., 811 (S.C.).

intended scope of the engagement and insert the appropriate qualifications and restrictions in the letter of engagement and report. This is different from refusing to assume liability for the work produced.

5. CONCLUSION ON THE LAW

The review of the jurisprudence involving the professional liability of business valuators and appraisers leads to the conclusion that a finding of negligence will normally hinge on:

1. a careless compilation of objective and subjective data;
2. use of inappropriate valuation methods;
3. a failure to conduct a relevant analysis of the data or
4. poor judgement in dealing with the applicable data, valuation method or analysis.

CBVs should be mindful of these criteria and always tread cautiously in compiling, analyzing and presenting data in their reports.

6. RECOMMENDATIONS

Given the increasing exposure of CBVs to lawsuits, professionals should be mindful of basic rules of conduct that may help reduce their vulnerability. While not exhaustive, CBVs should keep in mind the guidelines below.

6.1 The "Know Your Client" Rule

Before accepting a mandate, a CBV should inform him- or herself thoroughly about the potential client and his field of business. A CBV should avoid at all costs associating him- or herself with a person unworthy of trust. If a client tends to constantly change valuators, an enquiry may prove necessary to determine the cause of this inconsistency. Most importantly, a CBV should always ensure that he or she has the required expertise to deal with a client's business as the CBV's actions will be measured against the behaviour of the reasonably competent and diligent valuator. A poor performance that falls short of the required standard will not be excused by a lack of expertise in the field. Conversely, if a valuator presents him- or herself as possessing a particular expertise not normally found in the average business valuator, a higher degree of skill and care will be expected than from another who does not claim to possess such expertise.

6.2 Clarifying the Terms of Engagement

Before accepting a mandate for a client, a CBV should always sign a written letter of engagement outlining the scope of the mandate and the intended use of the work. This should, of course, be discussed with the client. A letter of engagement should at a minimum address the issues outlined.

1. To whom the report is to be addressed. The nature of the report will vary according to the specific needs and knowledge of a particular client.
2. The type of report that is to be prepared for the client (a valuation report, an advisory report, an expert report, a limited critique report or a fund report). If producing a valuation report, one should specify whether it is a comprehensive report, an estimate valuation report or a calculation report.
3. The letter of engagement should include the purpose for which a valuation report is to be prepared and whether the type of report envisaged will meet its intended purpose. This information should also be included in the report.

4. The letter of engagement should also address the availability of information on which a valuator will be able to base his or her opinion.

5. The handling of confidential information should be clearly outlined. The letter of engagement should address the duration of the obligation to maintain confidentiality, the proposed use of confidential information and the right to provide information for peer reviews.

6. The fees that will be charged for the CBV's work. The budget should be determined before the commencement of the mandate and should be reviewed regularly to avoid cost overruns.

7. If asked to assist, advise or consult on matters other than those regulated by professional standards, it is desirable to include a statement to the effect that practice standards do not apply and that they will not be followed.[33]

8. If not performing the engagement on an independent basis, the valuator should disclose in writing to the client all material facts that are known, or should be known, setting out why the valuator may not act independently in this matter.

9. Restrictions affecting the valuator's conclusions and qualifications should be clearly outlined. This should also be reflected in the report itself.

10. The use of drafts should be addressed so as to ensure that clients will in no way rely on these for any other purpose than for the valuator to obtain comments regarding errors, omissions or misinterpretations. It should be clearly stated that draft reports may not be disclosed to third parties without express written consent from the valuator.

If no engagement letter is signed, a CBV should be mindful to fully document all interactions with his or her client. He or she must also ensure that the client's instructions are clear and precise.

To further protect him- or herself, a CBV should ensure that a report's conclusions are not misleading for the intended reader. These conclusions can in no circumstances be based on assumptions known to be false by the valuator.

6.3 Disclaimers

As discussed above, though the use of disclaimer clauses appears to be more effective in common law provinces than in Quebec, all CBVs should preface their reports with such a clause regardless of the jurisdiction in which they are operating. It should at the very least include:

1. restrictions that may affect the valuator's conclusions and qualifications;

2. a denial of responsibility for losses incurred through any unauthorized or improper use of the report;

3. a statement granting the valuator permission to make revisions to or update the report if circumstances arise that are susceptible of affecting its conclusions;

4. if relying on data provided by someone else, the valuator's report should include a statement to the effect that he or she has not undertaken an audit or review of the information thus provided and can therefore not guarantee the accuracy or completeness of such information (furthermore, the valuator should clearly state that he or she assumes that the information is complete and accurate) and

5. a valuator should, in certain circumstances, caution the reader that the report does not contain a conclusion as to values and quantum.

33 For example: "This communication does not express a conclusion and is not a report as defined by the Practice Standards of the Canadian Institute of Chartered Business Valuators."

6.4 Selecting the Right Employees

Valuators must ensure that they carefully select the personnel they wish to employ on a given mandate. A new engagement should not be considered as an opportunity to train staff as the inexperienced valuators will be held to the same objective standard of the reasonably competent and diligent valuator regardless of their experience and training. CBVs should ascertain that their staff have met professional standards and are well aware of the principles set out in the Code of Ethics of the professional body. Moreover, they must ensure that their employees:

1. have received adequate technical training;
2. are proficient in financial analysis and business valuation concepts, principles and techniques;
3. understand the financial information pertaining to past results, future prospects and present financial situations as well as the economic context in which a particular business operates;
4. will perform their tasks prudently and diligently with an objective state of mind; and
5. review all material documentation, including pleadings, agreements, contracts, letters of understanding, letters of intent and correspondence, to sufficiently understand the nature of a dispute and events giving rise to a claim.

6.5 Documenting a File

In the event that a valuator is sued by a client or a third party, the evidence that will be presented before the court will largely determine whether the valuator is held liable or not. A CBV should thus be careful to keep a record of all communications pertaining to a particular mandate. Documents reviewed, individuals interviewed, facilities visited and expert reports relied on should all be documented. As the profession of valuator entails a high degree of subjectivity, notes explaining decisions relating to the exercise of professional judgement should be filed as they can serve to support the rationale behind a particular decision. For example, in a valuation report, one should justify why a going concern basis was used rather than a liquidation basis as well as the reasons for selecting a particular valuation approach (income, cost or market).

Assumptions used and procedures followed to determine the reasonableness of these assumptions must also be filed. When dealing with specialists in a given field such as real estate or equipment appraisers, actuaries or engineers, notes concerning their reputation, competence and degree of independence must be filed. The valuator will be responsible for obtaining client representations in writing. If no written representations are obtained, the file should comprise a summary of the representations on which the valuator has relied.

Most importantly, points settled with clients should be properly documented. Electronic communications are especially useful for confirming a client's instructions. If a communication with a third party occurs, it may also become important to confirm what information was given and whether the valuator is relying on this information.

7. CONCLUSION

In conclusion, CBVs should be constantly mindful of the legal side to their profession. They must remain aware that different sets of rules apply depending on whether they are in a common law jurisdiction or in Quebec. Most importantly, their behaviour should be conditioned by what is deemed to be the appropriate behaviour of the reasonable valuator. In doing so, they should look for guidance in the Institute's Code of Ethics and Practice Standards. Moreover, they must bear in mind the likelihood that their work could be used not just by their clients, but also by third parties who may potentially suffer a loss as a consequence of their reliance on a CBV's report. To protect themselves, professional valuators should always insert a disclaimer at the beginning of their report, though the scope and efficacy of disclaimers is still subject to debate in Quebec.

As many individuals and institutions are likely to rely on their reports, valuators must ensure that the quality of their work remains consistently high. Valuators should ascertain that their body of knowledge is up to date by attending seminars and courses. Too often valuators make mistakes simply because they remained unaware of a new rule or standard. Quality control measures should thus be implemented and followed as they may avert a problem before it materializes. Finally, valuators should have an action plan in case things go wrong. Professional liability insurance is essential to cover litigation costs and settlement agreements but a good defense lawyer will also prove very useful if things do indeed go wrong.

5

INTERNATIONAL FINANCIAL REPORTING STANDARDS—WHAT DOES IT MEAN FOR BUSINESS VALUATORS? (PART 1)*

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International Financial Reporting Standards (IFRS) is a shared framework amongst countries worldwide to facilitate comparability of financial statements within the same industries and between different countries. IFRS will pose unique challenges to the business valuator as we will explore in this article.

1. INTERNATIONAL FINANCIAL REPORTING STANDARDS FOR CANADA

Canada has joined the international community in developing a globally consistent financial reporting model by converging Canadian generally accepted accounting principles (CGAAP) to this international framework. The benefits to Canada in adopting IFRS include greater comparability and transparency, which should decrease the cost of capital both at home and abroad. Although new to Canada, over 110 countries use or are in the process of adopting IFRS as their basis for financial reporting.

One of the defining characteristics of IFRS is the emphasis on current cost/fair value accounting,[1] rather than historical cost accounting, in the application and presentation of financial results. Fair value accounting emphasizes the balance sheet as a measure of the future prospects of the enterprise. Changes in fair value from period to period are reflected in the income statement.

One of the attributes of fair value accounting is the variability of earnings from period to period while other traditional key performance measures, such as revenues for example, may be stable. Another significant issue is the determination of fair value where data is not readily available or is subject to significant assumptions. In all

* This article is the first in a series of articles that will address the evolution of the conversion of CGAAP to IFRS.

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1 Fair value has been defined in CGAAP as "the amount of consideration that would be agreed upon in an arm's length transaction between knowledgeable, willing parties who are under no compulsion to act." In most cases involving valuations that require adherence to the *CICA Handbook*, such as purchase price allocations or impairment testing on goodwill, business valuators make the assumption that this definition of fair value is synonymous with fair market value. This general principle of determining fair market value can be applied using IFRS.

cases the enterprise is required to disclose their methods and assumptions used in determining fair value, which will result in a significant increase in disclosure requirements.

The standards board in Canada has supplemented accounting pronouncements with financial reporting interpretations. However the international standards board issues such interpretations in limited circumstances. The emphasis, when applying IFRS, is for management to interpret the standards and disclose the assumptions that support the accounting policies selected.

A unique Canadian issue, not experienced anywhere else in the world, is the internal control attestation requirements. As management plans and implements its conversion program unique IFRS internal controls addressing financial reporting must be identified, tested and evaluated as outlined in National Instrument 52-109.

2. WHO DOES IFRS AFFECT

Publicly accountable enterprises must transition from CGAAP to IFRS. A publicly accountable enterprise is an entity that has debt or equity that is traded in a public market or holds assets in a fiduciary capacity for a broad group of outsiders as one of its primary businesses. Banks, credit unions, insurance companies, securities brokers/dealers, mutual funds and investment banks are typically included in the second, if not first, criteria.

Not-for-profit organizations and government entities can elect to adopt IFRS or continue with CGAAP.

3. KEY DATES FOR IFRS CONVERSION

There are five key dates for IFRS conversion.

1. **Q1 2009-Q4 2010.** Quarterly and annual Management Discussion and Analysis (MD&A) disclosures
2. **January 1, 2010.** Transition date (Opening IFRS balance sheet)
3. **Q1-Q4 2010.** Financial statements, interim and annual, prepared on an IFRS basis for comparative purposes in the following year
4. **March 31, 2011.** Changeover date to published IFRS financial statements with prior year comparative results
5. **December 31, 2011.** First annual IFRS financial statements

The above timeline is based on a December 31st fiscal year end. A brief explanation of these requirements follows:

- The Canadian Securities Administrators issued Staff Notice 52-320, *Disclosure of Expected Changes in Accounting Policies Relating to Changeover to International Financial Reporting Standards*. These disclosures commenced for the year ending December 31, 2008, and are required quarterly and annually up to the year prior to adopting IFRS. Enterprises are to disclose, in their MD&A, the key elements and timing of the changeover plan and, as the changeover date becomes closer, quantification of the financial effect as a result of adopting IFRS.
- An IFRS opening balance sheet as at the transition date to IFRS, which is January 1, 2010. This opening balance sheet may need to be revised at the reporting date of December 31, 2011, for any standards issued during this intervening period. Comparative financial statements must be prepared using the most current version of IFRS.
- Interim and annual financial statements for 2010 year based on CGAAP and IFRS. Although the IFRS statements do not have to be published in 2010, these results will be required for comparative purposes in 2011.

- Interim financial statements on an IFRS basis will be required as at March 31, 2011. The enterprise may have to publish a complete set of notes to the financial statements at this point, rather than condensed notes, in order to aid the user in understanding the financial statements.
- The first set of IFRS annual financial statements will be published as at December 31, 2011. These financial statements should include "an explicit and unreserved statement" of compliance with IFRS. Enterprises that are preparing annual financial statements in accordance with IFRS for the first time must disclose how the transition from CGAAP to IFRS affects the financial position, financial performance and cash flows of the enterprise. These disclosures include reconciliations of equity and income as at the transition date to IFRS and at the end of the comparative period presented in the enterprise's first IFRS financial statements; explanations of exemptions selected upon transitioning to IFRS; and an explanation of material adjustments to the Balance Sheet, Income Statement and Cash Flow Statement as a result of adopting IFRS for the first time.

4. REQUIREMENTS FOR COMPLIANCE WITH IFRS

A first time adopter of IFRS is an enterprise that, for the first time, states that its financial statements comply with IFRS. Examples of an enterprise that is *not* a first-time adopter of IFRS include instances where:

- financial statements are prepared using IFRS for internal management use only;
- the enterprise complies with selected, but not all, IFRS policies or
- the notes to the financial statements include a reconciliation of selected CGAAP accounts to the IFRS requirements.

IFRS 1—First-Time Adoption of International Financial Reporting Standards sets out the procedures that a publicly accountable enterprise must adhere to when it adopts IFRS as the basis for preparing its financial statements. The steps that must be undertaken in order to comply with IFRS are:

1. derecognize CGAAP assets and liabilities from the opening balance sheet if they do not qualify for recognition under IFRS;
2. recognize assets and liabilities required as a result of adopting IFRS;
3. reclassify CGAAP opening balance sheet items into the appropriate IFRS classification and
4. measure recognized assets and liabilities using the measurement principles in force at the end of the current period year-end. There are a number of exceptions and exemptions from these requirements for first-time adopters that have been granted by the International Accounting Standards Board and additional matters under consideration by the Accounting Standards Board in Canada.

5. LESSONS LEARNED FROM OTHER COUNTRIES

Convergence to IFRS has posed significant challenges for enterprises worldwide. Surveys conducted by the accounting professions in countries that have adopted IFRS have identified the following financial reporting risks and problems:

- IFRS technical complexities including additional presentation disclosures and the selection of new accounting policies;
- volatility of earnings due to changes in fair value assumptions;
- impact on accounting and administrative systems with an increased reliance on manual solutions, such as spreadsheets rather than embedded systems reporting;

- training internal stakeholders (e.g., staff, management) and educating external stakeholders (e.g., board of directors, investors) about the new standards and
- enhancements to processes, systems and controls that distract management from business-as-usual activities.

6. SIGNIFICANT ISSUES FOR CANADIAN ENTERPRISES

CGAAP, IFRS and US GAAP standard setters have been converging accounting standards for several years. Consequently this will reduce the impact, in certain industries, to Canadian enterprises of adopting IFRS. However industries such as mining, oil and gas, rate regulated enterprises and insurance, to mention a few, will likely have to record significantly different financial statement balances. Additionally there are certain standards, such as impairments and provisions, which are significantly different than CGAAP.

Even in instances where applying IFRS has the same result as CGAAP, there may be differences in the process for determining the IFRS account balance. If so, the accounting policy description in the notes to the financial statements may need to be amended. To the extent that the risk profile of the enterprise has changed as a result of applying a new process, different key internal controls may need to be identified and tested.

IFRS permits a number of measurement bases in determining account balances.

1. **Historical cost.** Assets are recorded at the amount of cash or cash equivalents paid or the fair value of the consideration given to acquire them at the time of their acquisition. Liabilities are recorded at the amount of proceeds received in exchange for the obligation, or in some circumstances (for example, income taxes), at the amounts of cash or cash equivalents expected to be paid to satisfy the liability in the normal course of business.
2. **Current cost.** Assets are carried at the amount of cash or cash equivalents that would have to be paid if the same or an equivalent asset was acquired currently. Liabilities are carried at the undiscounted amount of cash or cash equivalents that would be required to settle the obligation currently.
3. **Realizable (settlement) value.** Assets are carried at the amount of cash or cash equivalents that could currently be obtained by selling the asset in an orderly disposal. Liabilities are carried at their settlement values; that is, the undiscounted amounts of cash or cash equivalents expected to be paid to satisfy the liabilities in the normal course of business.
4. **Present value.** Assets are carried at the present discounted value of the future net cash inflows that the item is expected to generate in the normal course of business. Liabilities are carried at the present discounted value of the future net cash outflows that are expected to be required to settle the liabilities in the normal course of business.

The measurement basis most commonly adopted by entities is historical cost, combined with other measurement bases. For example, inventory balances are carried at the lower of cost and net realizable value, marketable securities may be carried at market value and pension liabilities are generally carried at their present value. Furthermore, some entities use the current cost basis as a response to the effects of changing prices of non-monetary assets.

6.1 Implications for Business Valuators

It will be important for the business valuator to identify the various measurement standards and understand the assumptions supporting the account balances. This is particularly important if the business valuator measures assets or liabilities on a basis different than what has been recorded in the financial statements.

It is useful to understand, when analyzing the financial statements of the enterprise, when judgment has been applied in selecting accounting policies. For example, while an enterprise can designate financial assets as Held for Trading, Available for Sale, Loans & Receivable or Held to Maturity, the accounting treatment within these categories is well defined.

Users of financial statements, including business valuators, should recognize the distinction between financial statements prepared using historical cost versus fair value accounting. Fair value accounting may utilize current cost, realizable value and/or present value. When ascertaining value for valuation purposes, the business valuator may determine that IFRS financial statements contain more information than CGAAP in this regard due to the selection of fair value accounting principles rather than historical cost accounting.

The business valuator is generally concerned with determining fair value, for example, when allocating the purchase price firstly to tangible assets and then any residual to goodwill or intangible assets as the case may be. Assessing fair value when there is observable third party evidence to support the valuation is relatively straightforward. However this can be a challenge when the assets are not liquid, have a slow turnover or are unique and difficult to compare to other similar assets. In this case the notes to the financial statements, which disclose the assumptions supporting account balances, may be a useful proxy to support the assumptions used in subsequent valuations.

7. SECTIONS OF INTEREST TO BUSINESS VALUATORS

The following Standards[2] are of particular interest to the business valuator.

7.1 IFRS 3—Business Combinations

IFRS 3 will cover a number of accounting topics/issues that were covered under separate sections of the *CICA Handbook*. For example, Section 1581—Business Combinations and Section 1600—Consolidated Financial Statements will be converged under IFRS 3. Section 1590—Subsidiaries will be converged with IAS 27—Consolidated and Separate Financial Statements and, in turn, IAS 27 will be converged with IFRS 3.

The major differences between CGAAP and IFRS regarding business combinations, consolidated financial statements and subsidiaries are discussed below.

(a) Business Combinations

- Business combinations accounted for using the acquisition method that may result in transactions being recognized as a business combination under IRFS 3 that would not be recognized under CGAAP (i.e., such as between mutual entities and those achieved by contract alone).
- Under IFRS 3, shares issued as consideration are required to be measured based on their fair value at the acquisition date (whereas under CGAAP, the fair value of equity issued by acquirers is determined based on their market price upon acquisition).
- Under IFRS 3, outputs are not required to be part of an integrated set of activities or assets to qualify as a business (which is the criteria under CGAAP).
- Under IFRS 3, contingent consideration is required to be recognized when it can be reliably measured, which may be part of the consideration transferred (whereas under CGAAP, contingent consideration is generally not recognized until the contingency is resolved).

2 CICA Accounting Standards Board—Comparison of IFRSs and Canadian GAAP, July 31, 2008, and March 2009, Exposure Draft—Adopting IFRSs in Canada, II.

- Under IFRS 3, acquisition-related costs, such as finders' and legal lees, are required to be expensed (whereas under CGAAP, such costs form part of the acquisition cost).
- Under IFRS 3, any gain on a bargain purchase or negative goodwill is required to be recognized immediately in net income (whereas under CGAAP, certain steps are followed to reduce certain assets, record a liability and/or record an extraordinary gain).
- Under IFRS 3, the acquirer is required to recognize the acquiree's identifiable assets acquired, liabilities assumed and contingent liabilities, at their fair values at the acquisition date (rather than the acquirer's share only under CGAAP).
- Under IFRS 3, any non-controlling interest in the acquiree is measured at the non-controlling interest's portion of the net fair values of those items or of the fair value of the business (rather than at book values under CGAAP).

(b) Subsidiaries

- Under IAS 27, control is assessed at a point in time (whereas under CGAAP, control is assessed based on an entity's continuing ability to make strategic policy decisions).

(c) Consolidated Financial Statements

- Under IFRS 3, shares owned prior to a change in control on a step acquisition are required to be valued at their fair value on the date of acquisition and any related gain or loss is recognized as income (whereas under CGAAP, carrying amounts are maintained and no income recognition is required).
- Under IFRS 3, net income and each component of other comprehensive income is required to be attributed to the owners of the parent and to the non-controlling interests, even if this results in the non-controlling interest having a deficit balance (unlike CGAAP).

The Accounting Standards Board has approved but not yet issued Section 1582—Business Combinations, which will be converged with IFRS 3 and be effective for years beginning on or after January 1, 2011.

7.2 IAS 16—Plant, Property and Equipment; IAS 36—Impairment of Assets; IAS 40—Investment Property; IFRS 6—Exploration for and Evaluation of Mineral Resources

The sections of the *CICA Handbook* that covered capital assets and accounting issues for extractive industries will be covered by a number of sections under IFRS.

Section 3061 will be converged with IAS 16, IAS 36 and IAS 40. The major differences in rules include the following IFRS requirements:

- a revaluation of property, plant and equipment to fair value is permitted (unlike CGAAP);
- when an item of property, plant and equipment comprises individual components using different depreciation or rates, each component is accounted for separately (whereas under CGAAP, component accounting is only used when practicable and estimated useful lives are determinable);
- a requirement for the depreciable amount to be the asset cost less its residual value (rather than using the greater of the asset cost less its residual value or asset cost less its salvage value under CGAAP);
- a requirement under IAS 36 for discounting in determining the net recoverable amount of property, plant and equipment (IAS 36 is discussed further below) and

- IAS allows investment property to be accounted for using a fair value or a cost-based model (unlike CGAAP).

IFRS 6 provides only limited guidance on financial reporting involving the exploration for and evaluation of mineral resources. Extractive industries are expected to be addressed by work in process but also to result in significant changes from present requirements and practices.

7.3 IFRS 38—Intangible Assets

The basic rules of accounting for intangible assets and goodwill under IFRS are similar to CGAAP. This includes the exclusion of goodwill from the accounting rules in this section, since goodwill is recognized only in business combinations. The differences in rules include the following:

- revaluing to fair value is permitted if there is an active market (unlike CGAAP);
- expenditures on relocation or reorganization are expensed as incurred (unlike CGAAP whereby certain of these costs are capitalized following a business combination and others are expensed as incurred) and
- guidance provided on accounting for website development costs (unlike CGAAP where there is no specific guidance).

7.4 IFRS 36—Impairment of Assets

Impairment testing of tangible and intangible assets is significantly different when applying IFRS. CGAAP currently requires a two-step process that splits recognition from measurement. CGAAP evaluates the asset for evidence of impairment on an undiscounted cash flow basis. If there is evidence of impairment the asset is then valued on a discounted basis and a provision recorded. IFRS combines recognition and measurement by evaluating the asset on a discounted cash flow basis.

There are a number of other differences, including the following:

- a single comprehensive impairment standard (unlike CGAAP);
- reversal of impairment losses (not permitted using CGAAP);
- identification of cash generating units (generally tested at a higher level using CGAAP); and,
- annual assessments of impairment of certain assets (CGAAP requires monitors for signs of impairment).

The example in Figure 1 illustrates the impairment value differences between IFRS and CGAAP. This example assumes that the discounted cash flows and the fair value of the asset remain constant while examining the impact of different carrying values and undiscounted cash flows.

Figure 1 Impairment Value Differences Between IFRS and CGAAP

	Scenario 1	Scenario 2
Carrying Value	**45,000**	**50,000**
Undiscounted Cash Flow	50,000	45,000
Discounted Cash Flow	40,000	40,000
Fair Value	37,000	37,000
CGAAP Impairment	0	13,000
IFRS Impairment	5,000	10,000

(a) Scenario 1: Carrying Value of $45,000

In scenario 1 in Figure 1, the undiscounted cash flows exceed the carrying value of the asset. At the evaluation stage of CGAAP, the undiscounted cash flows exceed the carrying value and, hence, there is no indication of impairment.

IFRS requires that the carrying value be compared to the higher of the fair value (less costs to sell) and the present value of discounted cash flows. This suggests that IFRS would recognize an impairment of $5,000 (45,000-40,000).

(b) Scenario 2: Carrying Value of $50,000

In Figure 1, scenario 2, the carrying value of the asset exceeds the undiscounted cash flows. At the evaluation stage of CGAAP, an impairment of the asset value is indicated. The second step is to measure the impairment. As CGAAP prefers quoted market prices over discounted cash flows, an impairment of $13,000 (50,000-37,000) is recognized.

IFRS requires that the carrying value be compared to the higher of the fair value (less costs to sell) and the present value of discounted cash flows. This suggests that IFRS would recognize an impairment of $10,000 (50,000-40,000).

8. UPCOMING IFRS REVISIONS

IFRS financial statements prepared as at December 31, 2011, must be prepared using the Standards in force at that point. There are a number of IFRS standards that are likely to be revised and issued before the reporting date of December 31, 2011, as follows:

1. **IAS 37—Provisions, Contingent Liabilities & Contingent Assets.** Significant project underway regarding non-financial liabilities. Anticipated issue date fourth quarter 2009.
2. **IAS 24—Related Party Disclosures.** Minor amendments to clarify exemptions from the standards for entities that are related because of control, joint control or significant influence by the same government jurisdiction. Anticipated issue date fourth quarter 2009.
3. **IFRS 1—First-Time Adoption of IFRS.** Amendments anticipated to the oil and gas and rate-regulated industries. Anticipated issue date second quarter 2010.
4. **IAS 27 & SIC 12—Consolidated and Separate Financial Statements.** Significant changes anticipated. New standards to be issued in fourth quarter 2009: IAS 32 & IAS 39, IFRS 7—Financial Instruments. Minor amendments anticipated in 2009. Significant project underway to determine fair value—the "Fair Value Measurement Guidance" project. Anticipated issue date second quarter 2010.

5. **IAS 19—Employee Benefits.** To amend existing standards to address the discount rate (fourth quarter 2009) and unrecognized actuarial gains and losses (anticipated issue date 2011).
6. **IAS 12—Income Taxes.** Proposes substantive accounting changes to current Standard. To be issued in second quarter 2010.
7. **IAS 1—Presentation of Financial Statements.** Significant project underway to re-classify financial statement presentation. Anticipated issue date 2011.
8. **IAS 17—Leases.** Substantial changes to lessee accounting. To be issued in 2011.
9. **IAS 11 & IAS 18—Revenue Recognition.** To provide further guidance on defining revenue. To be issued in 2011.

9. HOW DOES CHANGING FROM CGAAP AFFECT BUSINESS VALUATORS WHO RELY ON IFRS FINANCIAL STATEMENTS

To conclude, business valuators, as users of financial statements, will need to be aware of the changes in reporting standards. The matters that the business valuator should be most concerned about are as follows:

1. **Balance sheet carrying amounts.** Determine the measurement basis of assets and liabilities. Any basis other than historical cost could introduce earnings volatility in the current period.
2. **Identify normalized earnings.** Since one of the attributes of fair value accounting is the variability of earnings from period to period, the business valuator may have to normalize earnings in order to compare current and historic periods.
3. **Public company research.** The business valuator will have to be aware of the differences between IFRS and CGAAP in order to understand financial information published by publicly accountable enterprises.
4. **Valuations based on public company financial results.** If a business valuator is preparing a valuation of a company that reports CGAAP financial results (e.g., a private company), a reconciliation of these results to the public company financial statements may be required in order to value the private company.

6

THE THEORY OF CUSTOMER RELATIONSHIP VALUATION*

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ABSTRACT

The expectation of continued patronage from existing customers is recognized as a valuable business asset. For many business enterprises, customer relationships can represent a significant component of corporate balance sheets. The valuation of customer relationship intangible assets considers the underlying life characteristics of the customer population along with expected earnings from the customers in estimating the customer relationship value.

1. INTRODUCTION

The recognition of intangible assets in financial statements has become an important element of the financial reporting process. Statement of Financial Accounting Standards (SFAS) 141 identifies five broad categories of intangible assets and describes the criteria to be met in order for an intangible asset to be recognized apart from goodwill. The need to comply with the requirements of SFAS 141 has continued the attention directed to the valuation of intangible assets with their corresponding influence on the income statement and balance sheet.

Beyond the guidance presented in SFAS 141, the recent issuance of FASB Staff Position FAS 142-3 "Determination of the Useful Life of Intangible Assets" illustrates the ongoing consideration directed toward intangible assets including customer relationships. The relationship between life expectancy and customer relationship value is an important consideration in the valuation process. The subject of customer relationship valuation will continue to receive attention as practitioners wrestle with the complexities surrounding intangible asset valuation.

Business enterprises strive to develop customer loyalty through regular contact with individual customers that over time solidify into business relationships. Customer relationships are established through regular interaction between the customer and business enterprise. This interaction creates a favorable opinion in the mind of the customer and increases the likelihood of continued patronage. The expectation of continued business patronage from established customer relationships is recognized as a valuable intangible asset inherent in many business enterprises.

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The views expressed in this article are those of the author and do not necessarily represent the views of Deloitte Financial Advisory Services LLP.

Despite significant corporate efforts directed toward customer retention, customers terminate business relationships for a variety of reasons. Factors, such as changing consumer preferences, geographic relocations, and shifting competitive allegiances, cause customers to terminate their business relationships. As time progresses, the original customer population diminishes as individual customer relationships are terminated and the customer relationship population experiences mortality. This article discusses the theoretical foundations of customer relationship valuation.

2. VALUATION THEORY

Valuation theory states that asset value can be described as the present value of the expected future cash flows generated by the asset. In the case of customer relationship assets, the expected cash flows are estimated through an examination of the economic drivers that influence the magnitude of the future cash flows associated with the asset. The application of valuation theory permits customer population life characteristics to be considered in conjunction with financial attributes of the customer population to estimate customer relationship value.

The valuation of customer-based intangible assets first considers the life characteristics for the customer population. Customer relationship value is dependent on population life characteristics because customer retirement behavior influences the future economic benefits available from the customer population. Business customers naturally exhibit retirement dispersion as some customers maintain a short-term relationship while others maintain a relationship for an extended time period. Customer relationship life characteristics are estimated through the study of historical customer retirement behavior to describe expected future retirement behavior. The estimation of population life characteristics is an integral part of the valuation process, because population retirement behavior influences the cash flows available from the customer relationship intangible asset. The life characteristics and age distribution of the customer population are used to project the number of surviving customers in future years for the customer population.

After estimating customer population life characteristics, expected revenues and expenses are forecast for the customer population. Revenues and expenses are projected for the customer population based upon available financial metrics. The expected annual cash flows are estimated from consideration of the remaining customers from the population along with the revenues and expenses for each future year. The projected cash flows are converted to present value through the application of a discount rate and aggregated to estimate the customer relationship value.

3. HISTORY AND DEVELOPMENT OF SURVIVOR CURVES

The statistical techniques used to construct survivor curves provide the basis to estimate life characteristics for the customer relationship valuation process. The Iowa-type curves and the Weibull distribution are the primary survivor curves employed for life estimates in the valuation profession. The Iowa-type survivor curves developed from empirical observation of the retirement experience for a variety of physical assets; the Weibull distribution is a theoretical mathematical distribution that has been used to describe survivorship characteristics for a variety of populations.

3.1 Iowa-Type Survivor Curves

The Iowa-type survivor curves developed as the result of research directed by Anson Marston, the Dean of Engineering at Iowa State College. Professor Marston recognized the need for a method to estimate life expectancy, and suggested the concept of a research project to faculty member Edwin B. Kurtz. In 1921 a research project was undertaken by Kurtz to expand the data collection for a survivor curve study that was originally begun when he was a graduate student at the University of Wisconsin. Robley Winfrey joined Kurtz as part of the research team the next year. During the research efforts it was observed that assets could be grouped according to generalized

survivor curve patterns when retirement data was standardized based on useful life. In 1931 Kurtz and Winfrey published their research results as Iowa Engineering Experiment Station Bulletin 103 ("Bulletin 103"), which presented 13 Iowa-type survivor curves generated from 65 asset experience sets.[1]

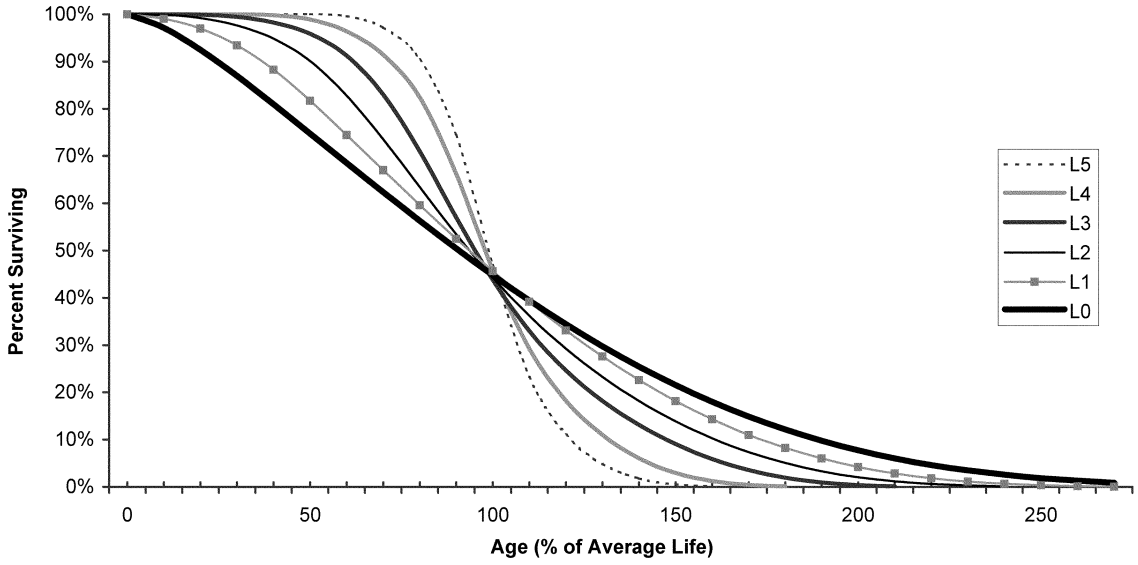
The Iowa-type survivor curves were derived from the mathematical fitting of data involving asset exposures and retirements. Iowa-type survivor curves express age as a percent of average service life and survivor experience as a percent of original population. The standardization of age and percent surviving allows the survivor curves to be generalized and compared for behavior pattern regardless of the average service life. Bulletin 103 was the first publication to identify survivor curve types based upon their retirement frequency profile.

Continued survivor curve research culminated in 1935 with the publication of Iowa Engineering Experiment Station Bulletin 125, "Statistical Analysis of Industrial Property Retirements" ("Bulletin 125"), which described 18 survivor curve types for estimating life characteristics.[2] These 18 survivor curves included: 6 left-moded curves, 5 right-moded curves and 7 symmetrical-moded curves. In 1967 a revised version of Bulletin 125 was published to include 4 origin-moded survivor curves where the greatest retirement rate occurs in the year of placement.

Iowa-type survivor curves employ average life and retirement behavior pattern to describe the individual survivor curves. The L series designates left-moded curves, the S series indicates symmetrical-moded curves, the R series designates right-moded curves, and the O series indicates origin-moded curves. A low number for the retirement pattern indicates a wide dispersion pattern and a relatively low frequency of modal retirements, whereas a high number indicates a narrow dispersion pattern and a relatively high frequency of modal retirements. A letter (L, S, R or O) specifies each retirement pattern, and a number designates the width of the dispersion pattern for the Iowa-type survivor curves.

The left-moded curves describe life characteristics whereby the greatest retirement frequency occurs prior to the average service life. The left-moded L series Iowa curves are presented in Figure 1.

Figure 1 Iowa L Family Survivor Curves



1 Winfrey, Robley and Edwin B. Kurtz. "Life Characteristics of Physical Property," Iowa Engneering Experiment Station, Iowa State College, Bulletin 103, 1931.

2 Winfrey, R. "Statistical Analysis of Industrial Property Retirements," Engineering Research Institute Revised Bulletin 125. Ames, Iowa: Iowa State University, 1967.

Figure 2 Iowa S Family Survivor Curves

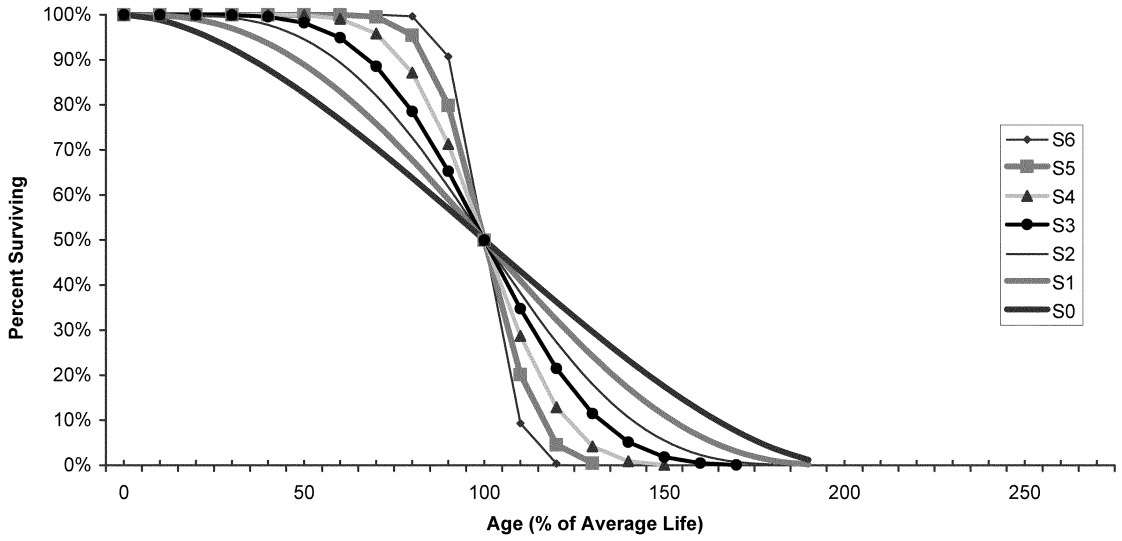
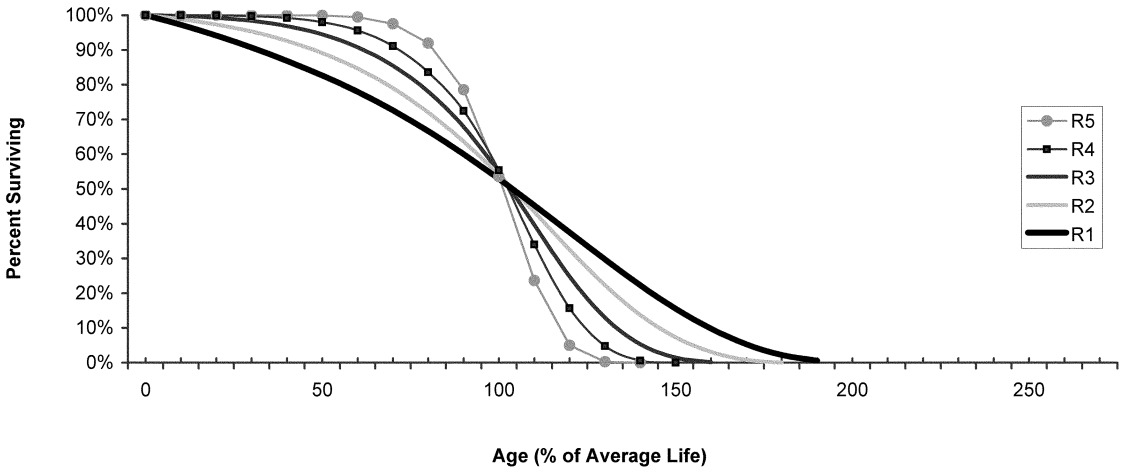


Figure 3 Iowa R Family Survivor Curves

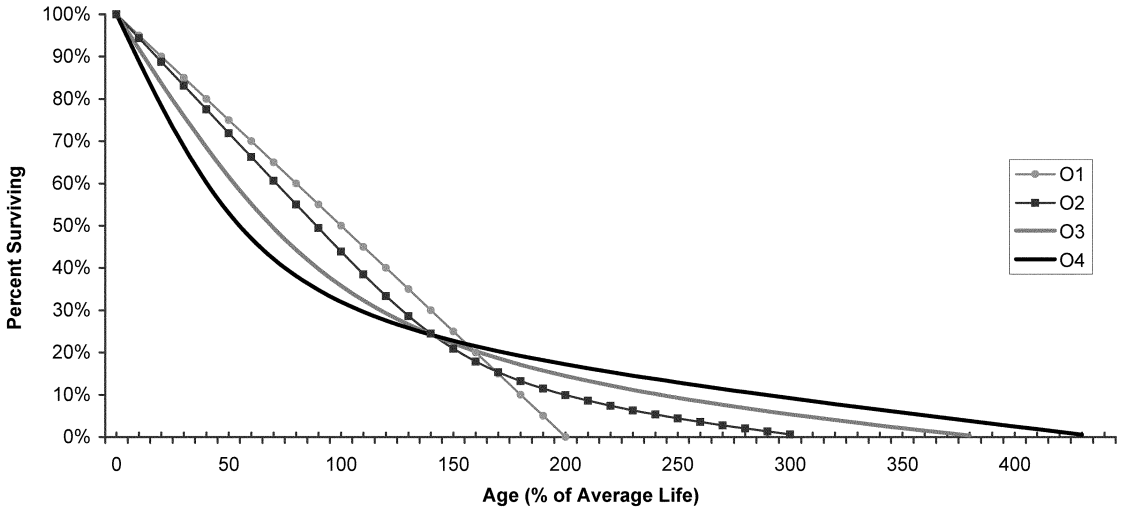


With the symmetrical-moded curves the greatest retirement frequency occurs at the average service life. The symmetrical S series Iowa curves are detailed in Figure 2.

The right-moded curves demonstrate their greatest retirement frequency beyond the average service life. The right-moded R series Iowa curves are presented in Figure 3.

The origin-moded curves experience their greatest retirement frequency in the year of placement in service. The origin-moded O series Iowa curves are displayed in Figure 4.

Figure 4 Iowa O Family Survivor Curves



Practical application of the Iowa-type survivor curves to estimate life expectancy resulted in the identification of 9 additional survivor curves. Eight of these additional survivor curves were half curves proposed by engineers at Public Service Electric and Gas Company of New Jersey. After experience working with the Iowa-type survivor curves, the Public Service Electric and Gas Company engineers believed that the transition between the low numbered curves was too great so that successive survivor curve types were averaged to create half curves. The ninth additional survivor curve type was the square survivor curve that lacks a dispersion pattern resulting in a total of 31 recognized Iowa-type survivor curves.

Iowa-type survivor curve selection is based upon expectations regarding population life characteristics. Iowa-type curve selection considers the dispersion pattern width, modal retirement frequency location and retirement frequency pattern. Iowa-type survivor curve selection is based on the expected narrowness or width of the dispersion pattern and the location of the modal retirement frequency relative to average life. Most analytical techniques are applied to historical data and produce a measurement of historical life characteristics for the population.

3.2 Weibull Distribution Survivor Curve

The Weibull distribution is a popular survivor curve employed to describe population life characteristics for a variety of applications. The Weibull distribution is named after the Swedish engineer Waloddi Weibull, who promoted its use as a product life model in the early 1950s. Survivor curve application of the Weibull distribution has expanded beyond engineering to such diverse fields as the valuation, biomedical science, and accounting professions.

The Weibull distribution is a generalization of the exponential distribution with the ability to model increasing, decreasing, and constant failure rates. As a two-parameter survival model, the Weibull distribution is described by the following mathematical function:

$$S(t) = e^{-(\frac{t}{a})^b} \text{ with } t > 0$$

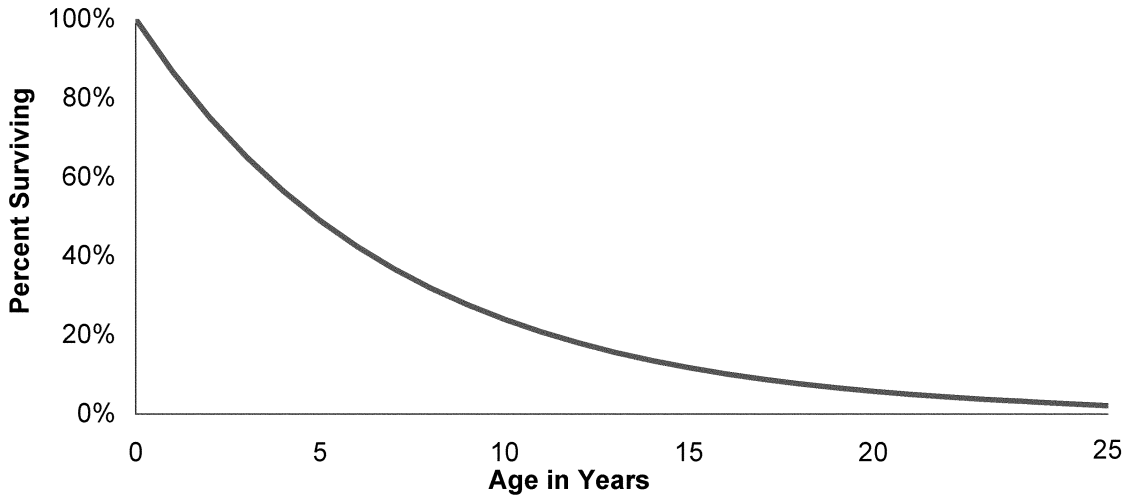
where:

S(t) = Survival percentage at age t
t = Customer age
e = Exponential function
a = Scale parameter
b = Shape parameter

The Weibull distribution is capable of modeling a wide variety of customer survival patterns through modification of the shape and scale parameters. Shape parameter variation produces a variety of survivor curve profiles including an increasing failure rate when shape is greater than 1, a decreasing failure rate when shape is less than 1, and a constant failure rate if shape is equal to 1. The ability to model a variety of survivor curve patterns has made the Weibull distribution a popular statistical model when describing population life characteristics.

The exponential nature of the Weibull distribution uses a logarithmic transformation of the survival function to linearize the survival data. After the survival data has been linearized, Weibull distribution shape and scale parameters are calculated using traditional linear regression techniques. Linear regression capabilities resident in spreadsheet software permits the direct solution of Weibull distribution shape and scale parameters to uniquely describe the survivor curve. Alternatively, Weibull probability paper can be used to estimate the shape and scale parameters for the customer population.[3] Figure 5 illustrates the Weibull distribution where the scale parameter is equal to 7.0 and the shape parameter is 1.0.

Figure 5 Weibull Distribution



Life expectancy for the Weibull distribution is solved directly from the shape and scale parameters using the following mathematical relationship:

Life expectancy = scale * Gamma (1+(1/shape))

where

scale = Weibull scale parameter

shape = Weibull shape parameter

Gamma = Gamma distribution

The Weibull distribution's flexibility in describing a variety of survival patterns has made it popular as a model of population life characteristics.

3 Nelson, W. *Applied Life Data Analysis* (New York: John Wiley & Sons, 1982) at 115-116.

4. RETIREMENT RATE METHOD

Customer relationship life expectancy estimates are generated through the application of the retirement rate method, which calculates the retirement profile for the customer population. The retirement rate method studies historical retirement patterns as a basis for the estimation of future retirement activity. Retirement rate method analysis expands beyond consideration of aggregate historical customer population inherent with an attrition rate analysis to examine age specific retirement characteristics. The retirement rate method calculates a survivor curve profile through a time series analysis of historical population retirement behavior.

The retirement rate analytical process begins with an examination of customer information to identify the data to include and exclude when performing the lifing analysis. Customer population information is studied for trends to better understand the reasons for the past behavior and the applicability of identified life characteristics. Retirement rate analysis considers customer population retirement behavior when calculating life characteristics and results in an observed survivor curve. Retirement rate analysis involves the study of start and retirement dates to construct an observed survivor curve that describes the relationship between the percent surviving for the customer population relative to the time duration of the customer relationship. The start date marks the beginning of the customer relationship and reflects the date when the customer first established the business relationship. The retirement date occurs when the customer is considered to have terminated the business relationship.

The individual age cohort retirement rates are calculated by dividing the customers retired by retirement exposures for each age cohort. Figure 6 presents a compilation of the customer retirement exposures and customer retirements.

Figure 6 also presents the customer population exposures and retirements for each age group that are used to develop the observed survivor curve. The customer population observed survivor curve is calculated from the individual age group retirement rates as the cumulative product of the age group survival percentages. The observed survivor curve depicts the relationship between the duration of the customer relationship and its expected retirement rate.

The observed survivor curve is compared with the Iowa and Weibull survivor curve models to smooth the observed retirement pattern and extend the survivor curve. The survivor curve comparison process utilizes a least squares statistical analysis between the observed survivor curve and the survivor curve models. The survivor curve models are ranked based on the squared differences between the survivor curve model and the observed survivor curve with the best fitting survivor curve model minimizing the squared differences. Figure 7 graphically presents the least squares curve-fitting process that yields an exponential survivor curve with a 6-year life as a descriptor of customer population life characteristics.

Figure 6 Customer Population Retirement Rate Analysis

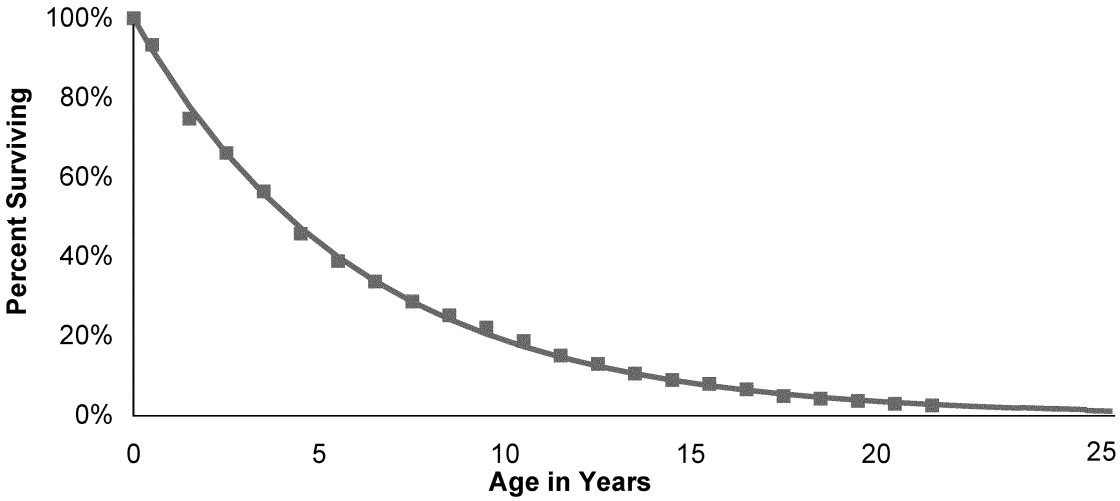
Age	Customers Exposed	Customers Retired	Survivor Curve
0.0	600	40	100.00
0.5	687	137	93.33
1.5	588	68	74.72
2.5	550	80	66.08
3.5	543	103	56.47
4.5	506	76	45.76
5.5	518	68	38.88
6.5	494	74	33.78
7.5	432	52	28.72
8.5	388	48	25.26
9.5	436	66	22.14
10.5	496	96	18.79
11.5	500	70	15.15
12.5	601	111	13.03
13.5	590	90	10.62
14.5	576	66	9.00
15.5	598	98	7.97
16.5	608	158	6.66
17.5	510	70	4.93
18.5	502	62	4.26
19.5	597	127	3.73
20.5	528	58	2.94
21.5	540	80	2.61

The customer retirement information in Figure 6 illustrates the application of the retirement rate method to estimate customer population life expectancy. A comparison of the observed survivor curve with the Iowa-type curves and the Weibull distribution survivor curve models permits the construction of a complete survivor curve and by extension an estimate of customer population life characteristics.

5. DISCOUNTED CASH FLOW ANALYSIS

The expected economic benefits associated with the customer based intangible asset are measured through a discounted cash flow analysis applied to the customer population. The selected survivor curve resulting from the estimation of the customer population life characteristics is used to forecast expected retirement behavior. Future customer survivor characteristics are forecast for the population by applying the selected survivor curve to the active customers from the population to estimate the number of surviving customers for the future years of the discounted cash flow analysis.

Figure 7 Exponential Distribution



Expected revenue for the customer population is estimated from the projected future surviving customers and the forecast revenue per customer. Annual customer population revenue is calculated as the product of revenue per customer giving consideration to expected future growth in revenue per customer and the number of surviving customers. Revenue growth per customer is estimated from consideration of expected trends in customer business activity for the duration of the cash flow projection period.

After the forecast of expected customer revenue, expenses associated with servicing the customers are estimated based upon consideration of historical and projected financial information. Cost of sales expenses along with general and administrative expenses include those expenses that are associated with the manufacture of a product or provision of services and the indirect expenditures incurred to generate revenue. Selling expenses represent the marketing expenditures associated with maintaining the customer relationship. Contributory asset charges for fixed assets, working capital and trade name represent a charge to the intangible asset benefit stream for the use of a normalized level of contributory assets to support the intangible asset.[4] The income tax rate reflects a combination of federal and state income taxes with state taxes dependent on the applicable jurisdiction. The *pro forma* analysis estimates the available annual cash flow associated with the customer population including the amortization tax benefit.

Annual cash flows for the customer population are calculated from projections of revenues and expenses for the duration of the discounted cash flow analysis. The annual cash flows are then discounted to indicate present values and summed to estimate the value for the customer population. The discount rate provides a satisfactory return for the risk associated with the customer relationship intangible asset. An analysis of the discount rate considers an appropriate capital structure along with the cost of each capital component to estimate the rate of return requirements. The sum of the present values provides an estimate of the customer relationship intangible asset value.

The customer population information from Figure 6 can be further used to illustrate the concepts associated with the development of a customer relationship value estimate through the application of a discounted cash flow analysis. The Figure 6 customer population consists of 10,490 active customer relationships. If the average revenue per customer is equal to $10,000 then the base revenue for the customer population is calculated as the product of the number of customers and the average revenue per customer. Application of the selected survivor curve to

4 Gooch, Lawrence B. "Capital Charges and the Valuation of Intangibles," *Business Valuation Review*, March 1992, at 5-21.

the customer population produces a forecast of the remaining number of customers in future years of the cash flow projection.

Further assumptions regarding customer population characteristics for the valuation process include: a revenue growth rate per customer of 2.5 percent per year, cost of goods sold equal to 60 percent of revenue, general and administrative expense at 10 percent of revenue, selling expense equal to 3 percent of revenue, contributory asset charges of 4 percent of revenue, a tax rate of 40 percent and a discount rate of 12 percent. A discounted cash flow analysis provides a value indication of $70,837,000 for the customer population as presented in Appendix A. The development of the discounted cash flow analysis includes the provision of tax benefits from amortization of the customer relationship intangible asset for 15 years.

6. SUMMARY AND CONCLUSION

Customer relationships develop over time from regular and consistent interaction between customers and business enterprises. Businesses seek to cultivate loyalty from their customers as a positive business relationship predisposes customers to maintain their business relationships. The expectation of continued customer patronage is recognized as a valuable asset, resident in many business enterprises. Despite the best corporate efforts at customer retention, customers terminate their relationships such that over time the original customer relationships experience a decline.

The estimation of customer relationship value is dependent on customer population life characteristics and the future economic benefits derived from the ongoing customer relationships. Survivor curve concepts address the wasting nature of the customer population and its influence on the future economic benefits available from the customer population. The economic benefits from the customer population are considered through a traditional discounted cash flow analysis of the expected cash flows generated by the customer population. The valuation of customer relationship intangible assets considers the underlying life characteristics of the customer population along with anticipated economic benefits in estimating the customer relationship value.

Appendix A
Discounted Cash Flow Analysis
Customer Valuation
($000's)

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Surviving Accounts	9,650	8,169	6,917	5,853	4,956	4,196	3,551	3,005	2,544	2,151	1,823	1,543	1,308	1,105	935
Revenue	98,913	85,826	74,489	64,606	56,073	48,661	42,210	36,613	31,771	27,535	23,919	20,752	18,031	15,613	13,542
Cost of Sales	59,348	51,496	44,693	38,764	33,644	29,197	25,326	21,968	19,063	16,521	14,351	12,451	10,819	9,368	8,125
Gen. & Admin. Expense	9,891	8,583	7,449	6,461	5,607	4,866	4,221	3,661	3,177	2,754	2,392	2,075	1,803	1,561	1,354
Selling Expense	2,967	2,575	2,235	1,938	1,682	1,460	1,266	1,098	953	826	718	623	541	468	406
Contributory Charge	3,957	3,433	2,980	2,584	2,243	1,946	1,688	1,465	1,271	1,101	957	830	721	625	542
Amortization	4,722	4,722	4,722	4,722	4,722	4,722	4,722	4,722	4,722	4,722	4,722	4,722	4,722	4,722	4,722
Pretax Income	18,028	15,018	12,410	10,137	8,174	6,470	4,986	3,699	2,585	1,611	779	51	(575)	(1,131)	(1,608)
Taxes	7,211	6,007	4,964	4,055	3,270	2,588	1,994	1,479	1,034	644	312	20	(230)	(453)	(643)
Net Income	10,817	9,011	7,446	6,082	4,905	3,882	2,992	2,219	1,551	966	467	30	(345)	(679)	(965)
Amortization	4,722	4,722	4,722	4,722	4,722	4,722	4,722	4,722	4,722	4,722	4,722	4,722	4,722	4,722	4,722
Available Cash Flow	15,539	13,733	12,168	10,805	9,627	8,604	7,714	6,942	6,273	5,689	5,190	4,753	4,377	4,044	3,758
Present Value Factor	0.9449	0.8437	0.7533	0.6726	0.6005	0.5362	0.4787	0.4274	0.3816	0.3407	0.3042	0.2716	0.2425	0.2165	0.1933
PV of Cash Flow	14,683	11,586	9,166	7,267	5,781	4,613	3,693	2,967	2,394	1,938	1,579	1,291	1,062	876	727
Customer Value	70,837														

Appendix A (cont'd)
Discounted Cash Flow Analysis
Customer Valuation
($000's)

Year	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Surviving Accounts	791	670	567	482	405	340	292	247	209	175	148	126	106	90	75
Revenue	11,742	10,195	8,843	7,705	6,636	5,711	5,027	4,359	3,780	3,244	2,812	2,454	2,116	1,842	1,573
Cost of Sales	7,045	6,117	5,306	4,623	3,982	3,427	3,016	2,615	2,268	1,946	1,687	1,472	1,270	1,105	944
Gen. & Admin. Expense	1,174	1,020	884	771	664	571	503	436	378	324	281	245	212	184	157
Selling Expense	352	306	265	231	199	171	151	131	113	97	84	74	63	55	47
Contributory Charge	470	408	354	308	265	228	201	174	151	130	112	98	85	74	63
Amortization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pretax Income	2,701	2,345	2,034	1,772	1,526	1,314	1,156	1,003	869	746	647	564	487	424	362
Taxes	1,080	938	814	709	611	525	462	401	348	298	259	226	195	169	145
Net Income	1,620	1,407	1,220	1,063	916	788	694	602	522	448	388	339	292	254	217
Amortization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Available Cash Flow	1,620	1,407	1,220	1,063	916	788	694	602	522	448	388	339	292	254	217
Present Value Factor	0.1726	0.1541	0.1376	0.1229	0.1097	0.0980	0.0875	0.0781	0.0697	0.0623	0.0556	0.0496	0.0443	0.0396	0.0353
PV of Cash Flow	280	217	168	131	100	77	61	47	36	28	22	17	13	10	8

7

SIZE ADJUSTMENTS FOR STOCK RETURN VOLATILITIES*

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ABSTRACT

A growing number of applications in valuing privately held companies require a determination of stock return volatility estimates for privately held companies. This article provides an objective methodology for determining appropriate adjustments to guideline publicly traded company stock return volatilities based on size to assist in estimating stock return volatilities for privately held companies.

1. INTRODUCTION

The use of stock return volatilities in business valuation has increased significantly in the last few years. In addition to their use in valuing derivatives, stock return volatilities are frequently used in determining appropriate discounts for lack of marketability for privately held companies for both tax and financial reporting purposes. In addition, volatilities are an important input into equity allocation analyses using the option pricing model either directly for a company with little or no debt or as a starting point for estimating asset volatility for a company.

It is well known that as the size of a firm increases, the volatility of its stock returns decreases. Several explanations for this relationship include the fact that smaller publicly traded firms tend to exhibit higher mortality, have lower liquidity, higher short-term borrowings, and more volatility of earnings.

The objective of this paper is to improve determinations of stock return volatilities used for valuation of privately-held companies. The results of this study provide the valuation practitioner a simple methodology for adjusting historical volatilities of guideline publicly traded companies to more closely estimate the volatility that would be observed for a privately held company if it were publicly traded based on firm size, as measured by market capitalization.[1]

Although this article provides one measure of adjustment based on size, the author certainly recognizes that there are many factors other than size which may impact differences in volatility between a subject company and selected guideline companies. The practitioner should consider the facts and circumstances of the subject company, as well as consider other potential differences between the selected guideline companies and the subject company.

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1 As is usually the case with market-based valuation methodologies, use of the size adjustments should be combined with careful analysis of the other differences between the selected publicly traded companies and the company being valued.

In addition, if the selection of guideline companies is not a good selection, the volatility indication may still not provide a good indication of volatility for the subject company.

2. MEASURING VOLATILITY

The annualized volatility rate (*6*) is based on daily stock return observations using the following formula:

$$\sigma_i = \sqrt{252 \sum_{t=1}^{N} \frac{(r_t^i - \bar{r}^i)^2}{N-1}}$$

where N is the number of daily observations for the i[th] company based on the appropriate lookback period, r_t^i is the daily stock return for the i[th] company, and r^{-1} is the average daily stock return for the i[th] company over the appropriate lookback period.[2] The 252 figure represents the assumed number of trading days per year.

3. DETERMINATION OF HISTORICAL VOLATILITIES

Stock returns from the three major U.S. exchanges—NYSE, NASDAQ, and AMEX—were calculated using adjusted close price from Yahoo finance from June 30, 1998 to June 30, 2008. Companies whose stock traded on these exchanges were excluded if their market capitalization as of June 30 was less than $1 MM, or if the company's stock had less than 3 months of trading. Stocks that were identified as a diversified financial product or as a fund were also excluded.[3]

After these exclusions were made and stock price returns were calculated, volatilities based on these returns were calculated for a total of 5,434 publicly traded companies, made up of 1,947 public companies from the NYSE exchange, 2,971 public companies from the NASDAQ exchange, and 516 public companies from the AMEX exchange. Lookback volatility rates were calculated for 3 months, 6 months, 1 year, 2 years, etc. to 10 years.

Because some publicly traded companies have days in which there is no trading (i.e., zero volume), indicated volatility rates may not be reflective of true volatility rates had shares been traded on those zero volume days. In order to reduce the level of bias in the volatility rates, a thin trading filter was used. The filter excluded volatility rate indicators for a publicly traded company over each lookback period if there were more than 1% of the trading days over the period with zero volume.[4] After imposing this filter, a total of 4,767 companies remained in the

2 A lookback period is a historical period of time (usually leading up to the date of valuation) used to estimate the behavior of stock returns or asset/equity value going forward from the date of valuation. For example, in using the option pricing model for equity allocation, if the average length of time anticipated from the date of valuation to a future liquidity event is 5 years, the lookback period would be the 5-year period up to the date of valuation. Under this scenario, Figure 5 using a 5-year lookback period would be the appropriate table to use for estimating size adjustments in volatility. In contrast, if a blockage discount was being determined and an average period of 6 months is determined as necessary to dribble out shares without impacting pricing on the market, then the 6-month lookback period under Figure 5 would be the appropriate reference.

3 The following funds were removed from the stock observations: Exchange-traded funds (ETFs), closed end funds, structured products, HOLDRs, and any other product that was identified as a fund. Funds were removed, since the diversification role that the fund provides would be expected to lead to lower volatility values that would not be representative of a privately held company that is normally not as diversified as these types of products.

4 In other words, for the one-year lookback period, a total of 252 trading days was assumed. Therefore, if during the one-year period more than 3 zero volume trading days were observed, the volatility observation was excluded as not meaningful.

data set (1,938 NYSE, 2,496 NASDAQ, and 333 AMEX), with one or more lookback period annualized volatility rate.

The companies were then grouped by deciles based on market capitalization. Figure 1 summarizes general statistics by deciles for the publicly traded companies.

4. ASSESSMENT OF VOLATILITY SIZE ADJUSTMENTS

Figures 3 and 4 summarize the average and median volatility results by market capitalization decile, respectively. Figure 2 shows from a graphical standpoint the average volatility rates by decile for lookback periods ranging from 3 months to 10 years (as indicated in Figure 3).

From Figure 3, the volatility adjustment can be calculated based on a comparison of the decile bracket into which the selected guideline publicly traded company's market capitalization falls and the decile bracket into which the privately held company would fall. Figure 5 provides implied volatility rate adjustments for lookback periods from 3 months to 10 years, based on mean and median volatilities from Figures 3 and 4.

Figure 1 Summary of Statistics by Deciles

Decile	Market Cap. Low ($mm)	Market Cap. High ($mm)	Market Cap. Avg. ($mm)	Avg. Vol.
10th	2	49	27	81.8%
9th	49	108	77	65.7%
8th	108	183	143	56.9%
7th	183	308	242	53.6%
6th	308	517	404	50.8%
5th	517	872	671	47.9%
4th	872	1,586	1,186	41.7%
3rd	1,586	3,297	2,334	38.8%
2nd	3,297	9,567	5,676	36.4%
1st	9,567	465,652	42,495	33.6%

Figure 2 Average Lookback Volatility Curves by Decile

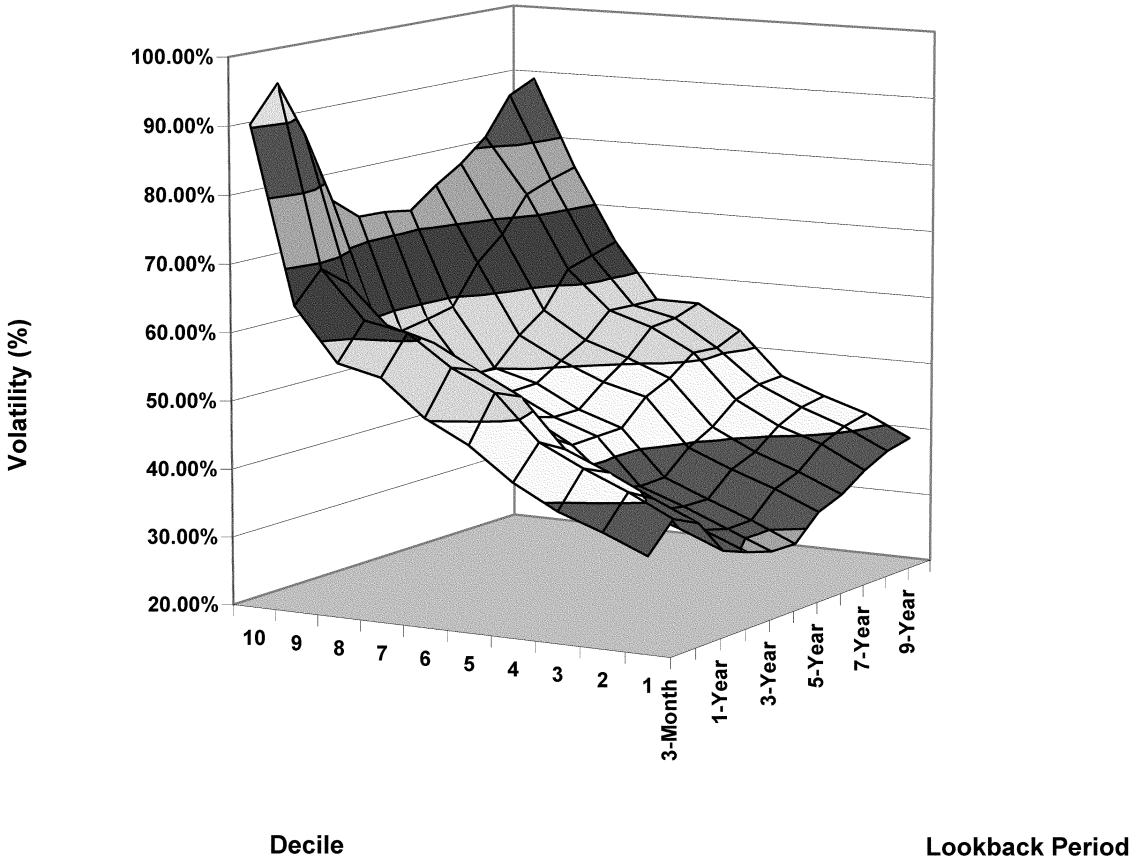

Figure 3 Average Annualized Volatility Rates by Market Cap. Decile for Various Lookback Periods for the Three Major U.S. Exchanges

Decile	3-Mos.	6-Mos.	1-Yr	2-Yrs.	3-Yrs.	4-Yrs.	5-Yrs.	6-Yrs.	7-Yrs.	8-Yrs.	9-Yrs.	10-Yrs.
1	34.0%	38.1%	36.3%	31.1%	29.6%	28.5%	28.3%	31.9%	33.3%	35.7%	37.5%	38.3%
2	36.7%	41.2%	39.1%	33.6%	32.2%	31.1%	31.1%	34.6%	36.0%	39.0%	40.6%	41.4%
3	39.0%	44.0%	42.2%	35.8%	34.3%	33.7%	33.6%	36.9%	38.3%	41.2%	42.9%	43.5%
4	42.4%	47.1%	44.9%	38.9%	37.1%	36.0%	36.2%	39.5%	41.5%	44.5%	45.7%	46.0%
5	47.1%	53.6%	51.9%	45.1%	42.6%	42.8%	42.9%	46.5%	48.2%	51.1%	50.8%	52.4%
6	50.4%	56.6%	55.1%	47.9%	46.1%	45.0%	45.0%	48.1%	50.7%	54.3%	54.7%	56.0%
7	55.6%	61.0%	58.5%	50.5%	48.9%	48.2%	48.4%	50.7%	52.8%	56.3%	56.2%	56.1%
8	57.1%	62.2%	59.8%	52.5%	50.4%	49.9%	50.1%	54.0%	56.8%	62.1%	63.3%	64.5%
9	64.8%	69.2%	66.1%	59.6%	57.1%	57.8%	58.7%	64.4%	67.8%	73.1%	74.5%	75.6%
10	90.5%	95.7%	87.4%	76.9%	73.6%	73.4%	72.7%	75.7%	78.1%	81.4%	87.0%	88.9%

Figure 4 Median Annualized Volatility Rates by Market Cap. Decile for Various Lookback Periods for the Three Major U.S. Exchanges

Decile	3-Mos.	6-Mos.	1-Yr	2-Yrs.	3-Yrs.	4-Yrs.	5-Yrs.	6-Yrs.	7-Yrs.	8-Yrs.	9-Yrs.	10-Yrs.
1	32.3%	36.0%	33.9%	29.8%	28.0%	26.7%	26.6%	29.7%	30.8%	32.0%	33.6%	35.3%
2	35.4%	40.4%	37.9%	32.4%	30.7%	29.7%	29.6%	32.4%	33.6%	36.0%	37.6%	38.6%
3	37.2%	41.8%	40.3%	34.5%	33.4%	32.2%	31.8%	33.5%	34.7%	37.2%	39.0%	39.7%
4	39.1%	44.6%	43.1%	37.1%	36.1%	35.1%	35.0%	36.5%	38.0%	40.9%	41.9%	42.5%
5	44.2%	50.3%	49.4%	43.2%	40.7%	40.8%	40.7%	43.6%	45.3%	47.4%	47.6%	48.8%
6	46.6%	52.4%	52.1%	45.4%	44.1%	42.3%	42.0%	46.1%	47.7%	52.9%	53.0%	55.4%
7	50.6%	57.3%	55.3%	48.0%	46.2%	46.2%	46.7%	48.5%	50.6%	54.5%	53.5%	54.0%
8	53.5%	59.6%	57.9%	51.5%	48.8%	48.1%	48.3%	52.6%	55.2%	60.9%	61.7%	63.9%
9	60.4%	65.3%	61.7%	57.2%	55.1%	56.1%	57.9%	63.2%	66.3%	71.5%	74.7%	74.8%
10	77.2%	87.1%	81.7%	73.5%	70.5%	71.0%	71.6%	74.8%	78.6%	80.3%	86.9%	87.2%

As an illustration how Figure 5 was calculated, take the 3-month lookback section of Figure 5 going from Decile 1 to Decile 10. The implied adjustment of 166 percent is calculated from Figure 3 as 90.5 percent (3-month 10th decile volatility) divided by 34.0 percent (3-month 1st decile volatility) less 1, which is simply the percentage increase in volatility from the 1st decile to the 10th decile.

5. EXAMPLE

To show how these adjustments can be used, let's assume that 4 publicly traded companies (listed below) are good guideline companies to the privately held company for which I need to determine a discount for lack of marketability. The privately held company is valued on a minority, marketable basis at $40 million. I also assume that the only difference between these publicly traded companies and the privately held company that is being valued is based on differences in size. Finally, I assume for purposes of this example that a 2-year holding period is appropriate for determining the discount for lack of marketability (based on information from management that the company plans to be sold in 2 years). The list of selected guideline companies are the following:

- Brookdale Senior Living (NYSE:BKD)
- Sun Healthcare Group Inc. (NasdaqNM: SUNH)
- Capital Senior Living Corp. (NYSE:CSU)
- Five Star Quality Care, Inc. (AMEX:FVE)

Since Brookdale's market capitalization as of June 30, 2008 was $2.1 billion, it would fall into the third decile of publicly traded companies, while the privately held company at $40 million would be in the 10th decile. Going from a 3rd decile to a 10th decile range indicates a positive volatility adjustment of 115 percent based on average volatility.

Since Brookdale had a 2-year lookback volatility of 32.8 percent, using the average volatility adjustment of 115 percent would imply an estimated volatility rate for the privately held company of 32.8 percent*(1.00+1.15) = 70.5 percent. If the valuation practitioner wanted to make the adjustment based on a median volatility rate, Figures 3 and 4 indicate that a 113 percent adjustment would be appropriate, which would imply an estimated volatility rate for the privately held company of 69.9 percent.

Adjustments for the other publicly traded companies would be similar, leading to the indicated volatility rates in Figure 6. At this point, the appraiser may find that one or more selections are best representative of the company being valued, or that all of the selections are equally comparable with the subject. Assuming equal weights for the four companies leads to a concluded volatility rate for the privately held company of 62.0 percent.

Figure 5 Average Annualized Volatility Size Adjustments by Market Cap. Decile

3-Month Lookback

	To Decile									
From Docile	10	9	8	7	6	5	4	3	2	1
10	0%	-28%	-37%	-39%	-44%	-48%	-53%	-57%	-59%	-62%
9	40%	0%	-12%	-14%	-22%	-27%	-35%	-40%	-43%	-47%
8	59%	14%	0%	-3%	-12%	-17%	-26%	-32%	-36%	-40%
7	63%	17%	3%	0%	-9%	-15%	-24%	-30%	-34%	-39%
6	80%	29%	13%	10%	0%	-6%	-16%	-23%	-27%	-32%
5	92%	37%	21%	18%	7%	0%	-10%	-17%	-22%	-28%
4	113%	53%	34%	31%	19%	11%	0%	-8%	-13%	-20%
3	132%	66%	46%	43%	29%	21%	9%	0%	-6%	-13%
2	147%	76%	55%	51%	37%	28%	16%	6%	0%	-7%
1	166%	90%	68%	63%	48%	38%	25%	15%	8%	0%

6-Month Lookback

	To Decile									
From Docile	10	9	8	7	6	5	4	3	2	1
10	0%	-28%	-35%	-36%	-41%	-44%	-51%	-54%	-57%	-60%
9	38%	0%	-10%	-12%	-18%	-23%	-32%	-36%	-40%	-45%
8	54%	11%	0%	-2%	-9%	-14%	-24%	-29%	-34%	-39%
7	57%	13%	2%	0%	-7%	-12%	-23%	-28%	-32%	-38%
6	69%	22%	10%	8%	0%	-5%	-17%	-22%	-27%	-33%
5	79%	29%	16%	14%	6%	0%	-12%	-18%	-23%	-29%
4	103%	47%	32%	30%	20%	14%	0%	-7%	-12%	-19%
3	118%	57%	42%	39%	29%	22%	7%	0%	-6%	-13%
2	132%	68%	51%	48%	37%	30%	14%	7%	0%	-8%
1	151%	82%	63%	60%	48%	41%	24%	15%	8%	0%

1-Year Lookback

	To Decile									
From Docile	10	9	8	7	6	5	4	3	2	1
10	0%	-24%	-32%	-33%	-37%	-41%	-49%	-52%	-55%	-58%
9	32%	0%	-9%	-11%	-17%	-21%	-32%	-36%	-41%	-45%
8	46%	10%	0%	-2%	-8%	-13%	-25%	-29%	-35%	-39%
7	49%	13%	2%	0%	-6%	-11%	-23%	-28%	-33%	-38%
6	58%	20%	9%	6%	0%	-6%	-19%	-23%	-29%	-34%
5	68%	27%	15%	13%	6%	0%	-13%	-19%	-25%	-30%
4	94%	47%	33%	30%	23%	16%	0%	-6%	-13%	-19%
3	107%	56%	42%	39%	31%	23%	6%	0%	-7%	-14%
2	123%	69%	53%	50%	41%	33%	15%	8%	0%	-7%
1	141%	82%	65%	61%	52%	43%	24%	16%	8%	0%

Figure 5—*continued*

2-Year Lookback

	To Decile									
From Docile	10	9	8	7	6	5	4	3	2	1
10	0%	-22%	-32%	-34%	-38%	-41%	-49%	-53%	-56%	-60%
9	29%	0%	-12%	-15%	-20%	-24%	-35%	-40%	-44%	-48%
8	46%	13%	0%	-4%	-9%	-14%	-26%	-32%	-36%	-41%
7	52%	18%	4%	0%	-5%	-11%	-23%	-29%	-33%	-39%
6	60%	24%	10%	5%	0%	-6%	-19%	-25%	-30%	-35%
5	71%	32%	17%	12%	6%	0%	-14%	-20%	-25%	-31%
4	98%	53%	35%	30%	23%	16%	0%	-8%	-14%	-20%
3	115%	66%	47%	41%	34%	26%	9%	0%	-6%	-13%
2	129%	77%	56%	50%	42%	34%	16%	7%	0%	-8%
1	148%	92%	69%	63%	54%	45%	25%	15%	8%	0%

3-Year Lookback

	To Decile									
From Docile	10	9	8	7	6	5	4	3	2	1
10	0%	-22%	-31%	-34%	-37%	-42%	-50%	-53%	-56%	-60%
9	29%	0%	-12%	-14%	-19%	-25%	-35%	-40%	-44%	-48%
8	46%	13%	0%	-3%	-9%	-16%	-26%	-32%	-36%	-41%
7	51%	17%	3%	0%	-6%	-13%	-24%	-30%	-34%	-39%
6	60%	24%	9%	6%	0%	-8%	-20%	-26%	-30%	-36%
5	73%	34%	18%	15%	8%	0%	-13%	-19%	-25%	-31%
4	98%	54%	36%	32%	24%	15%	0%	-7%	-13%	-20%
3	114%	66%	47%	42%	34%	24%	8%	0%	-6%	-14%
2	129%	77%	57%	52%	43%	32%	15%	7%	0%	-8%
1	149%	93%	70%	65%	56%	44%	25%	16%	9%	0%

4-Year Lookback

	To Decile									
From Docile	10	9	8	7	6	5	4	3	2	1
10	0%	-21%	-32%	-34%	-39%	-42%	-51%	-54%	-58%	-61%
9	27%	0%	-14%	-17%	-22%	-26%	-38%	-42%	-46%	-51%
8	47%	16%	0%	-3%	-10%	-14%	-28%	-32%	-38%	-43%
7	52%	20%	4%	0%	-7%	-11%	-25%	-30%	-36%	-41%
6	63%	28%	11%	7%	0%	-5%	-20%	-25%	-31%	-37%
5	72%	35%	17%	13%	5%	0%	-16%	-21%	-27%	-33%
4	104%	61%	39%	34%	25%	19%	0%	-6%	-14%	-21%
3	118%	72%	48%	43%	34%	27%	7%	0%	-8%	-16%
2	136%	86%	61%	55%	45%	38%	16%	8%	0%	-8%
1	158%	103%	75%	69%	58%	50%	27%	18%	9%	0%

Figure 5—*continued*

5-Year Lookback

	To Decile									
From Docile	10	9	8	7	6	5	4	3	2	1
10	0%	-19%	-31%	-34%	-38%	-41%	-50%	-54%	-57%	-61%
9	24%	0%	-15%	-18%	-23%	-27%	-38%	-43%	-47%	-52%
8	45%	17%	0%	-3%	-10%	-14%	-28%	-33%	-38%	-43%
7	50%	21%	4%	0%	-7%	-11%	-25%	-31%	-36%	-41%
6	62%	30%	11%	7%	0%	-5%	-20%	-25%	-31%	-37%
5	70%	37%	17%	13%	5%	0%	-16%	-22%	-27%	-34%
4	101%	62%	38%	34%	24%	19%	0%	-7%	-14%	-22%
3	117%	75%	49%	44%	34%	28%	8%	0%	-7%	-16%
2	134%	88%	61%	55%	45%	38%	16%	8%	0%	-9%
1	157%	107%	77%	71%	59%	51%	28%	19%	10%	0%

6-Year Lookback

	To Decile									
From Docile	10	9	8	7	6	5	4	3	2	1
10	0%	-15%	-29%	-33%	-36%	-39%	-48%	-51%	-54%	-58%
9	18%	0%	-16%	-21%	-25%	-28%	-39%	-43%	-46%	-51%
8	40%	19%	0%	-6%	-11%	-14%	-27%	-32%	-36%	-41%
7	49%	27%	6%	0%	-5%	-8%	-22%	-27%	-32%	-37%
6	57%	34%	12%	5%	0%	-3%	-18%	-23%	-28%	-34%
5	63%	39%	16%	9%	3%	0%	-15%	-21%	-26%	-31%
4	92%	63%	37%	29%	22%	18%	0%	-7%	-12%	-19%
3	105%	75%	46%	38%	30%	26%	7%	0%	-6%	-14%
2	119%	86%	56%	47%	39%	34%	14%	7%	0%	-8%
1	138%	102%	69%	59%	51%	46%	24%	16%	9%	0%

7-Year Lookback

	To Decile									
From Docile	10	9	8	7	6	5	4	3	2	1
10	0%	-13%	-27%	-32%	-35%	-38%	-47%	-51%	-54%	-57%
9	15%	0%	-16%	-22%	-25%	-29%	-39%	-43%	-47%	-51%
8	38%	19%	0%	-7%	-11%	-15%	-27%	-32%	-37%	-41%
7	48%	28%	8%	0%	-4%	-9%	-21%	-27%	-32%	-37%
6	54%	34%	12%	4%	0%	-5%	-18%	-24%	-29%	-34%
5	62%	41%	18%	10%	5%	0%	-14%	-20%	-25%	-31%
4	88%	63%	37%	27%	22%	16%	0%	-8%	-13%	-20%
3	104%	77%	48%	38%	32%	26%	8%	0%	-6%	-13%
2	117%	88%	58%	47%	41%	34%	15%	6%	0%	-8%
1	135%	104%	71%	59%	52%	45%	25%	15%	8%	0%

Figure 5—*continued*

8-Year Lookback

	To Decile									
From Docile	10	9	8	7	6	5	4	3	2	1
10	0%	-10%	-24%	-31%	-33%	-37%	-45%	-49%	-52%	-56%
9	11%	0%	-15%	-23%	-26%	-30%	-39%	-44%	-47%	-51%
8	31%	18%	0%	-9%	-13%	-18%	-28%	-34%	-37%	-42%
7	45%	30%	10%	0%	-4%	-9%	-21%	-27%	-31%	-37%
6	50%	34%	14%	4%	0%	-6%	-18%	-24%	-28%	-34%
5	59%	43%	22%	10%	6%	0%	-13%	-19%	-24%	-30%
4	83%	64%	40%	27%	22%	15%	0%	-7%	-12%	-20%
3	98%	77%	51%	37%	32%	24%	8%	0%	-5%	-13%
2	109%	87%	59%	44%	39%	31%	14%	5%	0%	-8%
1	128%	104%	74%	58%	52%	43%	24%	15%	9%	0%

9-Year Lookback

	To Decile									
From Docile	10	9	8	7	6	5	4	3	2	1
10	0%	-14%	-27%	-35%	-37%	-42%	-47%	-51%	-53%	-57%
9	17%	0%	-15%	-25%	-26%	-32%	-39%	-42%	-46%	-50%
8	38%	18%	0%	-11%	-13%	-20%	-28%	-32%	-36%	-41%
7	55%	33%	13%	0%	-3%	-10%	-19%	-24%	-28%	-33%
6	59%	36%	16%	3%	0%	-7%	-16%	-22%	-26%	-31%
5	72%	47%	25%	11%	8%	0%	-10%	-16%	-20%	-26%
4	90%	63%	38%	23%	20%	11%	0%	-6%	-11%	-18%
3	103%	74%	48%	31%	28%	18%	7%	0%	-5%	-13%
2	114%	84%	56%	38%	35%	25%	13%	6%	0%	-8%
1	132%	99%	69%	50%	46%	35%	22%	14%	8%	0%

10-Year Lookback

	To Decile									
From Docile	10	9	8	7	6	5	4	3	2	1
10	0%	-15%	-27%	-37%	-37%	-41%	-48%	-51%	-53%	-57%
9	18%	0%	-15%	-26%	-26%	-31%	-39%	-42%	-45%	-49%
8	38%	17%	0%	-13%	-13%	-19%	-29%	-32%	-36%	-41%
7	59%	35%	15%	0%	0%	-7%	-18%	-22%	-26%	-32%
6	59%	35%	15%	0%	0%	-7%	-18%	-22%	-26%	-32%
5	70%	44%	23%	7%	7%	0%	-12%	-17%	-21%	-27%
4	93%	64%	40%	22%	22%	14%	0%	-5%	-10%	-17%
3	104%	74%	48%	29%	29%	20%	6%	0%	-5%	-12%
2	114%	82%	56%	35%	35%	26%	11%	5%	0%	-8%
1	132%	97%	68%	46%	46%	37%	20%	14%	8%	0%yyyy

Figure 6 Illustration of Volatility Adjustment for Guideline Companies

Guideline Publicly Traded Company	Market Cap. ($mm)	Unadj. 5-yr. Lookback Volatility	Adjust-ment= (1+Adj. Factor)	Adj. 5-yr. Lookback Volatility
Brookdale	2,081	32.8%	2.15	70.5%
Healthcare	576	39.1%	1.71	66.9%
Capital Senior	201	38.2%	1.52	58.1%
Five Star	151	36.1%	1.46	52.7%
Subject Company Estimated Volatility				**62.0%**

6. CONCLUSION

This article provides adjustments to volatility based on size that can be used to proxy the annualized volatility rate of a privately held company when publicly traded guideline companies are selected. Given the strong persistence of volatility historically, it is likely that these adjustments would not vary significantly over time.

8

COST OF CAPITAL ESTIMATION IN THE CURRENT DISTRESSED ENVIRONMENT*

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ABSTRACT

The current economic environment has created challenges in estimating the cost of equity capital (COEC) and in estimating the appropriate overall cost of capital (i.e., the weighted average cost of capital or WACC). Since late 2008, new complications have arisen in estimating the cost of capital. Traditional methods typically employed in estimating the COEC and the WACC are subject to significant estimation and data input problems. This paper attempts to address some of these issues and offers some specific recommendations on dealing with these issues.

First, U.S. Treasury bond (T-bond) yields, the typical benchmark used in either the Capital Asset Pricing Model (CAPM) or the Build-up methods of estimating COEC, were temporarily low for several months, resulting in unreasonably low estimates of COEC as of the important valuation date, December 31, 2008. In the past several weeks T-bond yields have returned to more normal levels.

Second, the expected equity risk premium (ERP), the rate of return expected on a diversified portfolio of common stocks in excess of the rate of return on an investment in T-bonds, has likely increased as the broad stock market level has declined.

Third, because the stock market correction has been heavily concentrated in the financial services sector and in highly leveraged companies, the commonly-employed methods we use for estimating betas, the risk measure in the traditional CAPM, are potentially flawed providing faulty estimates of risk for non-financial and companies with little debt. The result is that at the very time when one assumes *a priori* that estimates of COEC have increased, the methods we traditionally use to estimate the COEC are providing calculations that imply risk has declined.

Fourth, current leverage ratios are likely not sustainable in the long term for many companies and one needs to consider estimating cost of capital with expected changing capital structures.

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Fifth, because income subject to income taxes is and will continue to be less than zero for many companies, one cannot automatically use an after-tax cost of debt capital (i.e., multiply the interest rate by one minus the income tax rate) in calculating an appropriate WACC.

Sixth, one must always test the resulting cost of capital estimates for reasonableness and not simply apply data or formulas by rote.

Keywords: Cost of Capital, Equity Risk Premium, Beta, Weighted Average cost of Capital

1. YIELDS ON THE RISK-FREE BENCHMARK RATE

The general notion of a "risk-free rate" is that it is equivalent to the return available on a security that the market generally perceives as free of the risk of default as of the valuation date.[1] Analysts typically use the yield to maturity on U.S. government securities as of the valuation date, as proxy for the risk-free rate in estimating the COEC.

Conceptually, the risk-free rate reflects a return on the following three components: *Rental rate*, *Inflation,* and *Maturity risk* or *investment rate risk:* The risk that the principal's market value will rise or fall during the period to maturity as a function of changes in the general level of interest rates.[2] While all three of these economic factors are embedded in the yield to maturity for any given maturity length, it is not possible to observe the market consensus about how much of the total yield for any given maturity is attributable to each of these factors.

Note that the risk-free rate *includes inflation expectations*. Therefore, when this rate is used to estimate a cost of capital to discount expected future cash flows, those future cash flows also should reflect the expected effect of inflation. In the economic sense of nominal versus real dollars, we are building a cost of capital in nominal terms, and it should be used to discount expected returns that also are expressed in nominal terms.

In valuing "going concern" businesses and long-term investments made by businesses, practitioners generally use long-term government bonds as the risk-free security and estimate the ERP in relation to long-term government bonds. This convention represents a realistic, simplifying assumption. Most business investments have long durations and suffer from a comparable reinvestment risk as long-term government bonds. As such, the use of long-term government bonds and an ERP estimated over those long-term bonds more closely matches the investment horizon and risks confronting business managers in capital decisions and valuators in valuation analyses.

Many financial analysts today use the 20-year U.S. T-bonds yield to maturity as of the effective date of valuation as the risk-free rate benchmark when developing COEC estimates. Some analysts use either a 10-year or a 30-year T-bond yield; in theory one should then develop ERP estimates based on expected returns in excess of the yields for those maturities. However, as a practical matter these yields usually do not differ greatly from the 20-year yield on T-bonds.[3]

In applying the CAPM or the Build-up method, the analyst typically begins with the T-bond yield to maturity as of the valuation date and adds an estimate of the ERP (in the case of the CAPM, the ERP estimate is multiplied by the risk factor *beta*). The ERP estimates developed from historical data are typically measured relative to the T-bond yield.

Yields on 20-year (constant maturity) T-bonds as of December 31, 2008, had fallen to 3.03 percent. December 31, 2008, is a particularly important date because many valuations are performed as of the end of the calendar year, thus requiring COEC to be estimated as of that date.

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1 Shannon Pratt and Roger Grabowski, *Cost of Capital: Applications and Examples,* 3rd ed. (Wiley, 2008), Chapter 7.

2 This risk gives rise to the so-called horizon premium.

3 It is also noted that the 30-year T-bond was characterized in several periods during the 1990s and 2000s by a lower yield-to-maturity than the 10-year T-bond. This was partially attributable to a lack of 30-year bond issuance by the US government, which resulted in a downward kink in the yield curve—this was not necessarily reflective of long-term risk perceptions, but rather a function of supply and demand on the 30-year T-bonds.

Most analysts would agree that the world economies are in crisis. Financial crises are often accompanied by a "flight to quality" such that the nominal returns on "risk-free" securities fall dramatically for reasons other than inflation expectations. Recent macroeconomic research suggests that short-term inflation expectations remain fairly stable, and therefore the dramatic decline in the T-bond yields in November and December 2008 was not likely due to expected declines in expected long-term inflation.[4] In fact, long-term (10-year horizon) Consumer Price Index (CPI) expectations continued to be at 2.5 percent at the end of 2008.[5]

While short-term inflation expectations have decreased,[6] many commentators are warning that long-term inflation will increase, not decrease, given the projected U.S. budget deficit. Based on surveys of professional forecasters, yields on long-term U.S. government bonds are also expected to increase.

Over the last several months, yield on 20-year (constant maturity) T-bonds have increased. For example, as of May 31, 2009, the yield had increased to 4.36 percent. It appears that the "flight to quality" that drove the risk-free rates to unreasonably low levels as of December 2008 has eased and yields on T-bonds appear to be at more normalized levels. According to Federal Reserve Chairman Bernanke in his prepared testimony to the U.S. House of Representatives' Budget Committee on June 3, 2009, regarding recent increases in yields on longer-term T-bonds and fixed rate mortgages:

> These increases appear to reflect concerns about large federal deficits but also other causes, including greater optimism about the economic outlook, a reversal of flight-to-quality flows, and technical factors related to the hedging of mortgage holdings.

Further, the implied forward volatility (based on options on exchange traded funds or ETFs) on 20-year T-bonds in November and December 2008 had increased significantly (was approximately double the implied forward volatility in earlier months[7]), suggesting that the market was uncertain that the lower yields (and correspondingly higher prices) in November and December 2008 were sustainable. By May 2009, the implied forward volatility had decreased but was still approximately 45 percent greater than the months leading up to the November-December "flight-to-quality."

In summary, the evidence suggests that the yield on T-bonds represented an aberration as of December 31, 2008, overly influenced temporarily by the "flight to quality."

What should the analyst do when estimating the appropriate risk-free rate in developing the COEC? This author suggests that one approach as of December 31, 2008, is to ignore the "spot" yield on 20-year T-bonds as of that date and use a longer-term average T-bond yield (e.g., 4.5 percent).[8] One should then match the T-bond yield with the appropriate conditional ERP estimate for this stage in the business cycle.[9]

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4 V.V. Chari, Lawrence Christiano and Patrick J. Kehoe, "Facts and Myths about the Financial Crisis of 2008," Federal Reserve Bank of Minneapolis Research Department working paper 666 (October 2008).

5 "Survey of Professional Forecasters", Federal Reserve Bank of Philadelphia, November 17, 2008; "The Livingston Survey," Federal Reserve Bank of Philadelphia, December 9, 2008.

6 "The Livingston Survey," Federal Reserve Bank of Philadelphia Research Department comparing the projected increases in the producer price index for 2009 contained in the December 2008 and June 2009 surveys.

7 Implied volatility for 3-month options on iShares Lehman 20+year Treasury Bonds averaged 31.5 percent in November and December 2008 compared to an average of 15.0 during the first 10 months of 2008. The implied volatility was nearly 22 percent in May 2009.

8 Alternatively, one could use a "forward" rate on T-bonds.

9 If one uses the apparently abnormal spot yield on 20-year T-bonds as of December 31, 2008, in developing one's estimate of the COEC then one should use an ERP estimate consistent with the abnormal spot yield; see footnote 13 and Aswath Damodaran, "What is the riskfree rate? A Search for the Basic Building Block," working paper (December 2008).

2. EQUITY RISK PREMIUM

A long-term study of realized premiums in excess of the return on T-bonds indicates that realized premiums, on the average, have decreased as the T-bond yields decrease.[10] But these are not ordinary times. If one simply added an estimate of the ERP derived during "normal" economic times to the "spot" yield on 20-year T-bonds on December 31, 2008, one would likely have arrived at too low of an estimate of the COEC. As is explained in *Cost of Capital,* 3rd ed.:

> The evidence presented above [that the long-run ERP is between 3.5% and 6%] represents a long-term average or unconditional estimate of the ERP. That is, what is a reasonable range of ERP that can be expected over an entire business cycle? Where in this range is the current ERP? Research has shown that ERP is cyclical during the business cycle. We use the term "conditional ERP" to mean the ERP that reflects current market conditions. For example, when the economy is near or in recession (and reflected in recent relatively low returns on stocks), the conditional ERP is more likely at the higher end of the range. When the economy improves (with expectations of improvements reflected in recent increasing stock returns), the conditional ERP moves toward the mid-point of the range. When the economy is near its peak (and reflected in recent relatively high stock returns), the conditional ERP is more likely at the lower end of the range.[11]

As the stock market has fallen in late 2008, the ERP implied by the S&P 500 has increased.[12] In one analysis, the implied ERP has risen to the high end of the range cited in the above quote.[13]

If one views pricing of the stock market over the long term, one can see in Figure 1 that we are currently below the long-term average and should be at the high end of the long-term ERP estimated range.

What should the analyst do in estimating the ERP? This author suggests that, given current market conditions, one should consider using an estimated ERP of 6.0 percent, the upper end of the range of the research on long-term (normal) ERP.[14] As expected economic conditions improve and stock prices increase; the ERP can be expected to decrease in the future.

3. BETA ESTIMATES

If one employs the typical methodologies for estimating betas by regressing returns of the subject company on the returns for a broad market index (e.g., S&P 500), one likely will find beta estimates that have changed dramatically compared to periods before mid-2008, particularly for companies with little or no long-term debt.

What happened? Overall stock market indices such as the S&P 500 have been overly influenced by financial stocks and stocks of highly leveraged companies. The relative volatility of returns of a company with no debt has declined relative to a market whose returns (negative) are over-weighted by financial companies. But the business risk relative to the overall economy did not change during this period. But relative to a market over-weighted by financial companies, it appears to have decreased in risk.

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10 Aswath Damodaran, "Equity Risk Premiums: Determinants, Estimation and Implications," (September 2008 with an October update reflecting the market crisis), pp. 56-57.

11 Pratt and Grabowski, op. cit., Chapter 9.

12 Damodaran, op. cit., pp. 54. The implied ERP is the discount rate that equates the S&P 500 index with expected dividends plus stock buybacks.

13 Damodaran *On-Line Update*, January 2009. Damodaran reported that the implied ERP as of January 1, 2009, equaled 6.43 percent (measured from the "below normal" yield on 10-year T-bonds) while the ERP estimate based on historic returns equals 3.88 percent. The implied ERP at January 26 stood at approximately 7 percent (measured from the "below normal" yields on 10-year T-bonds).

14 If one uses the apparently abnormal spot yield on 20-year T-bonds as of December 31, 2008, in developing one's estimate of the COEC and a higher ERP estimate consistent with the abnormal spot yield, one needs to update (reduce) their ERP estimate now that spot yields have returned to more normal levels and not simply adjust their ERP estimate annually as is common practice.

Figure 1 Stock Market Over the Long Term

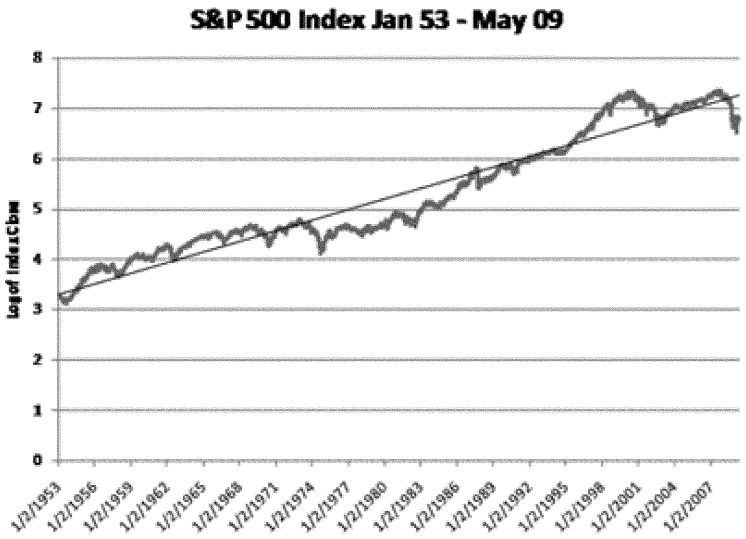
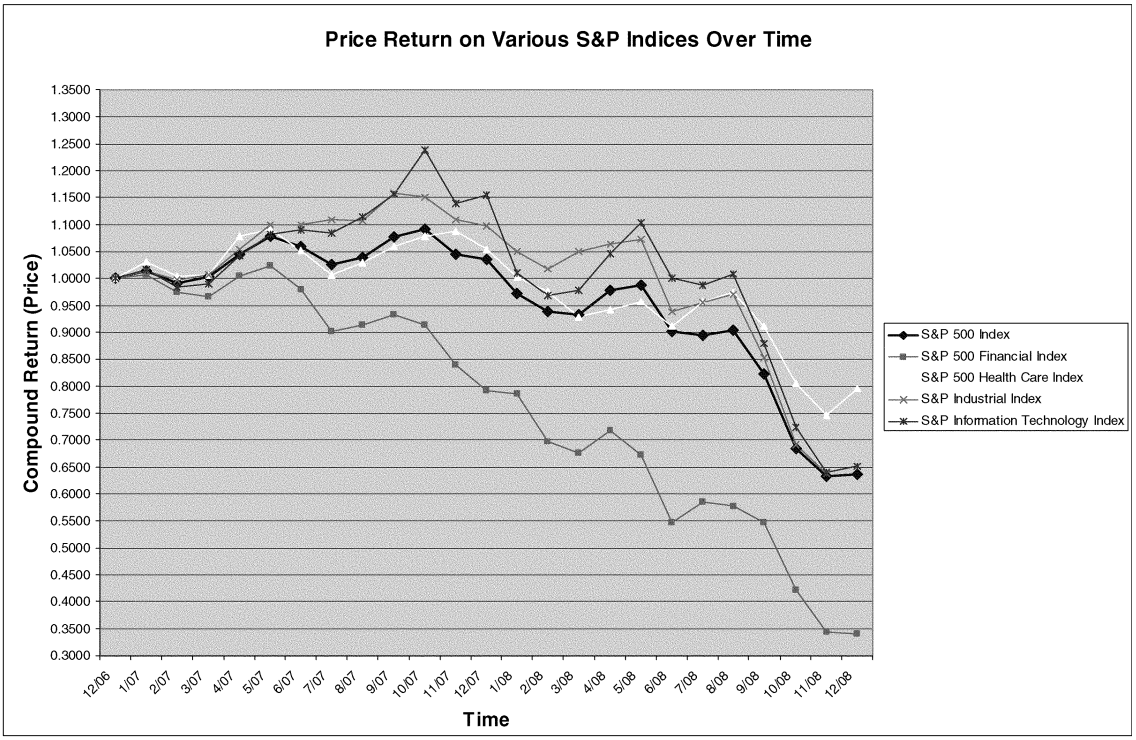


Figure 2 helps explain these relationships. One can see the severe downward adjustment to the financial sector stocks, which initially dragged the S&P 500 down even as the other sectors were bouncing back. Ultimately, other sectors followed suit as economic conditions in other sectors of the economy deteriorated further. During these past months, we have in essence observed a process of re-pricing of the stock market in general and, in particular, of many stocks at new lower prices. The low beta estimates for some stocks, derived from analyzing stock returns during a "look-back period" result from the negative returns on the stock market portfolio and many other stocks as the stock market seeks its new, lower equilibrium price. The low beta estimate currently observed above is not from a change in the underlying long-term relative business risk to the business risk of the economy as represented by the stock market. For example, prices of financial sector stocks (and their returns) have trended downwards looking for new equilibrium levels; once those levels are reached, the relative volatility of these stocks to the stock market will return to "normal". But during this adjustment period, prices of many stocks with little or no debt have moved downward relatively little (or not as much as the market portfolio), making their observed beta estimates lower than historic norms and lower than what one might expect in the future after the market portfolio is finished re-pricing at a new, lower equilibrium level.

While such adjustments in pricing occur for some stocks during all time periods, over these past few months we have seen the stock market (as represented by the S&P 500 for example) experience a major re-pricing led by financial sector stocks and highly leveraged non-financial stocks. Stocks of companies with traditionally high operating leverage (operating income and prices moving up faster than the overall market during upward market price movements, and moving down faster than the market when the market declines) appear to indicate that operating leverage has decreased when in fact their underlying operating leverage has not changed.

Figure 2 Price Return on Various S&P Indices Over Time

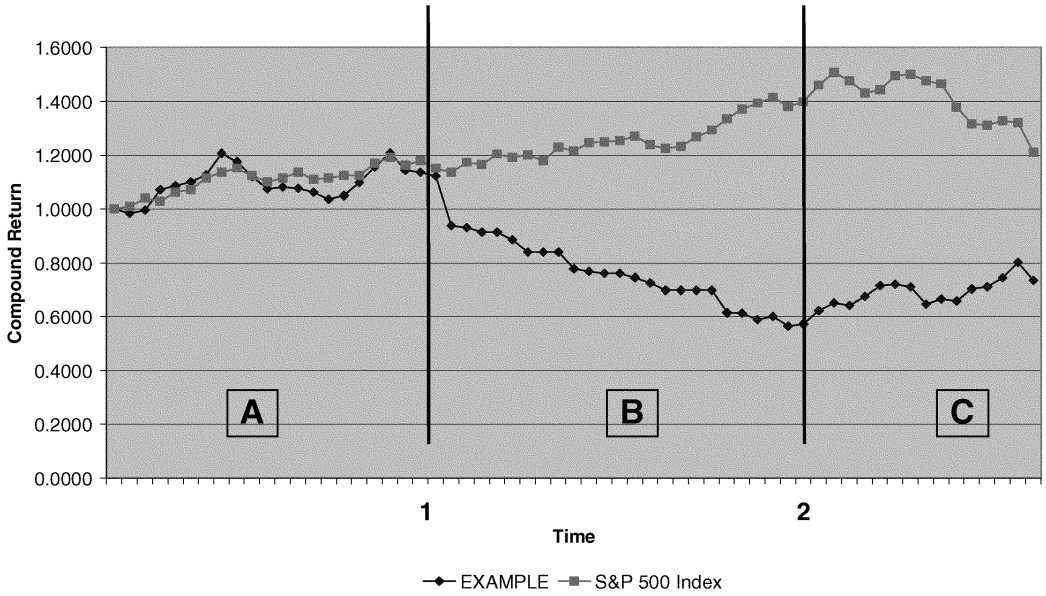


The best way to identify and observe the condition just described is to graph the returns of a particular company (or industry) over time relative to the overall market. Figure 3 presents an example of an adjustment in pricing for a hypothetical sample company.

In period A in Figure 3, the sample company essentially moves with the market. In period B, the sample company is experiencing a downward re-pricing, and during this period the sample company's returns are not as strongly correlated with the movement of the overall market. In Period C, the re-pricing of the sample company is complete, and the sample company's returns are once again moving in tandem with market returns.

If one were to compute beta at Time 1, which includes period "A" as the "look-back" period, the beta estimate would reflect the normal relationship between the sample company's returns in the market's returns. In contrast, computing a beta estimate at Time 2, which includes period "B" (the sample company's re-pricing by the market) as the "look-back" period, would not yield a reliable forward-looking beta estimate. In fact, it would yield a beta estimate lower than expected since the sample company's return was negative in a period when the market was generally rising. This result is counter-intuitive given the sample company's downward re-pricing, i.e., the operating risk of the sample company has not declined over period "B" and will resume its "normal" relationship to the market in period "C."

Figure 3 Example Company Versus Index Over Time



If one considers a company with little or no long-term debt, the lower beta estimate reflects that stock's lower risk during the market's adjustment period. But looking forward to periods following the market's re-pricing, one must assess whether the *true* beta of a company (i.e., the expected relationship of returns for a subject company to changes in the economy as represented by a stock market index like the S&P 500) will be better represented by the longer term beta estimate or the recent lower estimate measured from a date like Time 2 over a recent look-back period.

One should also consider examining alternative beta estimation methods, such as Sum Beta estimates. Sum Beta estimates generally result in more accurate (higher) estimates of beta for smaller capitalization companies,[15] and in the current environment, as market capitalizations for many companies have decreased, more companies are considered small and mid-capitalization companies.

"Adjusted beta" estimates provided by Bloomberg are not good alternatives because those estimates are not really adjusted the way one thinks of "adjusted"—changed based on specific characteristics of the company. Rather, Bloomberg-adjusted beta estimates are somewhat arbitrarily adjusted toward 1.0, under the premise that eventually every company's beta will converge to the market beta; this adjustment is not therefore based on specific industry or company factors.

What should the analyst do to estimate an appropriate beta? This author suggests that one start by graphing the monthly returns for the subject company and the S&P 500 (both measured on the "y" axis) over time (measured on the "x" axis) for the last 24-36 months.[16] One can then verify if and when the underlying relationship between returns for the subject company and returns for the market may have changed.

One might then consider taking the average of the month-end beta estimates over, say, a 12-month period during which the relationship appears to be more "normal". This is the beta estimate that one might reasonably

15 Pratt and Grabowski, op. cit., Chapter 10 and Appendix 10-B. The formula on page 154 contains a typographical error and should read: Market Lagged Coefficient = + [Varp(Market) * Covar(Company,Lagged) – Covar(Market, Lagged) * Covar(Company,Market)] / (Varp(Market) * Varp(Lagged) – Covar(Market,Lagged)^2)

16 This is not the typical graph of the returns with the S&P 500 on the "x" axis and the returns of the subject stock on the "y" axis. Rather, what is being suggested is a graph over time.

expect going forward, once the stock market has completed its re-pricing to a new, lower equilibrium price.

Regardless of the methodology or the data service used for beta estimates, one must remember that beta is an estimate of the expected *future* relationship between changes in the returns on the subject company's stock to changes in the stock market returns. In other words, the application of CAPM requires the use of a forward-looking beta as a measure of future risk. As such, one must be cautious that the estimates make sense relative to the underlying risk of the stock and not simply rely on "spot" estimates using a single beta estimation methodology derived from returns during a "look-back" period that may not represent the expected relationship of returns in future periods.[17]

3.1 Leverage—Impact on Beta Estimates

Beta estimates derived from the relationship of observed stock returns to market returns are a function of all risks affecting a company: both operating leverage (change in operating earnings as the market for the company's products increases and decreases) and financial leverage (the added variability in net income and stock returns because the company finances its investments partially with long-term debt capital). If one is estimating the COEC for a public company, one can use the observed relationship of returns on that company's stock relative to returns on the market portfolio over a "look-back" period to help make a forward beta estimate, based on the company's current amount of debt financing. But if one is estimating the COEC assuming that the current level of debt will actually change, then the first step should be to "un-lever" the beta estimate (removing the effect of financial risk from the beta estimates) for the subject company, to arrive at what is often called an "asset beta" estimate for the subject public company.

If one is estimating the COEC for a reporting unit of a public company (e.g., for goodwill impairment testing under Statement of Financial Accounting Standard No. 142) or for a closely-held company, one must use beta estimates from guideline public companies as a proxy beta estimate for the subject reporting unit or closely-held company.[18] One first "un-levers" the proxy beta estimates for the guideline public companies to arrive at an "asset beta" estimate.

An underlying principle that one must remember is that we are looking to measure the risk of the subject public company, subject reporting unit or closely-held company and determine the appropriate cost of capital for the associated risk.

In the case of a public company, one "re-levers" the asset beta to reflect the financing structure a potential acquirer may use or a target debt structure for the subject company.

In the case of reporting units of a public company, one "re-levers" the un-levered beta estimate for the appropriate leverage that market participants (companies in the pool of possible acquirers for the reporting unit) would use in valuing the reporting unit. In determining the appropriate leverage, one must consider: (1) which companies comprise the pool of likely market participant buyers (because the premise to be taken into account in testing for goodwill is a hypothetical "exit price" premise, i.e., what is the appropriate cost of capital if the reporting unit were sold as of the "testing date"); and (2) how would those market participant buyers finance the purchase of the reporting unit. One cannot assume that if the market participant buyers have a lower cost of capital they would price the acquisition of a reporting unit using their own lower cost of capital; doing so is equivalent to transferring value to the hypothetical seller. If the reporting unit is economically distressed (i.e., operating income is suffering) or the company owning the reporting unit is financially distressed (i.e., there is a high risk that the

17 Beta estimation techniques continue to be the subject of research. For example, one working paper suggests that beta estimates based on short look-back periods are negatively correlated to future returns while beta estimates based on longer look-back periods are better correlated to future returns. See, Gerard Hoberg and Ivo Welch, "Long-Term and Short-Term Market Betas in Securities Prices" (May 17, 2007).

18 Unless the risk of the reporting unit closely resembles that of the publicly traded company to which it belongs. In such a case, the asset beta of the subject company is the best proxy for the reporting unit's asset beta.

company may default on its debt), market participants will estimate a cost of capital in valuing the reporting unit which appropriately reflects that distress, rather than the lower cost of capital of the market participant's own business.

In the case of a closely-held company, one does not know the market value of the closely-held company until the valuation process is completed, but the re-levered COEC is dependent upon the ratio of debt to equity capital measured at market value, one must apply an iterative process to determine the appropriate re-levered beta and COEC.[19]

Analysts typically use standard formulas for un-levering observed beta estimates. Such un-levering in theory removes the effect of financial leverage, and all that remains is the expected variability in stock returns due to operating leverage.

Once analysts conclude on a reasonable asset beta estimate for the subject business, then the analyst may re-lever the beta to an appropriate debt level based on the debt capacity of the subject business. The debt capacity may be represented by industry average ratio of debt-to-equity, for example, if the analyst were estimating the value of a reporting unit in terms of market participants, or a target debt-to-equity ratio, for example, if the analyst were estimating the value of the subject company. But one should not automatically assume that historical debt-to-equity ratios represent current debt capacity. Rather, one needs to analyze the expected available cash flows given the likely lower expectations in the current economic environment.

The typical "textbook" un-levering and re-levering formulas used are based on more stable times. For example, the "Hamada formula," which is often (mis-) used, will be particularly problematic as this model assumes (1) that the current debt remains constant over time; and (2) the company will realize all income tax deductions on interest expense in the period in which the interest on debt is paid.[20] Implicit in this formula is the assumption that debt beta is zero and tax shields are certain. During the current period of economic crisis, we have seen the percentage of debt to equity (at market values) rise dramatically, as equity values have shrunk thereby increasing the risk of realizing tax deductions in the period in which interest is paid. Consequently, analysts should consider other models of un-levering.

The "Miles-Ezzell formula" is an appropriate formula for un-levering and re-levering beta estimates when the underlying assumption holds that a constant debt-to-equity (at market value weights) capital structure will be maintained. That formula does adjust for the impact of joint risk taking between debt capital and equity capital through the introduction of (1) a beta on debt greater than zero; and (2) the risk that tax benefits from interest deductions will not be realized in the period in which the interest is paid.[21] The underlying assumptions are that debt beta is positive and tax shields are certain for only one period and uncertain afterwards. The Miles-Ezzell formula for un-levering beta is shown in Formula 1.

19 Pratt and Grabowski, op. cit., Appendix 17A explains the iterative process for a constant capital structure and Appendix 17B for a changing capital structure.

20 Pratt and Grabowski, op. cit., pp 143-145.

21 Pratt and Grabowski, op. cit., pp 144-147.

Formula 1

$$B_U = \frac{M_e \times B_L + M_d \times B_d[1-(t \times k_{d(pt)})/(1+k_{d(pt)})]}{M_e \times B_L + M_d \times B_d[1-(t \times k_{d(pt)})/(1+k_{d(pt)})]}$$

where:

B_U = Un-levered beta of equity capital
B_L = Levered beta of equity capital
M_e = Market value of equity capital (stock)
M_d = Market value of debt capital
B_d = Beta of debt capital
t = Income tax rate for the company
$k_{d(pt)}$ = Cost of debt prior to tax affect

The companion Miles-Ezzel formula for re-levering beta is shown in Formula 2.

Formula 2

$$B_L = B_U + \frac{W_d}{W}(B_U - B_d)\left[1 - \frac{(t \times k_{d(pt)})}{(1 + k_{d(pt)})}\right]$$

Debt betas can be measured using an estimation method over a "look-back" period. One can estimate the beta on debt based on a particular credit rating (either actual credit rating or a synthetic credit rating[22]). For example, the estimated debt betas by credit rating for U.S. corporate and high-yield long-term bond series as of the end of December 2008 and May 2009 are shown in Figure 4.[23]

Figure 4 Estimated Debt Betas Based on Credit Rating

	Dec 2008	May 2009
Aaa	0.12	0.20
Aa	0.17	0.21
A	0.35	0.33
Baa	0.42	0.36
Ba	0.68	0.55
B	0.77	0.66
Caa	1.11	1.00
Ca-D	1.50	1.49

Source: Duff & Phelps calculations

Debt beta estimates change over time and these current debt betas have increased relative to debt beta estimates in earlier years (as the current market considers debt capital financing to be more risky today). This

22 A synthetic debt rating is developed by the analyst from comparing coverage ratios for debt instruments rated by a rating service such as Moody's or Standard & Poor's.

23 Pratt and Grabowski, op. cit., formula 10.6, pp 139-140.

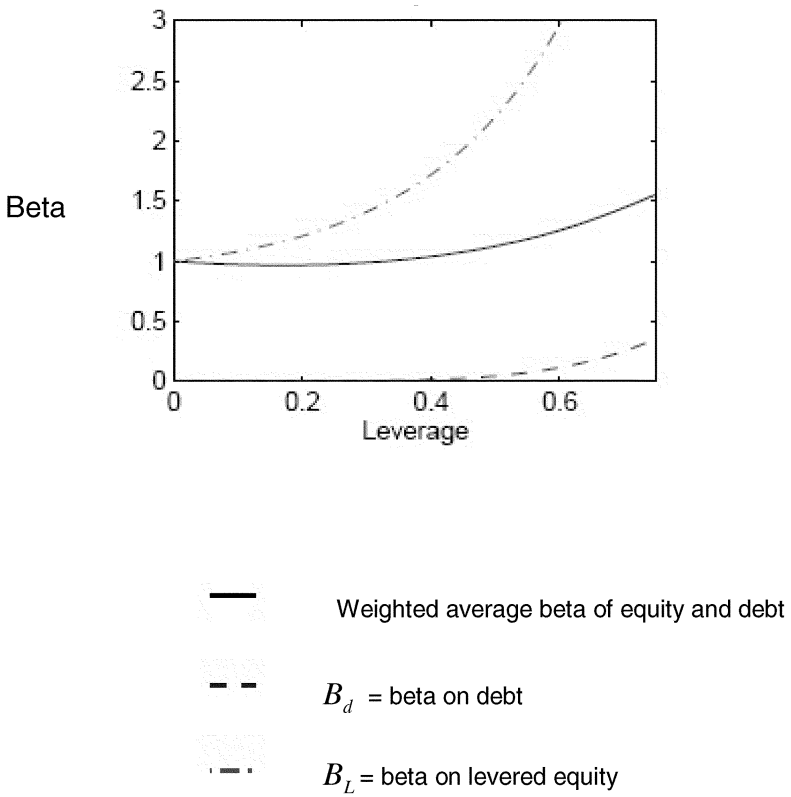
makes the use of the correct un-levering formula more critical. Debt betas indicate the amount of risk that bond investors are sharing with equity investors.

But even the Miles-Ezzell formula may understate the risk brought on by debt levels relative to the market value of equity. There are alternate formulas one should consider.[24] Debt levels have increased (as equity has been re-priced downward), decreasing the likelihood that the tax benefits of debt financing will be fully realized.

The affect of increasing debt levels is that the COEC likely is understated by using any of the traditional un-levering formulas. All of the formulas define linear relationships. Research indicates that the correct relationship is not linear as leverage increases; rather the COEC increases at an increasing (or exponential) rate as leverage increases.

Figure 5 displays the likely market relationship of debt and equity betas as the level of debt increases.[25] In this market, leverage is increasing just because stock market capitalizations are decreasing.

Figure 5 Relationship Between Equity and Debt Betas and WACC



24 Pratt and Grabowski, op. cit., Exhibit 10.6 summarizes guidance on when to use the various un-levering/re-levering formulas, p 128.

25 Arthur G. Korteweg, "The Costs of Financial Distress across Industries," Working paper Stanford University (January 15, 2007): 65. Used with permission. All rights reserved. In today's market, debt betas have increased for even lower levels of leverage than displayed in this graph.

As the levels of debt to equity (measured at market values) increase, the costs of financial distress increase as well (value lost due to the increase in the chance of default induced by the firm's debt adjusted for the present value of the expected tax deductions on interest payments on the debt). One study quantifies the cost of economic distress at varying levels of debt.[26]

The Duff & Phelps *Risk Premium Report* provides data on realized equity returns in excess of the returns predicted by CAPM for "High Financial Risk" companies.[27] This premium can be added to the standard CAPM estimate of the increase in the COEC for the market's estimate of the cost of distress (economic and financial distress). The premiums over CAPM as of December 31, 2008, averaged approximately 5 percent to 10 percent.[28]

What should the analyst do relative to adjusting beta estimates for leverage? For companies using debt financing, one should estimate (i) the market value of the debt, (ii) the debt rating on the debt (either actual or synthetic based on coverage ratios published by ratings companies such as Standard & Poor's or Moody's) and (iii) the appropriate un-levered or asset beta using the Miles-Ezzell formula.

Once analysts conclude on a reasonable asset beta estimate for the subject business, then the analyst may re-lever the beta with the same formula to an average debt level market participants would use (for example, if the analyst were estimating the value of a reporting unit) or a target debt level (for example, if the analyst were estimating the value of the subject company, knowing that the current level of debt must be reduced over the long term).

If the subject company at the assumed debt level is in distress, then one needs to consider adjusting the indicated COEC arrived at using standard techniques to adjust for the costs of distress.

But assume that we are valuing a subject company that is in such financial distress that the value of the assets (measured as the present value of expected net cash flows using the un-levered cost of equity capital) appears to be less than the face value of debt. Would anyone be willing to pay anything to acquire the equity? In essence, will the future value of equity possibly exceed the face value of debt? By estimating (1) the value of the possibility that the value of the business without regard to the current amount of debt will exceed the face value of debt at some future point in time and (2) the probability that this will occur at some future point in time, one is explicitly considering the right "tail" of the probability distribution of future net cash flows. The valuation of the subject company can be cast as a scenario analysis of discounted cash flows with the probability of each scenario or an option analysis.[29]

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26 *Ibid*.

27 Criteria for assignment to the high financial risk portfolio are: (1) companies in bankruptcy or liquidation; (2) companies with the 5-year average net income or operating income in the prior 5-years less than zero; (3) companies with negative book value of equity at any of the prior 5 fiscal year ends; or (4) companies with book value of debt to market value of equity greater than 80%.

28 Supplement to Duff & Phelps *Risk Premium Report 2009* for high financial risk companies with Altman "z scores" indicating the company was in the "distress zone."

29 Pratt and Grabowski, op. cit., Appendix to Chapter 31 has a detailed example of these alternative analyses.

3.2 WACC and the Value of the Tax Shield

The textbook formula for developing the WACC is shown in Formula 3.

Formula 3

$$WACC = (k_e \times W_e) + (k_p \times W_p) + (k_{d(pt)}[1 - t] \times W_d)$$

where:

$WACC$ = Weighted average cost of capital (after-tax)
k_e = Cost of common equity capital
W_e = Percentage of common equity in the capital structure, at market value
k_p = Cost of preferred equity
W_p = Percentage of preferred equity in the capital structure, at market value
$k_{d(pt)}$ = Cost of debt (pre-tax)
t = Income tax rate
W_d = Percentage of debt in the capital structure, at market value

This textbook formula assumes that (1) tax deductions will be realized on interest payments in the period in which they are accrued, (2) earnings before interest and taxes (plus other income) are greater than financial expenses and the full tax shield will be earned and (3) market value of debt is equal to its book value and, hence, the contractual cost of debt is identical to the market cost of debt.

The correct analysis does not automatically multiply the interest rate by one minus the income tax rate. We can depict the correct relationship as shown in Figure 6. In this formulation, cost of debt capital is measured after the tax affect (k_d). The tax shield is the present value of the expected tax deductions, which today are likely to be more risky than in prior periods.

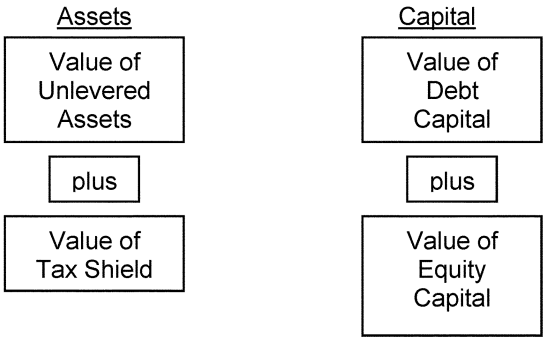
Do companies realize deductions at the statutory tax rate (get full benefit of interest tax deduction in the period in which the interest is paid)? Researchers have developed a simulated expected tax rate model that simulates taxable income into the future. This process has shown that many companies do not expect to pay the highest marginal rate for long periods of time. Because of tax loss carry-backs and carry-forwards and the cyclical nature of some industries, a substantial number of companies can expect a very low tax rate.[30]

Graham and Mills completed a simulation study of corporate marginal income tax rates. They used U.S. tax return data for public corporations from 1990 to 2000 to simulate the corporate marginal tax rates for 1998 to 2000. They used this data because financial statement data can vary greatly from tax return data. Actual taxes paid are the correct measure for the cost of debt capital, rather than taxes reported under "book" financials for accounting purposes. These authors found that the simulated marginal tax rate most closely approximated future actual taxes paid. But when the simulated model is not available, they offer two formulas based on actual corporate income tax data to estimate the corporate marginal tax rate.[31] These formulas can be useful in estimating the expected cash tax rate instead of arbitrarily using the marginal income tax rate.

30 John R. Graham, "Debt and the Marginal Tax Rate," *Journal of Financial Economics*, (May 1996): 41-73; Graham, "Proxies for the Corporate Marginal Tax Rate," *Journal of Financial* Economics, (October 1991): 187-221; Graham and Michael Lemmon, "Measuring Corporate Tax Rate and Tax Incentives: A New Approach," *Journal of Applied Corporate Finance* (Spring 1998): 54-65.

31 John R. Graham and Lillian F. Mills, "Using tax return data to simulate corporate marginal tax rates," working paper (January 24, 2007).

Figure 6 Value of a Levered Firm



As the market value of equity has declined for many companies the percentages of debt capital to equity capital have become out of equilibrium. Either the subject company will need to pay down debt (as they may or may not be able to refinance existing debt levels given actual and expected reductions in operating income many companies are experiencing) or raise equity capital to return to a long-term equilibrium where the cost of debt is manageable given operating income and the equity value is not penalized for carrying too much debt. The WACC can be applied under an assumption of changing capital structure; for example, as the debt changes over time to a target debt level, the WACC changes. In this formulation, as the debt level changes over time, the re-levered equity beta and the resulting COEC changes.[32]

What should the analyst do in estimating the WACC for the subject company? One must estimate the expected income tax deductions that will be realized from the payment of the interest on the level of debt capital assumed in the re-levered capital structure. During these troubled economic times, one cannot simply assume that the full tax benefit will be realized as taxable income before interest will likely be zero or negative for many companies for 2008 and 2009. The assumptions embodied in the textbook WACC formula lead one to the conclusion that companies should abandon its use.

A generalized formula for the WACC that takes into account the probability that income tax savings on interest payments will not be realized in the period in which the interest is paid is shown in Formula 4.[33]

Formula 4

$$WACC_t = k_{eut} - \{TS_t / [M_{dt-1} + M_{et-1}]\} - \{(k_{eut} - k_{TS}) (PV_{TSt-1} / [M_{dt-1} + M_{et-1}]\}$$

where:

k_{eut} = COEC, un-levered (COEC assuming firm financed with all equity) at time = t

TS_t = Tax shield realized at time = t

M_{dt-1} = Market value of debt capital at time = $t-1$

M_{et-1} = Market value of equity capital at time = $t-1$

k_{TS} = Discount rate on tax shield based on the risk of realizing the tax shield (typically either $k_{d(pt)}$, the pre-tax cost of debt, or k_{eu})

PV_{TSt-1} = Present value of the tax shield as of time = $t-1$

If we assume that $k_{TS} = k_{eut}$ (the variability of one realizing the tax shield is approximately equal to the variability of cash flows of the business before interest expense) then the above formula simplifies to Formula 5.

32 Pratt and Grabowski, op. cit., pp 297-308.

33 Ignacio Velez-Pareja, "Return to Basics: Are you Properly Calculating Tax Shields?"" November 30, 2008 available at <http://ssrn.com/abstract=1306043>.

Formula 5

$$WACC_t = k_{eut} - \{TS_t / [M_{dt-1} + M_{et-1}]\}$$

3.3 Cross Checking Cost of Capital Estimates

Today's environment is making cost of capital estimation particularly challenging. How can one check for the reasonableness of their cost of capital estimates?

One check you can make on COEC estimates is to fall back on the classic Graham and Dodd.[34] Their methodology was based on the yield of the bonds of the corporation (reflecting the leverage and the company-specific risks imbedded in the credit ratings) plus an average equity premium of, say, 4 percent. More recent research indicates that this spread goes up as the debt rating decreases (the average equity spread over corporate bond yield may be 3 percent to 4 percent, but it is greater for low rated bonds, say 6 percent to 8.5 percent for companies whose debt is rated B).[35]

The COEC should logically exceed the yield investors are expecting on the company's debt capital (without reducing the yield by any income tax deductions that might be realized by the subject company). Equity capital is more risky than debt capital and the market will price each component based on their relative risk. In "normal times," one would examine the spreads over T-bonds. In this environment with the yields on T-bonds artificially low, spreads are not meaningful. Rather, one should look at the absolute level of market yield on the company's debt (market yield for the debt rating on the subject company's debt level, either actual or target, based on the actual or synthetic debt rating of the subject company) and the COEC should exceed that yield on debt.[36]

Another course of action is to use the data provided in the Duff & Phelps' *Risk Premium Report* to estimate the COEC. The Duff & Phelps *Report* provides equity risk premium data for use in a build-up model that is independent of estimates of beta. Two of the exhibits in the *Risk Premium Report* are particularly helpful in quantifying the increase in the COEC that may be appropriate given the increased risk of operations. One exhibit displays data on historic equity returns based on companies' average operating margins; another exhibit displays data on historic equity returns based on the variability of companies' operating margins.[37] On average, the lower the operating margin, the higher the business risk; and on the average, the greater the variability in operating margin, the higher the business risk. The research contained therein demonstrates that stock market participants price increased risk. In this time of uncertainty, the subject company may not just be experiencing lower levels of earnings, but also increasing variability of earnings. If the subject company is expecting lower operating margins and increasing variability in operating margins, then the COEC has likely increased and the Duff & Phelps *Risk Premium Report* provides data to help quantify the appropriate increase.

Has the COEC for most companies increased? This author believes that the market is highly divided between companies with no or limited debt and companies with high levels of debt. If one looks at the absolute yields on Aaa and Aa rated companies in Figure 7, one can conclude that there is likely only a small increase in the COEC and the WACC for companies with no debt or highly rated debt. But as you look at the absolute levels of yields of lower rated corporate bonds in Figure 7, the absolute level of yields has increased, indicating that the COEC has increased as well.

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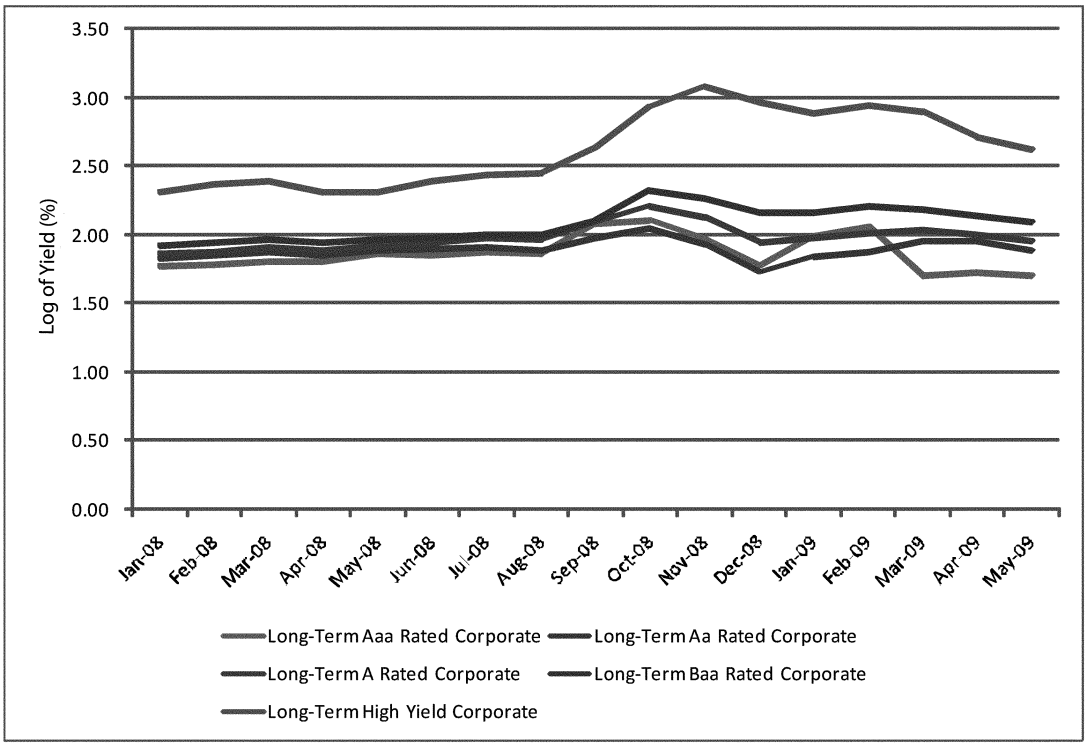
34 Benjamin Graham and David Dodd, *Security Analysis* (McGraw-Hill Professional) originally published in 1934; now in its 5th ed. and authored by Sidney Cottle, Roger F. Murray, and Frank E. Block.

35 Ian Cooper and Sergei A. Davydenko, "Using Yield Spreads to Estimate Expected Returns on Debt and Equity," working paper, Dec 1, 2003.

36 V.V. Chari, et al., op. cit., pp. 6-7.

37 Duff & Phelps' *Risk Premium Report*, op. cit., Exhibits D-1 and D-2 respectively can be used to estimate the COEC using the Build-up method.

Figure 7 Yields on Corporate Debt January 2007 through May 2009



4. CONCLUSION

Estimating the appropriate cost of capital is always difficult as pricing risk is a difficult exercise. But in today's environment it is even more challenging and requires extreme care on the part of the analyst. This author is not suggesting changing or straying from the traditional models typically employed in estimating the COEC, but rather is advising analysts to take a closer look at the inputs that go into these models. Likely temporary aberrations in several of the inputs to traditional models during this period of economic crisis require analysts to apply more rigor and scrutiny in developing cost of capital estimates. Any concluded cost of capital estimation must balance the correct application of various models, including associated inputs, with the basic theory of finance and common sense over the long term.

9

PURCHASE PRICE ALLOCATION AND CHOICE OF VALUATION METHODS*

by Marco Vulpiani
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ABSTRACT

As known, the Purchase Price Allocation (PPA) process implies the valuation of tangible and intangible assets, to allocate the Price paid to the assets acquired. The rationale which drove the standards setters (FASB and IASB) in the formulation of the relevant standards (SFAS 141 and IFRS3) was to give full explanation of purchase price (PP) paid to the stakeholders of the acquirer company. During the PPA process, this simple, underlying rationale of the accounting standard is sometimes set aside. One of the most critical phases of the valuation process, which is represented in the choice of the valuation method, is done on the basis of the critical issues of the assets under valuation, instead of considering the valuation criteria followed during the formulation of the price. In other terms, the analysis is performed as if it were a single, autonomous process completely separate from the PP formulation process. In the paper it is shown that to respect the underlying principle of the standard setters, the methods chosen for the valuation of the assets should be consistent with the method used during the formulation of price, even for tangible assets. Otherwise, the PPA implementation determines inconsistencies that can give distorted information about the acquisition to the stakeholders, against the genuine underlying principles of the standard setters.

1. INTRODUCTION

Both the Financial Accounting Standard Board (FASB)—with SFAS 141 and SFAS 141 R—and the International Accounting Standard Board (IASB)—with IFRS 3—define the guidelines for the allocation of goodwill arising from the differences between the price paid (Purchase Price or PP) and the book value of the equity capital acquired. The rationale of this allocation process is to split the generic goodwill into each single component of values of the different assets, which contributed to the formulation of price.

More often the formulation of the PP is not driven by a value analysis of each single component of the business acquired (in term of assets) but rather on the valuation of the business as a whole (Business Enterprise Value or BEP). In the valuation of BEP, most of the attention is paid to the capacity of the business to generate cash flow able to repay, with a premium, the investment represented by the acquisition. During the Purchase Price Allocation (PPA) process, this simple, underlying rationale of the accounting standard is sometimes set aside.

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The contents of this paper represent the author's personal views and not necessarily those of Deloitte.

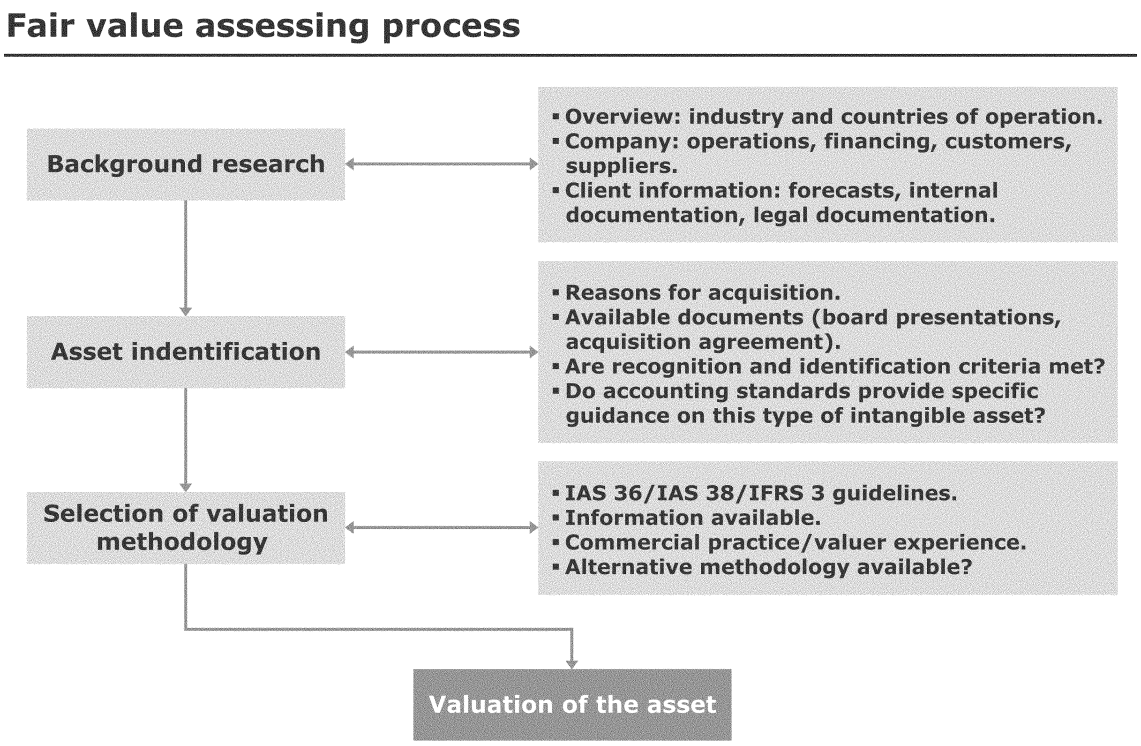
One of the most critical phases of the valuation process, which is represented in the choice of the valuation method, is done on the basis of the critical issues of the assets under valuation, instead of considering the valuation criteria followed during the formulation of the price. In other terms, the analysis is performed as if it were a single, autonomous process completely separate from the PP formulation process.

In our opinion, this approach could generate hidden, significant inconsistencies that, being difficult to note (if not impossible), can give a distorted indication to the stakeholders of the acquiring company against the genuine principle of the standard.

2. THE COMMONLY ACCEPTED VALUATION METHOD IN PPA

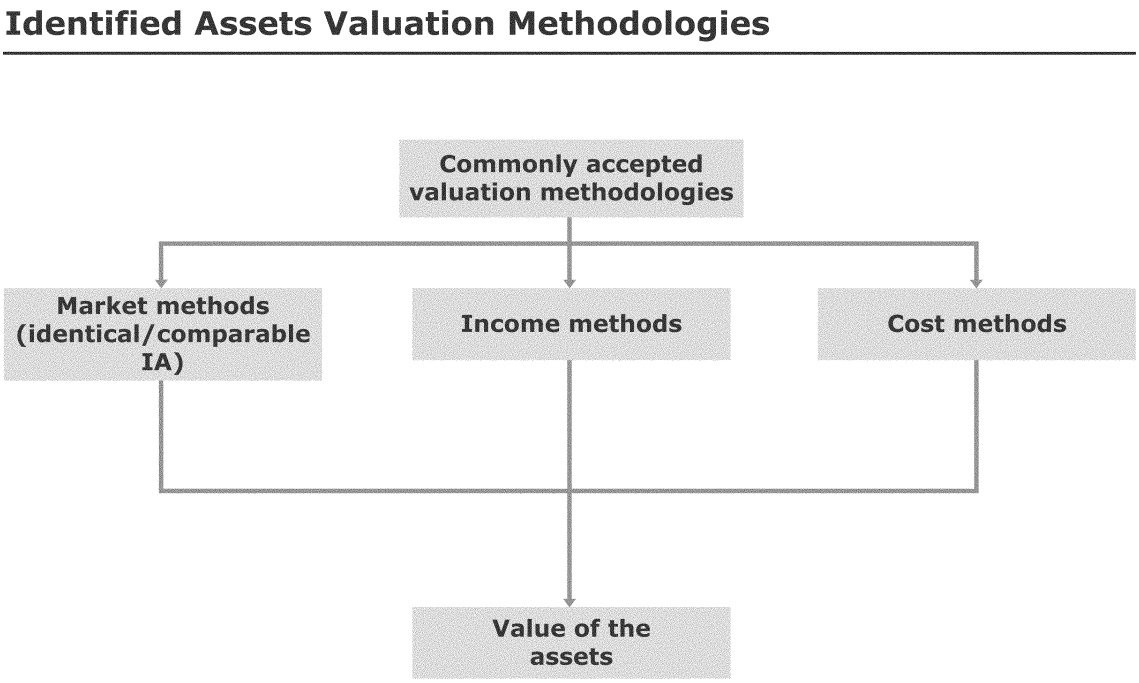
The general approach followed in the PPA process can be summarized as shown in Figure 1. The first critical phase of the PPA is represented by the identification of the assets where goodwill is to be allocated (Identified Assets—IAs). The second critical phase is represented by the valuation of the IAs, in which different methods can be followed.

Figure 1 PPA Commonly Accepted Approach



In Figure 2 the generally accepted methods for valuation of IAs are reported. Generally it is difficult to apply the Market Methods in the valuation of the IAs (both tangible and intangible ones), due to lack of similar transactions. For the valuation of the IAs, generally, income based methods are preferred by practitioners for different reasons, such as, *inter alia*, the adaptability of the methods to the specific case under examination and the general easy collection of data needed for the application of the methods. For the valuation of the Tangible Assets, cost methods, on the contrary, are generally preferred, mainly for their easy application and, in our opinion, for historical reasons (tradition).

Figure 2 Commonly Accepted Valuation Methodologies in PPA

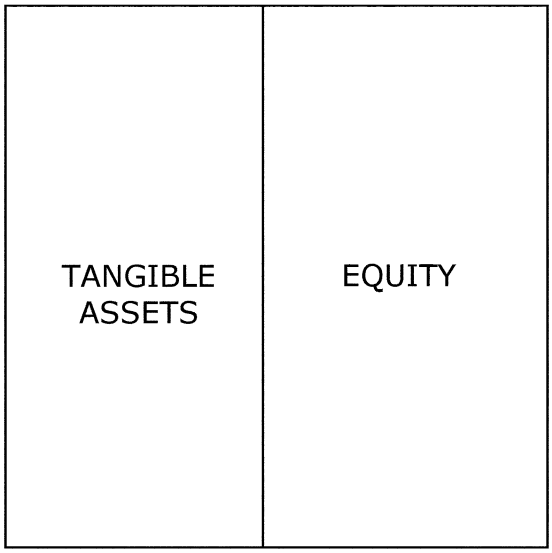


3. THE CHOICE OF THE VALUATION METHOD FOR THE DIFFERENT KIND OF ASSETS

The choice of the method of valuation affects, of course, the quantitative aspects of the allocation process. To understand how the choice affects the PPA process, let us consider a simple situation.

Suppose that the acquired company has the simple structure of the Net Capital Employed (NCE) as presented in Figure 3. The company also has important intangible assets (customer base, brand, etc.), not reported in the accounting books, which formed part of the formulated PP. The price paid was much higher than the book value, as the book value of the tangible assets was not representative of their market values and because the value of intangible assets acquired was not reported in the balance sheet.

Figure 3 Balance Sheet Structure of the Acquired Company



For this reason, in the consolidated balance sheet of the acquirer company, goodwill, equal to the difference between the price paid and the book value of the acquired capital employed, arises. Let us assume, for simplicity, that no synergies or other aspects were considered in the formulation of price paid, apart from the stand-alone value of the company. In this case, the PP is just equal to the market value of the capital employed (including the intangible assets, not reported in the books).

Therefore we can state the following equation:

Formula 1

$$PP = EV = MVT + MVI = NCE + GW$$

where:

PP = Purchase Price
EV = Enterprise Value
MVT = Market Value Tangible
MVT = Market Value Intangible
NCE = Net Capital Employed
GW = Goodwill

As a basis for the formulation of the PP, a valuation of the target company performed with an income approach (DCF) was followed. This assumption, even if theoretical, is quite frequent, as generally price is formulated on the basis of the valuation of the target performed and, for that, the income method is one of the most common methods applied.[1]

For simplicity, let us assume that the DCF was applied in its simplified form (Gordon Formula):

1 See for example "G.E. Matthews, "A review of valuations in Delaware case", *Business Valuation Review* 25 2006: 48-49.

Formula 2

$$EV = \frac{CF}{WACC - g}$$

where:

CF = Total cash flow generated by the company as a whole (i.e., by both the tangible and intangible assets)
WACC = Weighted Average Cost of Capital, and
g = Growth Rate

The total cash flow is equal to the sum of the cash flows generated by the tangible assets and the cash flows generated by the intangible assets:

Formula 3

$$CF = CFt + CFi$$

Substituting Formula 3 in Formula 2 it gives:

Formula 4

$$EV = \frac{CFt}{WACC - g} + \frac{CFI}{WACC - g}$$

On the basis of Formula 4, we can say that the value of tangible assets is equal to the sum of the CF generated by tangible assets, duly capitalized, and the value of intangibles assets is equal to the sum of the CF generated by intangible assets, duly capitalized. These two components do not necessarily represent the fair values of tangible and intangible assets.

In fact assuming the same income method for the separate assets (tangible and intangible ones), we can state the following:

Formula 5

$$FVi = \frac{CFi}{CoCi - gi}$$

Formula 6

$$FVt = \frac{CFt}{CoCi - gt}$$

where:

FVi = Fair Value of the Intangible Assets
CFi = Cash Flow of the Intangible Assets
CoCi = Cost of Capital of the Intangible Assets
gi = Growth Rate of the Intangible Assets and
FVt = Fair Value of the Tangible Assets
CFt = Cash Flow of the Tangible Assets
CoCt = Cost of Capital of the Tangible Assets
gt = Growth Rate of the Tangible Assets

We can assume that:

Formula 7

$$EV = FVt + FVi$$

Therefore, if we assume consistent approaches (income methods for both the valuation of the company and tangible and intangible assets) and consistent assumptions about CoC (CoC for the company consistent with CoC assumed for the Tangible Assets and CoC assumed for the Intangible assets[2]), the allocation is complete and the residual value is zero, as indicated by the following equations:

Formula 8

$$NCEaa = FVt + FVi = EV$$

Formula 9

$$P = EV$$

Formula 10

$$GW = P - NCEaa = EV - EV = 0$$

where:

NCEaa = Net Capital Employed after acquisition
GW = Goodwill

If we adopted different approaches for tangible and intangible assets, there would be a difference (the Difference) between of the Fair Value of tangible assets and the value implicitly estimated for them during the PP formulation. Such a Difference is equal to the difference arising, in term of results, from the application of the different methods. The Difference will determine a residual GW.

For example, if we adopted a cost approach for the tangible assets valuation which gives an estimation of the tangible assets lower than the that given by the income approach, a residual GW would arise, just equal to the Difference between the results given by the income approach and the cost approach. In this way, distorted information would be given to the reader of the financial report; in particular the residual GW could be associated to real consequences of the acquisition (e.g., overpricing during the allocation, synergies, potential impairment).

This is simply the consequence of the application of inconsistent methods in the valuation of different kinds of assets (tangible and intangible ones) during the PPA process. Therefore, even if the international accounting standard setter leaves the possibility of choosing different approaches for tangible assets,[3] in our opinion, an

2 If we adopted the same CoC for the company, the tangible and the intangible, the consistency would be granted, but there would be a super allocation on the intangible and an under allocation on the tangible, because, by definition, the CoC of intangible is higher than the CoC of tangible assets (see e.g., Stegink R., Schauten M., De Graaff G. 2007).

3 For example IFRS3 states: ". . .for plant and equipment the acquirer shall use market values, normally determined by appraisal. If there is no market-based evidence of fair value because of the specialized nature of the item of plant and equipment and the item is rarely sold, except as part of a continuing business, an acquirer may need to estimate fair value using an income or a depreciated replacement cost approach. . .."

approach consistent with that used during the formulation of the Price for the BEP, should be privileged, as it is the only one which avoids the arising of distortions in the various, subsequent phases, as represented in Figure 4.

Figure 4 Subsequent Valuation Phases

On the other hand, even if the income approach is one of the possible methods to value tangible assets[4] considered by IFRS 3, what happens more frequently is that an income approach is utilized for the identified intangible assets and a cost approach for the tangible assets. In this way, even in this "ideal" scenario (PP formulated on the basis of a valuation), it is practically impossible to realize a "perfect" allocation and distorted information could be given to the stakeholders of the acquirer company.

Of course, the choice of the valuation methods is only one of the steps of the above "ideal" algorithm. First of all, the PP is not formulated only on the basis of the valuation. Generally other aspects are considered, such as synergies or strategic considerations. But these aspects represent effective difference with the fair value of the acquired assets and therefore a consequent residual goodwill represents real phenomena and therefore it is appropriate.

On the other hand, the residual goodwill arising only from the application of inconsistent methods is just a distortion introduced by the valuers and therefore it is contrary to the principles underlying the formulation of the international standards.

4. CASE STUDY: OIL COMPANY

As an example of application, let us consider the following case. A financial company (The Acquirer Company or AQC) acquired an oil company (the Target Company or TGC) which owns a refinery, a retail outlet, and some intangible assets (Brand, Customer Base) not reported in books. The TGC was paid $1,000 million versus a book value of $200 million.

The TGC balance sheet is shown in Figure 5. The AQC balance sheet, after the acquisition but before the PPA, is shown in Figure 6. (For simplicity, let us assume that it was a Newco, with negligible capital employed before the acquisition.)

Figure 5 Balance Sheet of the Target Company

	Pre-PPA (million $)	**Weight**
Tangible Assets	200	100%
Working Capital	–	0%
Intangible Assets	–	0%
NCE	**200**	**100%**

4 *Ibid.*

Figure 6 Balance Sheet of Acquirer

	Pre-PPA (million $)	Weight
Tangible Assets	200	20%
Intangible Asset	–	0%
Goodwill	800	80%
NCE	**1,000**	**100%**

The price was formulated on the basis of a valuation which was performed with an income approach, by applying the DCF in its simplied form (Gordon Formula):

Formula 11

$$P = EV = CFc/(CCc - g)$$

where:

P = Price Paid by the Acquirer Company
EV = Enterprise Value of the TGC
CFc = Cash Flow of the TGC
CCc = Cost of Capital of the TGC
g = Growth Rate of the TGC Cash Flow

On the basis of the following assumption that CFc = $100 million, CCc = 10 percent and g = 0, an Enterprise Value equal to $1,000 million was estimated, and the transaction was closed at the same value. As the book value of the acquired Net Capital Employed was equal to $200 million, goodwill of $800 million arose in the AQC balance.

After the acquisition, a PPA process was started. During the PPA process, several intangible assets were identified and an undervaluation of the book value for tangible assets recognized. An income approach for the valuation for the intangible assets was chosen. In particular a DCF, in its simplified form (Gordon Formula), was applied.

The Cash Flows generated by the intangible assets were estimated as a portion of the company's total cash flows: CFi = 40 percent *CFt = $40 million. The Cost of Capital for the Intangible Assets was estimated assuming a premium of 6 percent to the CoC of the company: CCi = CCc + Premium = 10 percent + 6 percent = 16 percent. The growth rate of CFi was assumed to be zero. Under these assumptions, a value of $250 million for the intangible assets was estimated. With reference to the valuation of the tangible assets, a cost approach was initially followed. Under this approach a value of $400 million for the tangible assets was estimated (versus a book value of $200 million).

The balance sheet of the AQC, after this preliminary allocation is reported in Figure 7. Therefore, residual Goodwill of $350 million was reported. The analysis of the operation clearly showed that this residual goodwill has no significance, as there were neither synergies between the AQC and TGC, nor other real implications.

Figure 7 Balance Sheet of the Acquirer After the Preliminary PPA

	Pre-PPA (million $)	Weight
Tangible Assets	400	40%
Intangible Asset	250	25%
Goodwill	350	35%
NCE-ppa1(*)	**1,000**	**100%**

(*)NCE-ppa1 = net capital employed after preliminary PPA.

Therefore, the only two possible reasons for this phenomenon are either an over estimation of the price paid or an underestimation of the tangible assets (assuming that all the intangible assets were identified and properly valued). Considering that we assumed the price to be equal to the fair value of the acquired assets, then an underestimation of the tangible assets is the reason.

Let us consider the valuation of the tangible assets with an income approach. Even in this case, a DCF in its simplied form (Gordon Formula) was applied. The Cash Flow of the tangible assets was estimated as the residual portion of the company cash flows: CFi = CFc - CFt = $60 million. The growth rate of CCi was assumed to be zero.

The Cost of Capital for the tangible Assets was estimated assuming a "consistent" approach, which considered the CCc as the weighted average CoC of the tangible and intangible assets:[5]

Formula 12

$$(Cc - Gc) = (Ct - Gt)*Wt + (Ci - Gi)*Wi$$

where:

Cc = Cost of Capital of the Company (i.e., WACC)
Ct = Cost of Capital of the tangible assets
Ci = Cost of Capital of the intangible assets
Wt = weight of value of tangible assets on overall value
Wi = weight of value of intangible assets on overall value
Gc = Growth rate of the Company Cash Flows
Gt = Growth rate of the tangible assets Cash Flows
Gi = Growth rate of the intangible assets Cash Flows

This equation, duly rearranged (with growth rate assumed to be equal to zero), gives:

Formula 13

$$Ct = (Cc - Ci *Wi)/ Wt$$

Substituting the values assumed for the other elements, it results in a CoC for tangible assets equal to 8%. Under these assumptions, a value for tangible assets equal to $750 million was determined (Figure 8). The balance sheet of the AQC after this second allocation is presented in Figure 9. In this final version of the PPA, no residual value of goodwill is reported, consistent with the characteristics of the operation: price paid at market value, no synergies between the acquirer and the target companies, and all the assets identified and properly valued.

5 See Vulpiani M., "Cost of Capital Estimation for Intangibles Valuation in Purchase Price Allocation", Business Valuation Review, Winter 2008.

Figure 8 Values

	Company	Tangible Assets	Intangible Assets
Free Cash Flow	100%	60	40
Weight	*100%*	*60%*	*40%*
CoC	*10.00%*	*8.00%*	*16.00%*
growth rate	*0.00%*	*0.00%*	*0.00%*
Value	*1,000*	*75*	*250*
Weight	*100%*	*75%*	*25%*

Figure 9 Balance Sheet of the Acquirer After the Final PPA

	Pre-PPA (million $)	**Weight**
Tangible Asset	750	75%
Intangible Asset	250	25%
Goodwill	–	0%
NCE-ppa2(*)	**1,000**	**100%**

(*)NCE-ppa2 = net capital employed after final PPA.

5. CONCLUSIONS

The consequences of the choice of the valuation methods in the PPA process have been analysed in this paper. As we know, the choice of the method is one of the most critical phases of any valuation process. Different methods can give very different results for the same valuation subject.

The purpose of the PPA process is to give the stakeholders of the acquiring company, the breakdown of the price paid in the fair value of the acquired assets (net of liability). Keeping in mind this important rationale of the PPA principles, any distortions in allocating the values, due to the choice of the method, should be avoided. The only way to avoid such a distortion is to be consistent during the allocation process between the valuation approach adopted during the definition of the price and the valuation of the assets' breakdown.

Considering that, generally, during the valuation of the target company and the formulation of the consequent price, income methods are privileged, similar methods should be adopted not only for intangible assets, but also for the tangible assets, making assumptions consistent (in particular for the CoC). As shown in the simple case study, if consistent methods with consistent assumptions are adopted, a "perfect" allocation is possible (at least on a theoretical basis), in accordance with the purpose of the PPA.

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