2013 Edition

Journal of Business Valuation

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LETTER FROM THE EDITOR

This edition of *The Journal of Business Valuation* features papers presented at the 2012 National Conference of The Canadian Institute of Chartered Business Valuators held in Vancouver, BC, two winning papers from the 2011 and 2012 Ian R. Campbell Research Competition as well as member-submitted papers and articles from other well-respected publications.

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

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

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

Allister Byrne, FCPA, FCA
President & CEO

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CREDIBILITY UNDER SCRUTINY: A RESEARCH STUDY OF THE WEIGHT PLACED ON EXPERT VALUATION AND DAMAGES EVIDENCE IN CANADIAN COURT JUDGMENTS[1]

by Prem Lobo, CPA, CA, CBV, CPA (Illinois), CFE
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by Peter J. Henein, LL.B.
Cassels Brock & Blackwell LLP

"All the world's a stage,
And all the men and women merely players:
They have their exits and their entrances;
And one man in his time plays many parts"

— William Shakespeare, from "As You Like It".

A good name is more desirable than great riches; to be esteemed is better than silver or gold.

— Proverbs, 22:1

1.0 Introduction

Centuries ago, the great William Shakespeare compared the world to a vast stage upon which life was a play to be enacted, with many different individuals performing their specific roles at different points in time. In many ways, the litigation process, too, can play out like a riveting drama (or, perhaps in some cases, a tragedy), with lawyers, judges and witnesses playing out a complex plot, using the courtroom as their stage.

Often, a very important character in the "cast" of a litigation "production" is the expert witness. Expert witnesses are often retained in litigation matters, where, on the basis of their analyses of facts as well as pre-existing knowledge, training and experience, they provide their expert opinions on specialized subject matter. Expert witnesses are expected to assist the Court in understanding the facts so that a better-informed decision can ultimately be arrived at.

In cases involving allegations of financial losses, or requiring the valuation of assets or shares, loss quantification experts and business valuation experts are frequently retained by the litigants to opine on the quantum of financial losses suffered by a particular party, or to opine on asset or share values.

This research paper focuses on how Canadian Courts view the role of loss quantification and business valuation experts (which we refer to throughout this paper as "valuation experts" and "valuation evidence"). The purpose of this paper is to better understand what factors impact the

1 Prepared for the 2011 Ian R. Campbell Research Initiative of the Canadian Institute of Chartered Business Valuators.

weight placed on expert valuation evidence in Court, and what factors impact whether valuation evidence is viewed as "credible" by the Court. What is the "magic elixir", if any, that distinguishes one valuation expert from another? Is it the strength of the facts or assumptions used by a valuation expert? Is it personality? Is it the level of detail employed in financial analyses used to arrive at an opinion? To take some more pages from the writings of Mr. Shakespeare, is the more effective valuation expert an eloquent orator like Mark Antony, a stoic and understated figure like Brutus, or a philosophical and contemplative one like Hamlet — or some combination of all three?

These are all relevant and important questions, not only for valuation experts, but also for the lawyers that retain them and the Courts that receive their evidence. Notwithstanding this, to the best of our knowledge, the canon of valuation research has not explored this subject in a methodical, empirical-based manner to date. We hope that our research findings may be useful in terms of furthering the quality, independence and effectiveness of expert loss quantification and valuation evidence in Canada.

ACT 1: RESEARCH METHODOLOGY AND SUMMARY OF FINDINGS

2.0 Formal Description of Research Topic

Our research had two interrelated objectives. By undertaking a comprehensive review and analysis of reported Canadian legal judgments (as described in more detail below), we sought to:

1) Analyze the relevance and need for expert valuation evidence in Canadian Court proceedings. Our aim was to form **overall** conclusions with respect to the relevance and need for expert valuation evidence, and to identify any trends in the demand for such evidence.

2) Where possible, to "deconstruct" Court judgments in order to identify what factors resulted in expert valuation evidence being successful/credible and, ultimately, accepted by the Courts. Our aim was to form **specific** conclusions with respect to what factors (on the part of the individual valuation expert, and external/contextual factors) are instrumental in ensuring the success/acceptance or lack thereof of expert valuation evidence by the Court.

2.1 Survey of Canadian Judges

During the course of our research, we identified an opportunity to expand our research to include a written survey of Canadian Judges. A survey of Canadian judges would provide us with the ability to ask judges candid questions with respect to their views of and experiences with expert valuation evidence and the factors that distinguish valuation experts from each other.

To this end, we created a written survey for judges ("the Survey"). To date, we have contacted 38 Canadian commercial list, family court and Tax Court judges with respect to participating in the Survey, on an anonymous basis. We were also invited to circulate the Survey to members of the National Judicial Institute, an independent not-for-profit institution committed to building better justice through leadership in the education of judges in Canada and internationally.[2]

The results of the completed Surveys have been collected, analyzed and summarized in an Addendum to this research paper.

2 National Judicial Institute website, http://www.nji-inm.ca/nji/inm/accueil-home.cfm.

2.2 Research Team

Our research team consisted of Prem M. Lobo, CA CBV CPA, Principal, Cohen Hamilton Steger & Co. Inc. (Toronto), and Peter J. Henein, LL.B., Lawyer, Cassels Brock & Blackwell LLP (Toronto).

Brief bios of Prem and Peter are set out in Appendices A and B respectively.

Prem and Peter gratefully acknowledge the invaluable assistance of Tylar St. John of Cohen Hamilton Steger & Co. Inc., and law student Jessica Braude of Cassels Brock and Blackwell LLP in helping with the research.

3.0 Research Methodology

3.1 Legal Judgments, and Criteria for Selection

We used Canadian legal judgments (i.e. case law) as the source of our data. Specifically we focused on Canadian legal judgments:

- Released over a 15-year period, from approximately 1996 to 2011. These spanned all levels of Provincial Courts, Federal Courts, Municipal Tribunals (such as the Ontario Municipal Board), the Tax Court of Canada and the Supreme Court of Canada.
- Involving valuation experts in the capacity of providing loss quantification evidence in commercial disputes, or business valuation evidence where the valuation of shares or intangible assets was required. We did not review judgments involving real estate, equipment, art or other appraisers, forensic accounting evidence, or personal injury claims.

3.2 Databases Used

Legal Databases

In order to obtain relevant legal judgments, we utilized the following legal databases:

1) LexisNexis Quicklaw;
2) Thomson Reuters Westlaw Canada; and,
3) CanLII.

We ran various key word searches from these databases, filtering results by the 15-year time period and other criteria above. Key words used in the searches included combinations of the following, among others:

- “damages”
- “expert witness”
- “damages expert”
- “quantification of damages”
- “valuation”
- “business valuation”
- “business valuator”
- “valuation expert”

Certain key words, such as “damages”, returned literally thousands of hits. We reviewed resulting hits to further screen legal judgments for relevance, before identifying a short list of relevant legal judgments which formed the basis for our detailed analyses, and we reviewed the appellate history of cases, where applicable.

Valuation Casebook

In order to ensure that our database key word searches were as comprehensive as possible and returned as many relevant judgments as possible, we also referred to the legal judgments listed in the Valuation Casebook published by the Canadian Institute of Chartered Business Valuators (CICBV 2011). The Valuation Casebook lists and summarizes legal cases involving valuation subject matter, mostly ranging from approximately 1963 to the 2010. It is interesting to note that while the Casebook describes itself as summarizing Canadian valuation cases, a number of cases listed in the Casebook are U.S. valuation cases.

We obtained full text versions of all Canadian judgments listed in the Valuation Casebook spanning our 15-year time period and ensured that all of these were added to our short list of judgments for analysis.

3.3 Matrix of Legal Judgments Analyzed

A matrix summarizing the number and breadth of legal judgments that we analyzed is set out below. A complete listing of the relevant legal judgments that we reviewed and analyzed can be found in Appendix C.

	Commercial Litigation	**Tax Court**	**Matrimonial**	**Other**	**Total**
Loss Quantification	30				30
Valuation	15	29	48	6	98
Other	4			1	5
Total	49	29	48	7	133

3.4 Comments with Respect to Research Methodology

Our chosen 15-year time period represented what we felt was an optimal balance between obtaining a sufficient number of legal judgments from which to formulate meaningful findings, and, at the same time, not subjecting ourselves to “information overload” by reviewing too many legal judgments had we selected a longer time period. Moreover, we were mindful that Canada (save and except for the province of Quebec) is a common law country, meaning that judges are largely bound in their decision-making by previous decisions of the Court. This is known as the legal principle of *stare decisis*. As such, we felt that our analysis would benefit most by starting with the most recent cases and working backwards to find the seminal legal principles on which current decisions were based and upon which we expect future decisions **will** be based (again, to the extent that was discernible from the judgments themselves). A 15-year window of decisions provided us with good breadth while at the same time allowing us to focus on actual principles and approaches being applied by judges today.

While our aim was to review relevant legal judgments from our chosen 15-year time period, and while we undertook key word searches using three databases and cross referenced such searches with the Valuation Casebook, we did not obtain and analyze **every** case from this time period dealing with valuation experts.

Our review of legal judgments was focused on those judgments that contained detailed (and, as such, more valuable) comments regarding the quality of valuation evidence presented in Court, as well

as discussions of the criteria by which the judge evaluated the valuation evidence, as well as comments regarding attributes and qualities that distinguished a particular valuation expert from another.

Accordingly, on balance, notwithstanding the above challenges with respect to our chosen research methodology, we were satisfied that we reviewed sufficient legal judgments — and sufficient judgments containing useful commentary with respect to valuation evidence — in order to formulate meaningful findings.

4.0 Disclaimer

In describing our findings, we make reference to and quote from a select number of legal judgments. We chose these judgments as examples because they stand out for their detailed commentary or probative value. We do not refer to the identities of the valuation experts involved in any of these judgments. In our view, the identities of the experts involved is irrelevant; our intent in preparing this research paper is not to criticize but review a large body of judgments and extract useful findings, in good faith, for the benefit of the valuation profession and all parties involved in judicial proceedings.

5.0 Summary of Significant Findings

Pursuant to our research methodology, scope of review, restrictions and limitations as set out herein, our significant research findings are as follows:

I: The relevance and need for expert valuation evidence in Canadian Courts	
Relevance	• Canadian Courts view expert valuation evidence as relevant and useful. • Valuation experts have tremendous opportunities to make useful contributions to the Court.
Independence	• Independence and objectivity are mandatory for valuation experts. Independence is not a quality to be adhered to in outward form/ appearance only, but should be adhered to in spirit and substance. • Increasingly, Courts are going to greater lengths to scrutinize the independence of expert witnesses.
II: Factors impacting the weight placed on expert valuation evidence in Canada	
Proper Use of Assumptions	• Assumptions are appropriate when facts are not available, unclear or contradictory. However, valuation experts must reasonably attempt to obtain required factual information before reverting to assumptions. • When assumptions are used, adequate due diligence should be undertaken to test assumptions for reasonability and factual consistency. • The role of the valuation expert is to opine on financial loss or business value. Preparing hypothetical scenarios without a factual foundation and asking the Court to decide on the relevant scenario is often inappropriate in the eyes of the Court.
Explaining Concepts Logically and Clearly	• Articulation of complex concepts in a logical and clear manner is extremely important, and can, among other things, mean the difference between one expert's evidence being preferred over that of another.

Demeanour	• It is difficult to definitively conclude, from legal judgments, what is an “ideal” or “preferred” demeanour for valuation experts. • Some legal judgments suggest that Courts prefer valuation experts that maintain a modest, calm and “academic” demeanour. • Experts are better able to maintain a modest and calm demeanour if they are amenable to alternate views on cross-examinations.
Asking for Relevant Information	• It is not sufficient to disclose scope limitations in expert reports without making reasonable efforts to ask for required information or to obtain information from other sources or by alternate means. • Valuation experts should exercise caution and carry out adequate due diligence when using/adapting financial models provided by clients.
The Importance of Qualifications	• Having relevant qualifications for the subject matter at hand is important but the number of designations does not provide one expert with an advantage over another. • The facts suggest that the CBV designation is increasingly being accepted as the norm in commercial litigation matters. • In commercial litigation matters, experts with a CBV appear to have evidence accepted more often than those without the designation.
The Importance of Experience	• Courts value relevant experience on the part of valuation experts. However, what is more important is the independence and due diligence undertaken by an expert in arriving at his or her opinion.
Being Organized	• Valuation evidence (oral or written) that is well organized and presented in a methodical fashion tends to be viewed favourably.
Level of Detail Involved	• Being detailed is important to the extent that such detail relates to the subject matter at hand, and to the extent that sufficient work is undertaken by the valuation expert to support his or her opinion. • Notwithstanding the level of detail incorporated into an expert analysis, what is more important is that the “big picture” conclusions reached are reasonable and accord with common sense and commercial reality.
Remaining Within One’s Area of Expertise	• Valuation experts should avoid straying too far from their expertise of loss quantification, business valuation and financial matters. • In cases where a significant component of the overall analysis is outside of the valuator’s expertise, valuation experts may need to consider retaining another expert.

ACT 2: THE RELEVANCE AND NEED FOR EXPERT VALUATION EVIDENCE IN CANADIAN COURT PROCEEDINGS

6.0 Relevance of Expert Valuation Evidence

Our review of legal judgments makes it manifestly clear that expert valuation evidence is valued by Courts (subject to such evidence being independent and credible). In cases where the quantum of financial loss or business value is complex, comprised of a significant dollar amount or disputed between the parties involved, Courts tend to welcome the insights, analyses and evidence provided by valuation experts.

This view is echoed in many legal judgments, including *Alfano v. Piersanti*,[3] in which the Court noted that "the fundamental principle in cases involving qualifications of experts is that the expert, although retained by the clients, assists the Courts". In *Alfano*, the Court goes on to quote *Eastern Power Ltd. v. Ontario Electricity Financial Corp.*[4] as follows:

> the purpose of expert evidence is to assist the trier of fact to understand evidence outside of his or her range of experience so that a correct conclusion can be reached….

In *de Gobeo v. de Gobeo*,[5] the Court stated that it "wishe[d] to emphasize its dependence upon the work of experts".

A number of legal judgments acknowledged the usefulness of valuation evidence provided. For example, in *1230995 Ontario Inc. v. Badger Daylighting Inc.*,[6] the Court noted that both valuation experts that testified at trial "testified in a straight forward manner and did their best to assist the Court". Meanwhile, in *Adams v. Amex Bank of Canada*,[7] the Court noted that both valuation experts used the best available information and recognized data to quantify financial losses, and the resulting approaches followed by both experts were, in each case, reasonable and reliable.

Somewhat ironically, the relevance of valuation evidence is most appreciated in those cases where the evidence provided has been found to be deficient or unreliable. For instance, in *H.L. Staebler Company Ltd. v. Allan*,[8] the Court had difficulties owing to the fact that the evidence of both valuation experts involved was based on "unrealistic assumptions that were fundamental to their ultimate conclusions". Similarly, in *Lydia Diamond Exploration of Canada Ltd. v. von Anhalt*,[9] the Court cited concerns with the evidence of both experts, noting that it was "unable to rely with full confidence on the expert evidence advanced by either of the parties".

In cases where Courts find the valuation evidence to be lacking, the Courts are not averse to choosing a value of a party's financial loss or a business value other than those suggested by the valuation experts involved. Similarly, Courts in these situations do not necessarily limit the financial loss or business valuation to the midpoint between the differing experts' calculations. For instance, in the frequently-cited decision of *Bibby v. The Queen*,[10] the Court held as follows:

> While it has been frequently been held that a Court should not, after considering all the expert and other evidence, merely adopt a figure somewhat between the figure sought by the contending parties, it has also been held that the Court may, when it does not find the evidence of any expert completely satisfying or conclusive, nor any comparable especially apt, form its own opinion of

3 2009 CanLII 12799 (Ont. S.C.J.) at para. 6.
4 [2008] O.J. No. 3722 (S.C.J.) at para. 292, rev'd on other grounds at 2010 ONCA 467, 101 O.R. (3d) 81.
5 2003 MBQB 274, 179 Man. R. (2d) 200 at para. 44.
6 2010 ONSC 1587, [2010] O.J. No. 2166 at para. 194.
7 2009 QCCS 2695, [2009] Q.J. No. 5769 at para. 399.
8 2007 CarswellOnt 5792 (S.C.J.) at para. 59, rev'd on other grounds at 2008 ONCA 576, 92 O.R. (3d) 107.
9 2011 ONSC 3862, 78 B.L.R. (4th) 214 at para. 75.
10 [1983] C.T.C. 121 (F.C.T.D.) at para. 32.

valuation, provided this is always based on the careful consideration of all the conflicting evidence. The figure so arrived at need not be that suggested by any expert or contended for by the parties.

In summary:

- Expert valuation evidence is considered relevant by Canadian Courts, particularly in cases where the quantum of financial loss or business value is complex, comprised of a significant dollar amount and/or disputed.
- Valuation experts have a tremendous ability to make useful contributions to the Court in terms of assessing financial loss or business value — provided that their analyses and opinions are prepared objectively and are viewed as credible by the Court.

7.0 What Courts Require — Independence

7.1 Independence is Mandatory

From our review of the case law, it is clear that Courts place tremendous value on expert independence and objectivity, and this focus appears to have amplified in recent years.

Courts repeatedly stress the fact that the foremost duty of the expert is to assist the Court, and this overrides any obligation to the party from whom the expert has received instructions or payment. An expert who appears as an advocate at trial, who refuses to acknowledge weaknesses in his or her analyses or refuses to examine alternate points of view or assumptions will not ultimately be of much assistance to the Court. In contrast, an expert who, given a suggestion on cross-examination that another reasonable view of a certain fact or assumption might lead to a different result or conclusion, agrees with such a suggestion and is willing to assist the Court with the implications arising from such an alternate view will be of far more value to the Court.

The importance of independence is best demonstrated by way of an example; *Love v. Acuity Investment Management Inc*.[11] In this case, the Court took exception to a number of aspects of the plaintiff's expert report. The Court was "concerned and disappointed" to learn that the plaintiff's expert took a model of damages that the plaintiff had created and simply "put it forward unchanged in any material respect conceptually and un-audited for accuracy of the facts assumed within the model". The Court noted that the plaintiff's model and analysis was "simplistic, aggressive and overreaching". In adopting the plaintiff's model, the plaintiff's expert quantified damages for a number of theoretical scenarios that did not have a factual foundation, and not just for those scenarios that were reasonable. Overall, the Court took objection to the plaintiff's expert's approach that the model prepared by the plaintiff was "one we could work with", rather than preparing an independent analysis.

The Court also noted that the plaintiff's report was co-signed by a second principal, but this principal had played such a limited role in the preparation of the report that he did not understand the content of the report and could not defend the report if required. The Court took a dim view of an expert signing or co-signing an opinion report without being intimately aware of the content of the report and opinion, and noted that it expected "more of expert witnesses than that".

Similarly, in *Debora v. Debora*,[12] the Court needed to determine, among other things, the fair market value of a nutraceutical company for equalization purposes in the context of a matrimonial

11 (2009), 74 C.C.E.L. (3d) 272 (Ont. S.C.J.) at paras. 138, 140, 141, varied at 2011 ONCA 130, [2011] O.J. No. 771.
12 (2004), 8 R.F.L. (6th) 32 (Ont. S.C.J.).

dissolution. Both parties retained their own experts to testify as to the fair market value of the shares of the company, among other matters.

The husband's valuator relied upon information presented to him by his client, including the characterization of various financial statement items such as non-arm's length loans and the fact that charges against the company under the *Competition Act*, RSC, 1985, c C-34 were minor issues, and did not conduct independent due diligence. In contrast, the wife's valuator performed an in-depth forensic analysis of the company's cash flows and financial records and made a number of normalization adjustments to the maintainable earnings of the company based on his findings.

Both valuators were accused of acting as advocates for their clients. The Court rejected the charge that the wife's expert acted as an advocate by making assumptions regarding the assets of the company without reviewing adequate supporting documentation. The Court noted:

> While it is the role of the court to draw the appropriate inferences where documents which should have been produced have not been, it would not be possible to do so in this case if there was not expert evidence as to the proper financial calculations.[13]

The Court expressed satisfaction as to the thoroughness of the wife's expert's work.

Meanwhile, the Court found that the husband's expert "fell short of the independence required of an expert witness. It seems that the husband's deliberate obfuscation and failure to disclose infected…[his] work." The Court noted that an expert witness should be neutral and independent and not an advocate for a party. The husband's expert took the position that it was appropriate for him to accept on an "uncritical basis" what the husband told him. The Court noted that it had "rejected the husband's evidence as not worthy of credit. It follows that, to the extent that [the husband's expert's] opinion is based on what the husband told him, it must also be rejected".[14]

In *Antrim Truck Centre Ltd. v. Ottawa (City)*,[15] a claim for injurious affection before the Ontario Municipal Board ("OMB"), it was argued that the claimant's valuation expert had become an advocate and had not prepared his own report. It was pointed out that parts of the expert's report were typed in the office of the claimant's counsel. The OMB noted that issues of independence would go towards the weight placed on this expert's evidence. The OMB ultimately found that the claimant's expert's written report had "weaknesses…as to preparation, scope and objectivity".[16]

In *de Gobeo v. de Gobeo,* the Court appeared to be so troubled at the lack of impartiality demonstrated by one of the experts involved, that the Court devoted an entire section of the legal judgment to dealing with "the Role of Experts". In this section the Court stated that the expert in question was an advocate whose evidence was "*lacking in objectivity in the face of existing and valid evidence and therefore it cannot be considered by this Court as expert testimony*".[17] The Court went so far as to suggest "perhaps it is time for our Court rules to be amended to provide for an absolute clear standard of impartiality on the part of experts".[18]

In fact, it appears that the procedural rules governing the use of experts' evidence in court proceedings are changing and a clear standard of impartiality is being explicitly required on behalf of experts. For example, in Ontario, the *Rules of Civil Procedure*, R.R.O. 1990, Regulation 194, were amended, effective January 1, 2010, to include a number of changes specifically regarding experts. Rule 4.1.01 sets out the duty of every expert as follows:

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13 *Ibid.* at para. 345.
14 *Ibid.* at paras. 346, 350.
15 [2009] OMBD No. 1, rev'd on other grounds at 2011 ONCA 418, 332 D.L.R. (4th) 641.
16 *Ibid.* at para. 28.
17 *Supra*, note 5 at para. 45.
18 *Ibid.*

DUTY OF EXPERT

4.1.01 (1) It is the duty of every expert engaged by or on behalf of a party to provide evidence in relation to a proceeding under these rules,

(a) to provide opinion evidence that is ***fair, objective and non-partisan***;

(b) to provide opinion evidence that is related only to matters that are within the expert's area of expertise; and

(c) to provide such additional assistance as the court may reasonably require to determine a matter in issue.

Duty Prevails

(2) The duty in subrule (1) prevails over any obligation owed by the expert to the party by whom or on whose behalf he or she is engaged.

[emphasis added]

Furthermore, in Ontario, experts must sign a certificate appended to their reports, confirming that they understand the duty set out in Rule 4.1.01(1)(a) to be fair, objective and non-partisan. Similar changes have been made both at the federal level, and provincially (for example in British Columbia and Nova Scotia).

In the 2008 Ontario case, *Frazer v. Haukioja*,[19] (a case involving medical expert evidence), the Court set out the following factors relevant to the receipt of expert evidence, derived from both U.K. and Canadian case law:

1. 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.
2. An expert witness should provide independent assistance to the Court by way of objective unbiased opinion in relation to matters within his [or her] expertise … An expert witness … should never assume the role of an advocate.
3. An expert witness should state the facts or assumptions upon which his [or her] opinion is based. He [or she] should not omit to consider material facts which could detract from his [or her] concluded opinion.
4. An expert witness should make it clear when a particular question or issue falls outside his [or her] expertise.
5. If an expert's opinion is not properly researched because he [or she] considers [there to be] … insufficient data … available, then this must be stated with an indication that the opinion is no more than a provisional one … In cases where an expert witness who has prepared a report could not assert that the report contained the truth, the whole truth and nothing but the truth without some qualification, that qualification should be stated in the report.

In summary:

- The message from the above legal judgments — indeed one that is echoed in numerous other judgments that we reviewed — is simple: independence and objectivity are mandatory for valuation experts. Independence is not a quality to be adhered to in outward form/ appearance only, but should be adhered to in spirit and substance.

19 (2008), 58 C.C.L.T. (3d) 259 (Ont. S.C.J.) at para. 141.

7.2 Trends with Respect to Independence

Increasingly, Courts are going to greater lengths to scrutinize the independence of expert witnesses.

Some of this can be attributed to various judicial initiatives, such as the Goudge Inquiry which was commissioned by the Province of Ontario after Dr. Charles Smith, an apparently well-accredited expert from a world-renowned institution was allowed to give expert evidence regarding pediatric forensic pathology that led to a number of criminal convictions. Dr. Smith's evidence was often admitted without challenge. In 2005, the Chief Coroner for Ontario requested a full review of Dr. Smith's work in "criminally suspicious cases and homicides in the 1990s".[20] The Chief Coroner's Review did not agree with significant facts cited by Dr. Smith in many of his reports and/or testimony.[21]

The Goudge Inquiry was set up to examine, among other things, how such systemic miscarriages of justice were allowed to occur and how to enhance the role of Courts as "gatekeepers" with respect to the admissibility of expert evidence. The Goudge Inquiry found that "Dr. Smith failed to understand that his role in the criminal justice system required independence and objectivity".[22] His evidence was seen as too categorical, "potentially skewing the criminal investigation".[23] Further, the Goudge Inquiry concluded that the "serious failings" in the way Dr. Smith performed his role "ranged from his misunderstanding of his role, to his inadequate preparation, to the erroneous or unscientific opinions he offered, and, perhaps most important, to the manner in which he testified, which ranged from confusing to dogmatic".[24]

Whatever the reason for the increased scrutiny of expert independence, we note that the increased scrutiny is manifesting itself in *voir dire* examinations of the independence of experts at trial and the production of experts' working papers and emails, among other things.

For example, in *Alfano v. Piersanti*, the Court ordered production of the working papers, time dockets and certain emails referred to in the time dockets of one of the accounting experts retained in the matter. Upon review of this information during a three day *voir dire* and reviewing the time dockets and underlying emails in question, the Court noted that the defendants' expert based his analysis on theories advanced by the defendants. The Court further noted that the defendants' expert was "committed to advancing the theory of the case of his client, thereby assuming the role of an advocate", and noted that the expert was "trying to do their best for their client to counter the other side".[25]

The Court concluded that the defendants' expert had become a spokesperson for the client, and did not complete independent verification of key issues in "accordance with the standards that are expected of an expert".[26] As a result, the defendants' expert was disqualified from giving expert testimony in this case.

Similarly, the Court was quite critical in *CanBev Sales & Marketing Inc. v. Natco Trading Company*,[27] where a valuation expert involved in the case was seen to be biased. This expert was seen as merely advocating his client's position. The Court described this as brazen "oath helping", and, therefore, dismissed this expert's evidence entirely.

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20 Stephen T. Goudge, *Inquiry into the Pediatric Forensic Pathology in Ontario* (October 1, 2008), executive summary at 7, online: Website of the Ministry of the Attorney General of Ontario <www.attorneygeneral.jus.gov.on.ca/inquiries/goudge/report/v1_en.html>. Last accessed August 25, 2011.

21 *Ibid.*

22 *Ibid*. at 16.

23 *Ibid.*

24 *Ibid.*

25 *Supra,* note 31 at para. 11.

26 *Ibid.*

27 (1996), 30 O.R. (3d) 778 (Gen. Div.) at para. 58.

In summary:

- Increasingly, Courts are going to greater lengths to scrutinize the independence of expert witnesses — checking working papers, emails and correspondences for instance — and eventually even disqualifying experts from testifying. In the past, questions about expert independence were more likely to go towards the weight placed on that evidence. More recently, questions about independence could potentially lead to the disqualification of an expert.

ACT 3: FACTORS IMPACTING THE WEIGHT PLACED ON EXPERT VALUATION EVIDENCE IN CANADIAN LEGAL JUDGMENTS

8.0 Proper Use of Assumptions

Making assumptions is an important element in the quantification of financial loss and business valuation. Most analyses will require a number of assumptions, for instance, regarding most likely future events, anticipated trends in cash flows, the existence of contingencies, the existence of strategic purchasers of a company's shares, and so on. It is commonly accepted among valuation experts that 1) key assumptions need to be set out in a written expert report such that the basis of conclusions reached can be clearly understood and 2) assumptions need to be tested and be realistic in order for expert reports to be viewed as being credible.

Notwithstanding this commonly accepted view, what is immediately obvious from our review of legal judgments is that assumptions, or, specifically, the inappropriate use of or reliance on assumptions, are one of the most frequently cited points for criticism of valuation experts and valuation evidence by the Courts. What are the underlying reasons for these criticisms, and what can valuation experts do better with respect to assumptions?

8.1 When to Use Assumptions and When Not To

Legal judgments suggest that valuation experts need to think about when to make certain assumptions, and when to try to obtain further information so as to replace assumptions with facts.

As a starting point, generally, assumptions with respect to overall legal theories to be proven in Court are appropriate. For instance, in a breach of contract case, a valuation expert may assume that the contract in question was indeed breached, and may quantify loss arising from such breach. The proving of the breach is a matter to be determined by the Court, and the expert does not have to weigh in with respect to this.

Valuation experts sometimes make assumptions where facts are not available, unclear or contradictory. Care must be taken to ensure that facts are indeed not available in these cases and that reasonable attempts have been made to obtain further information to no avail. Insufficient attempts to obtain factual information where information was indeed available are not viewed favourably by the Courts. For instance, in the matrimonial case, *Debora v. Debora*, the husband declined to produce many documents and did not answer many questions relating to financial matters. The husband's expert accepted the lack of disclosure and prepared his analyses without this information, making assumptions where information was missing. The wife's expert meanwhile undertook a forensic analysis and was able to obtain some of the missing information, or was able to arrive at a coherent picture of the financial facts by putting together "bits and pieces of often contradictory disclosure made over a prolonged time period".[28] The Court found that the "husband's deliberate

28 *Supra*, note 12 at para. 345.

obfuscation and failure to disclose infected [his expert's] work", and, therefore preferred the wife's expert's evidence in most cases.[29]

Similarly, in *Love v. Acuity*, the Court took objection to certain assumptions that the plaintiff had proposed and which were adopted by his valuation expert without independent verification. Among these, the plaintiff's expert assumed that the plaintiff would have generated growth in sales of not less than 10% and as high as 30% per quarter. A 30% quarterly growth rate translates to an annual growth rate of about 186%, a rate that the Court found was unsupported by the evidence presented. For this and other reasons, the Court found the plaintiff's expert's view of what was reasonable was "startlingly unreasonable".[30] In this case, estimating quarterly growth rates was well within the expertise of the valuation expert, and adopting a series of client-provided assumptions was seen as improper.

In summary:

- Assumptions are appropriate when facts are not available, unclear or contradictory. However, valuation experts must make reasonable attempts to confirm this, or to obtain required factual information before reverting to assumptions.

8.2 Due Diligence

If assumptions are used, legal judgments are clear in requiring that valuation experts test significant assumptions for reasonability and to establish that they are grounded in "common sense and commercial reality".[31]

For example, in *Brown v. Canada*,[32] one of the issues at trial was the valuation of certain computer games purchased by a limited partnership. The appellant's valuation expert performed a "technical review" of the programs and little else. The expert took a number of management projections and incorporated them into his calculations with little in the way of due diligence. The expert also made the significant assumption that the partnership held a Sega game licence at the valuation date. However, it did not. As a result, the Court determined that it was prudent to "minimize" its evidentiary value as in the words of the trial judge, the evidence "lacked any concrete basis on which I could find comfort".[33]

In *Fulmer v. Peter D. Fulmer Holdings Inc.*[34] the Court noted that the respondent's expert made two important but erroneous assumptions in arriving at the fair market value of certain shares. Essentially, the valuation expert made assumptions regarding the priority of the respondent as the holder of certain shares and the repayment of certain debt obligations. The Court reviewed the shareholder's agreement, articles of amendment and security agreement and found the assumptions used to be invalid. Partly because of this, the Court accepted the applicant expert's valuation.

In *Love v. Acuity*, the Court took exception to the fact that the plaintiff's valuation expert took a model of damages that the plaintiff had created and "put it forward unchanged in any material respect conceptually and un-audited for accuracy of the facts assumed within the model".

The amount of reasonability testing varies depending on the significance of the assumptions to the overall analysis. For instance, assumptions regarding the future inflation rate may be supported

29 *Ibid*. at para. 350.
30 *Supra*, note 11 at para. 142.
31 *Hallatt v. The Queen*, [2001] 1 C.T.C. 2626 (T.C.C.) at para. 30.
32 [2001] T.C.J. No. 763.
33 *Ibid.* at para. 89.
34 (1997), 36 B.L.R. (2d) 257 (Ont. Gen. Div.) at paras. 47-50.

by reference to historical inflation rates in a case where inflation is not a significant component of the financial calculations. However, in the above examples, assumptions used had a material impact on the financial calculations, and the threshold for due diligence should have been correspondingly higher.

In summary:

- When assumptions are used, adequate due diligence should be undertaken to test assumptions for reasonability.
- Ensure that assumptions don't run counter to facts (as in *Fulmer*, above).
- Always test client-provided data and financial models for reasonability and technical accuracy before adopting these in financial calculations. Wherever possible, independently prepare financial models and calculations.

8.3 Hypothetical Scenarios

Sometimes, valuation experts may be requested by counsel or clients to run financial calculations based on certain hypothetical scenarios and assumptions without opining on which scenario is the "reasonable" or "most likely" one, and with the understanding that the Court will decide which scenario to choose. Our review of legal judgments indicates that Courts generally take a dim view of valuation experts that present hypothetical scenarios of financial loss or business value which are based on speculation rather than verifiable facts.

For example, in *Independent Muti-Funds Inc v. The Bank of Nova Scotia*,[35] the valuation expert for the plaintiff prepared five scenarios of financial loss, each calculating financial losses given different sets of facts. On cross-examination, the expert could not say that one of his five assumptions was any more reasonable than any other, and he could not provide a "bottom line" on the quantum of damages.[36] The defendant's expert criticized this expert for "accepting uncritically the assumptions of [the plaintiff]" and suggested that "one of the duties of the author of an expert report is to identify the relevant assumptions underlying the conclusions and deal with the reasonableness and appropriateness of those assumptions".[37] The Court found that the lack of evidence at trial to support the assumptions on which the plaintiff's expert's report was based "seriously undermine[d] the usefulness of that document". The Court noted, with respect to one significant assumption, that it was "founded on bare hope and not on reality".[38]

In summary:

- It is the role of the valuation expert to opine on financial loss or business value based on an objective assessment of facts and reasonable assumptions. Preparing hypothetical scenarios without a factual foundation and asking the Court to decide on the relevant scenario is often inappropriate in the eyes of the Court.

35 [2004] O.J. No. 340 (S.C.J.).
36 *Ibid.* at para. 129.
37 *Ibid.* at para. 128.
38 *Ibid.* at para. 131.

9.0 Explaining Complex Concepts Logically and Clearly

The legal judgments we analyzed make it clear that Courts appreciate and tend to be better disposed to valuation experts who are able to articulate complex calculations and concepts logically and clearly. While articulating concepts in written reports is important, the ability to articulate clearly during oral testimony appears to be what truly distinguishes one expert from another. Indeed, from some of the judgments we looked at, logical oral articulation appears to have "carried the day" in terms of leading the Court to prefer one expert's evidence over another. Conversely, illogical or unclear oral articulation can mislead the Court with respect to important concepts.

The importance of logical and clear articulation can be found in numerous judgments. For example, in *Baxter v. The Queen*,[39] the Court commented with respect to one of the valuation experts that he was "articulate, succinct and clear in the presentation of his pithy hypotheses", which led to "his written report and his oral evidence [being] very persuasive". Similarly, in *Deer Creek Energy Ltd. v. Paulson*,[40] one of the valuation experts went to great lengths to explain complex valuation concepts clearly. These included explaining the concept of discount rates, the choice between various valuation methods and comparable company data. In contrast, the Court felt that the other valuation expert involved was not able to logically explain certain aspects of his methodology and certain choices he made with respect to obtaining data. Some explanations were "obscure". This, in part, led the Court to comment that the latter expert's evidence was "not credible or persuasive".[41]

Meanwhile, in *RBC Dominion Securities Inc. v. Merrill Lynch Canada Inc.*,[42] it appears that the concept and purpose of a discount rate (in respect of present valuing future losses) was not clearly articulated to the Court. This appears to have led the Court to view the discount rate as a "contingency reduction" rather than a risk-adjusted interest rate/present value rate. The Court went on to determine that a 20% discount rate (as suggested by one of the valuation experts) was inappropriate, and that discount rates of 20% to 60% ought to be used instead. As an aside, for valuation practitioners, a discount rate of 60% represents a tremendously high rate (usually reserved for special circumstances such as valuations or present value calculations involving startup/high tech/biotechnology companies), and would be rarely used insofar as a discount rate is indeed seen as a risk adjusted interest rate/present value rate.

In summary:

- Articulation of complex concepts in a logical and clear manner, particularly during oral testimony in Court, is extremely important, and can, among other things, mean the difference between one expert's evidence being preferred over that of another.

10.0 Demeanour

Closely related to the topic of "explaining concepts logically and clearly", is that of the ideal or preferred demeanour of the valuation expert in Court. Demeanour refers to the manner in which an expert witness carries himself or herself, the air with which an expert asserts himself or herself and the overall physical appearance and bearing of the valuation expert in Court. Clearly, demeanour is more of an esoteric quality that is hard to objectively study. Nevertheless, we were interested in exploring the extent, if any, to which demeanour "matters" in the eyes of the Court.

39 2006 TCC 230 at para. 96, rev'd on other grounds at 2007 FCA 172, [2007] 3 C.T.C. 211.
40 2008 ABQB 326, 49 B.L.R. (4th) 1.
41 *Ibid.* at para. 452.
42 2004 BCSC 1464, 50 B.L.R. (3d) 308, varied at 2008 SCC 54, [2008] 3 S.C.R. 79.

From our experience, different valuation experts have different “styles” of oral communication. Some valuation experts are more reserved and cautious, others are rather more energetic and flamboyant, while others may have a completely different style of their own.

By and large, we found that legal judgments don’t often comment on the demeanour of valuation experts. As an aside, legal judgments do comment frequently on the demeanour of **fact** witnesses in a case. One legal judgment that did have comments on expert demeanour was *Baxter v The Queen.* In this judgment, the Court noted that it was “persuaded by the demeanour, substance, presentation and **modest certainty**” [emphasis added] of one of the valuation experts involved.[43] Similarly In *1230995 Ontario Inc. v. Badger Daylighting Inc.*, the Court noted that both valuation experts that testified at trial did so in a “straight forward manner and did their best to assist the Court”.[44]

The cases we reviewed also suggest that experts are better able to maintain an earnest and sincere demeanour in Court if they are flexible on cross-examinations and open to accepting alternative suggested facts from opposing counsel and running through the implications of such alternative facts for the benefit of the Court. This is opposed to rigidly sticking to a pre-existing position and risking appearing as an advocate. For instance, in *de Gobeo v. de Gobeo*, the Court found that one of the valuation experts on cross-examination continued to “buttress an unsupportable position” on behalf of his client, in an attempt to “support his retainer”.[45] As a result, this expert’s position was “shaken on cross-examination”, during which opposing counsel was successful in a “complete knock down” of all the expert’s valuation theories. Rather than maintaining a sincere and calm demeanour, this expert’s testimony “degenerated”.[46]

The above legal judgments suggest that, for the Courts involved, they preferred valuation experts that are modest, respectful and almost “academic” or “professorial” in their demeanour. Unfortunately, we cannot extrapolate this across all Courts given the limited number of cases that explicitly make reference to demeanour.

In summary:

- It is difficult to definitively conclude, from an analysis of legal judgments, what is an “ideal” or “preferred” demeanour for valuation experts.
- Some legal judgments suggest that Courts prefer valuation experts that maintain a modest, calm and academic demeanour.
- Valuation experts are better able to maintain an earnest and calm demeanour if they show themselves to be flexible on cross-examinations.

11.0 Asking for Relevant Information

A potential distinguishing factor between some valuation experts at trial is the extent to which particular experts made good-faith attempts to obtain information that was required for their analyses.

What is clear from the case law reviewed is that it is not sufficient for valuation experts to just disclose in their written reports that they were unable to obtain certain documents or pieces of information. Where such information exists but was not provided by one of the parties, the onus appears to be on the expert to try to obtain the information from other sources, or arrive at the information using alternate means.

43 *Supra*, note 39 at para. 97.
44 2010 ONSC 1587, [2010] O.J. No. 2166 at para. 194.
45 *Supra*, note 5 at para. 44.
46 *Ibid.* at para. 43.

For example, in *Shamber v. Shamber*,[47] a matrimonial case, the Court found it "concerning" that although one of the valuation experts "complained of not having received additional information or full access to interview the husband, there was no evidence of efforts made to access this through the Courts, nor any real acknowledgment that the absence of this information could have had an impact on his conclusions". Similarly in *Bravo v. Pohl*,[48] the wife's valuation expert acknowledged that important information for his analysis was missing and would be needed to finalize his calculations. The wife's expert did not interview certain individuals in order to clarify questions, did not take adequate steps to seek more information even after receiving the husband's expert report, and did not ask for certain pieces of relevant financial information. Although the fact of the missing information was clearly disclosed by way of a "scope limitation" in the expert's report, the Court felt that the expert in question should have made more effort to furnish himself with the missing information. The Court stated that the scope limitations were to "such a degree that the conclusions reached are without merit and should be given no weight".[49]

A number of legal judgments we examined also suggested that, where valuation experts are provided with financial models prepared by clients, experts should check the assumptions in such models and also check for technical accuracy/errors before relying on the models for valuation calculations. To this end, valuation experts should ask sufficient questions and obtain sufficient backup for such financial models so as to be able to be comfortable with the models.

In summary:

- It is not sufficient for valuation experts to disclose scope limitations in their expert reports without making efforts to ask for required information. If the information is then not provided or not available, valuation experts should take steps to otherwise obtain the required information from other sources or by alternate means.
- Valuation experts should exercise caution when using/adapting financial models provided by clients. These models should be checked thoroughly before relying on them.

12.0 The Importance of Professional Qualifications

It is not uncommon to see some valuation experts with multiple professional designations (CA, CBV, IFA etc.) and multiple academic degrees (MBA, B.Com etc.), while others have comparatively fewer qualifications. Are experts with more qualifications more effective than those with fewer qualifications? And, which qualifications tend to be seen as superior to others in the eyes of the Courts?

12.1 More Versus Fewer Professional Qualifications

Many legal judgments list valuation experts' professional qualifications when describing why particular individuals were accepted as experts. Courts don't spend much time discussing the qualifications. However, by virtue of listing professional designations and academic degrees, this suggests that Courts do consider qualifications to be important.

Our analysis of legal judgments reveals that, interestingly enough, the number of qualifications does not determine whether a particular valuation expert is going to be more or less effective in Court. Courts certainly look for an expert to have relevant qualifications for the subject matter at hand — for example, a CBV for business valuations or an accounting designation for investigative

47 2004 MBQB 183, 14 R.F.L. (6th) 444 at para. 45.
48 (2008), 62 R.F.L. (6th) 209 (Ont. S.C.J.).
49 *Ibid.* at para. 16.

analyses. More important than the number of qualifications themselves is which expert provided a more thorough analysis, made better assumptions, and was more independent. For example, in both *Debora v. Debora*[50] and *de Gobeo v. de Gobeo*,[51] the Court accepted the evidence of the valuation expert that had fewer designations (two designations versus three designations in both cases), based primarily of the strength of one expert's analysis over the opposing expert.

In summary:

- While having relevant qualifications for the subject matter at hand is important, the number of designations does not, in and of itself, provide one expert with an advantage over another.

12.2 What Types of Qualifications are Better?

From our analysis, the success of particular qualifications over others appears to be stratified depending on the type of case.

We have noted that in **matrimonial** cases:

1) Courts appear to accept a wider range of qualifications with respect to testifying on business value, forensic investigations to locate family assets and other financial analyses required. At a minimum, qualified experts all had accounting designations. Qualifications most often include Chartered Accountants (CAs) and CBVs, but also include Certified Management Accountants (CMAs), Certified General Accountants (CGAs), and Investigative and Forensic Accountants (IFAs).
2) No particular designation appears to have the "edge" over any other designation in terms of having evidence accepted by the Court. Again, the key distinguishing factor is the strength and independence of the underlying analyses undertaken.
3) In more recent years, there appears to be a trend towards more valuation experts in family law cases possessing CBV designations.

Meanwhile, in **commercial litigation** and **tax court** cases:

1) A more limited range of qualifications appears to be the norm. The majority of valuation experts tend to possess at least a CA designation, or a CA together with a CBV. In larger and more complex litigations it appears possessing a CA and CBV combination is the norm.
2) We observe that in those cases where one valuation expert possesses a CBV designation whereas another expert does not possess a CBV designation, the expert with a CBV designation appears to have valuation evidence accepted by the Court more often. This is certainly not a "given" in all situations, and, as always, depends on the quality of the analyses conducted of each respective expert. We note that the underlying reason for the observed acceptance of CBV-experts may be, in part, due to their more specialized training in valuation methodology, rather than purely due to the perception of the CBV designation, in and of itself, by the Court.

In summary:

- What is most relevant to the Court is not that an expert should possess a particular designation, but the quality and independence of the valuation evidence provided by experts.

50 *Supra,* note 12.
51 *Supra,* note 5.

- Notwithstanding the above, the facts suggest that the CBV designation is increasingly being accepted as the norm in litigation matters.
- In commercial litigation and tax matters, experts possessing a CBV designation appear to have evidence accepted more often than those not possessing the designation.

13.0 The Importance of Experience

Another important question that arises with respect to valuation experts is to what extent the experience of a business valuator impacts his or her ability to have evidence accepted by a Court. As with qualifications, it may initially seem obvious that the more experience the better. However, our review of legal judgments reveals quite the opposite.

To begin with, Courts do value experience on the part of valuation experts. As with an expert's qualifications, a number of legal judgments make reference to the years that a valuation expert has practiced. Presumably, the greater the level of experience, the greater the body of knowledge that a valuator can draw upon in arriving at valuation opinions, and the more comprehensive the resulting analysis. In particular, Courts value relevant experience. For example, when valuing an oil and gas company, Courts may look for prior oil and gas experience on the part of the valuator. This is perhaps best echoed in *Deer Creek Energy Ltd. v. Paulson*, in which the Court stated that "the knowledge and experience of the valuator in a specialized industry is a factor that must be considered in evaluating the expert opinions tendered". [52]

Having said this, it is certainly not a given that the more experienced expert will have his or her evidence accepted in preference to a less experienced expert. For example, in *Alfano v Piersanti,* the Court acknowledged that one of the valuation experts was "very experienced", whose "qualifications to give opinions in matters such as those that are in issue in this case were not challenged".[53] Nevertheless, the Court disqualified the expert because of his lack of independence. Similarly, in *Debora v. Debora*, one of the valuation experts involved had given evidence approximately 30 times and had a longer career as compared to the other who had given evidence on two prior occasions and did not have quite as long a career. Nevertheless, the Court preferred the evidence of the latter expert based on the latter being more independent and undertaking a more thorough analysis.[54]

In summary:

- Courts do value relevant experience on the part of valuation experts.
- However, what is more important than experience is the independence and due diligence undertaken by a particular expert in arriving at his or her opinion.

14.0 Being Organized

A number of legal judgments make it clear that valuation evidence (oral or written) that is well organized and presented in a methodical fashion tends to be viewed favourably by the Court. For instance, the Courts liked the succinct, methodical and focused manner in which valuation evidence was presented by one of the valuation experts in *Baxter v. The Queen*, *Deer Creek Energy Ltd. v. Paulson*, and *Love v. Acuity*, among others.

52 *Supra*, note 40 at 556.
53 *Supra*, *note* 3 at para. 5.
54 *Supra*, note 12.

15.0 Level of Detail Involved

A question that valuation experts often consider is what level of detail to delve into while preparing financial analyses underlying their opinions. Some Courts have characterized valuation as an "inherently uncertain process" given the many facts, projections, assumptions and judgment calls that are required.[55] Considering this, does it make more sense, therefore, for a valuation expert to prepare a more "conceptual" analysis, which captures the significant financial details but perhaps not every immaterial nuance, or is it more prudent to adopt an almost "forensic" approach, which takes into account significant financial details but also valuation adjustments of a smaller dollar value. The former approach may be easier for Courts to grasp and understand especially where a case has a lot of technical details. The latter may be seen as more thorough and researched. From our experience, different valuation experts tend to adopt one of these approaches or fall somewhere in between. However, which approach tends to be viewed more favourably by the Courts? Our research reveals a number of interesting responses to the above question.

On the one hand, some legal judgments favour valuation experts who are more detailed and undertake a more comprehensive scope of review, so long as the work undertaken is relevant and meaningful. For example in *Deer Creek Energy Limited v. Paulson*, the Court noted that one of the experts checked a client-provided financial model for errors and made adjustments to the model; retained an independent petroleum engineering firm to check the reasonableness of certain assumptions; analyzed a larger selection of comparable companies; and, undertook a detailed analysis of capital costs.[56] This, in part, led the Court to prefer this more expansive scope of review to the comparatively more limited review of the other expert. In *Baxter v. The Queen,* the Court noted that one of the valuation experts "incorporated information from several sources not canvassed by [the other expert]" in preparing a more thorough analysis.[57] In *Adams v. Amex Bank of Canada*, the Court noted "both sides filed lengthy and detailed experts' reports on the calculation of [the] quantum [of damages]". The Court noted that "both expertises [*sic*] have thoroughly perused and analyzed Amex's available data and records to evaluate the amount of the Commission paid to Amex for the period at issue".[58]

On the other hand, notwithstanding the level of detail, what becomes clear from the comments of the Courts is that what is far more important is that the overall analysis and opinion accords with "common sense and commercial reality".[59] In other words, valuation experts may prepare detailed financial models and calculations, reconciling numbers to the individual dollar and ensuring their calculations are mathematically correct. However, if the "big picture" end result runs contrary to key facts, if significant assumptions are unrealistic, and if conclusions don't make commercial sense, then the valuation evidence may be accorded less weight or dismissed by the Courts. Moreover, the importance of "articulate, succinct and clear" presentation of analyses in written reports and oral testimony must be underscored.[60]

In summary:

- Being detailed in the scope of work undertaken is important to the extent that such detail relates to the subject matter at hand, and to the extent that sufficient work is undertaken by the valuation expert to support his or her opinion.

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55 *RBC Dominion Securities Inc. v. Merrill Lynch Canada Inc*., *supra*, note 42 at para. 94.
56 *Supra*, note 40 at paras. 508-566.
57 *Supra*, note 39 at para. 76.
58 *Supra*, note 7 at para. 386.
59 *Hallatt v. The Queen*, *supra*, note 31 at para. 30.
60 *Baxter v. The Queen*, *supra*, note 39 at para. 96 [T.C.C.].

- Notwithstanding the level of detail that an expert incorporates into his or her analysis, what is more important is that the "big picture" conclusions reached are reasonable and accord with common sense and commercial reality.

16.0 Remaining Within One's Area of Expertise

Valuation experts may sometimes be asked by their retaining counsel for their comments on topics which may not be within their area of expertise. These areas may include matters of law, or commenting on data such as the quantum and value of oil and gas reserves, or providing an opinion as to the expected market size of a pharmaceutical drug.

Legal judgments indicate that valuation experts need to exercise care to avoid straying too far from their "core" expertise of loss quantification, business valuation and financial matters. For example, in cases where opining on the expected market size of a pharmaceutical drug is concerned, valuation experts may need to consider retaining a marketing expert if the market data is a significant component of the overall valuation assessment, and independent factual information cannot be obtained from accepted and trustworthy sources. Similarly, when assumptions such as the quantum of oil and gas reserves are a significant component of the overall analysis, an oil and gas specialist should be separately retained.

Courts tend to look unfavourably on valuation experts who stray from their area of expertise. For instance, in *CanBev Sales & Marketing Inc. v. Natco Trading Company*,[61] a valuation expert was retained to comment on the reasonableness of an assumption that a particular dollar figure relevant to the facts of the case was a "net" figure. However, the Court felt that this retainer had "nothing to do with the area of [the expert's] expertise", and the expert's findings "did not have a reliable basis in the knowledge and experience of the expert's discipline and on this basis such evidence is not admissible". The question was, in fact, a legal/factual question, "for the Court to decide on the totality of the evidence".[62]

17.0 Conclusion

William Shakespeare once compared the world to a stage. In this paper, we extended the analogy of a stage to the litigation process, in which many individuals play out a complex plot, with valuation experts often important members of the cast of characters.

What, if anything, can we suggest to valuation experts, to assist them in playing out their role on the Court's "stage" more effectively?

On balance, there is no "magic elixir" that guarantees a particular valuation expert's evidence will be accepted as credible or preferred over another expert's. Having said that, like every good actor, successful valuation experts will tend to be those that make every effort to "get into character" and internalize their role: to be independent and objective witnesses for the benefit of the Court rather than a hired advocate for a particular litigant. In other words, experts must remember that their audience is the Court itself.

Courts greatly appreciate valuation evidence; therefore, valuation experts have a tremendous potential to assist the Court — but only if such evidence is independent.

With independence as a "given", our research identifies a number of other qualities and factors that could help distinguish a particular valuation expert over another in the eyes of the Court,

61 *Supra*, note 27 at para. 58.
62 *Ibid*.

ranging from explaining concepts logically and clearly, to demeanour, to proactively asking for relevant information.

We hope that our research findings may be useful in terms of furthering the quality, independence and effectiveness of expert loss quantification and valuation evidence in Canada.

We end this paper, as we began, with a quotation from Shakespeare, which, in our view, again underscores the point that reputation and integrity are a valuation expert's greatest assets:

The purest treasure mortal times afford
Is spotless reputation — that away,
Men are but gilded loam, or painted clay.

— *William Shakespeare, from "Richard II"*

ADDENDUM TO CREDIBILITY UNDER SCRUTINY:[63] FINAL FINDINGS AND VIEWS FROM THE BENCH

"Where do we come from? What are we? Where are we going?"

— Paul Gaugin

"Angie….Angie….Where will it lead us from here?"

— "Angie", by the Rolling Stones

1.0 Introduction

In 2011 we, the authors, had the opportunity to prepare a research paper for the Canadian Institute of Chartered Business Valuators' 2011 Research Initiative. Our paper was entitled "Credibility under Scrutiny" and was submitted on October 31, 2011 (the "Research Paper"). Our Research Paper analyzed Canadian legal judgments in order to: 1) analyze the relevance and need for expert valuation evidence in Canadian Court proceedings, and 2) "deconstruct" Court judgments in order to identify what factors resulted in expert valuation evidence being successful/credible and, ultimately, accepted by the Courts.

During the course of preparing our paper, we identified an opportunity to expand our research to include a written survey of Canadian judges. We developed a survey and circulated this to selected Canadian judges. As not all survey responses had been received by the time we finalized our Research Paper, we decided to collect the returned surveys and analyze the responses by way of this Addendum to our Research Paper.

As such, this Addendum should be read in conjunction with our Research Paper. All defined terms are as set out in our Research Paper.

We hope that the findings contained herein provide useful and candid insights into how judges view valuation experts and valuation evidence, and what judges regard as important with respect to such evidence.

2.0 Summary of Significant Findings from Research Paper

In order to provide the reader with sufficient context to properly understand this Addendum while, at the same time, not repeating too many details from our Research Paper, we have summarized the most significant findings from our Research Paper below.

I: The relevance and need for expert valuation evidence in Canadian Courts	
Relevance	• Canadian Courts view expert valuation evidence as relevant and useful. Valuation experts have tremendous opportunities to make useful contributions to the Court.
Independence	• Independence and objectivity are mandatory for valuation experts. Independence is not a quality to be adhered to in outward form/ appearance only, but, should be adhered to in spirit and substance.

63 "Credibility under Scrutiny: A Research Study of the Weight Placed on Expert Valuation and Damages Evidence in Canadian Court Judgments" was a paper prepared October 31, 2011 for the 2011 Ian R. Campbell Research Initiative of the Canadian Institute of Chartered Business Valuators.

II: Factors impacting the weight placed on expert valuation evidence in Canada	
Proper Use of Assumptions	• Assumptions are appropriate when facts are not available, unclear or contradictory. However, valuation experts must reasonably attempt to obtain factual information before reverting to assumptions. • When assumptions are used, adequate due diligence should be undertaken to test assumptions for reasonability.
	• The role of the valuation expert is to opine on financial loss or business value. Preparing hypothetical scenarios without a factual foundation and asking the Court to decide on the relevant scenario is often inappropriate in the eyes of the Court.
Explaining Concepts Logically and Clearly	• Articulation of complex concepts in a logical and clear manner is extremely important, and can, among other things, mean the difference between one expert's evidence being preferred over that of another.
Demeanour	• It is difficult to definitively conclude, from legal judgments, what is an "ideal" or "preferred" demeanour for valuation experts. • Some legal judgments suggest that Courts prefer valuation experts that maintain a modest, calm and "academic" demeanour. • Experts are better able to maintain a modest and calm demeanour if they are amenable to alternate views on cross-examinations.
Asking for Relevant Information	• It is not sufficient to disclose scope limitations in expert reports without making reasonable efforts to ask for required information or to obtain information from other sources or by alternate means.
The Importance of Qualifications	• Having relevant qualifications for the subject matter at hand is important but the number of designations does not provide one expert with an advantage over another.
The Importance of Experience	• Courts value relevant experience on the part of valuation experts. However, what is more important is the independence and due diligence undertaken by an expert in arriving at his or her opinion.
Being Organized	• Valuation evidence (oral or written) that is well organized and presented in a methodical fashion tends to be viewed favourably.
Level of Detail Involved	• Being detailed is important to the extent that such detail relates to the subject matter at hand, and to the extent that sufficient work is undertaken by the valuation expert to support his or her opinion. • Notwithstanding the level of detail incorporated into an expert analysis, what is more important is that the "big picture" conclusions reached are reasonable and accord with common sense and commercial reality.
Remaining Within One's Area of Expertise	• Valuation experts should avoid straying too far from their expertise of loss quantification, business valuation and financial matters.

The above findings were derived from our analysis of reported legal judgments. We were also interested in hearing from Canadian judges directly as to whether the factors we identified as important in establishing the weight placed on expert valuation evidence were indeed viewed as important by them. Therefore, we undertook a written survey of Canadian judges, as described below.

3.0 The Survey

We developed and distributed a survey to 40 judges who sit on the Ontario Superior Court of Justice, the Family Court and the Tax Court. The survey consisted of 14 questions set out in five main categories and was to be answered on an anonymous basis. The questions included in the survey are set out and discussed herein.

Survey participants were invited to first provide information about their legal backgrounds and then to provide responses to a number of questions dealing with valuation experts and valuation evidence. For many questions, participants were asked to select their responses from a list (with the option to add additional items to the list) and to rank their responses in order of importance. For other questions, participants were asked to provide direct responses. For most questions, participants were provided with space to write down additional comments, or their reasoning for certain responses. We were pleased that many participants chose to do so.

4.0 Caveats

We designed the survey to focus on what we considered to be important questions to ask judges. We appreciate that there may be additional questions that could have been asked, or that our questions could have been formed differently. As such, the survey represents our good faith attempt to obtain additional information from judges and thereby add to the findings from our Research Paper.

The intent of the written survey was not to survey every judge from across Canada but to reach out to a finite number of judges from whom meaningful responses could be obtained and analyzed.

A written survey is an inherently challenging exercise. The usefulness or “value” of a survey depends on the number of responses received and, if the survey contains qualitative elements, the extent of additional comments or information provided by participants. We have found that, generally speaking, the requirement that judges remain impartial and refrain from expressing opinions on legal issues outside of their reported judgments themselves has been viewed by some as an obstacle to completing the survey. Another challenge arises from the fact that judges tend to carry significant case loads and have extremely limited time to respond to initiatives such as surveys.

We received 15 completed surveys out of 40 sent out, for a response rate of approximately 38%. Considering the challenges outlined above, we consider this to be a good response rate. Moreover, we were encouraged by the additional comments that respondents included in their surveys.

It is our view that the survey process was useful and productive, and resulted in valuable information from judges, as set out below.

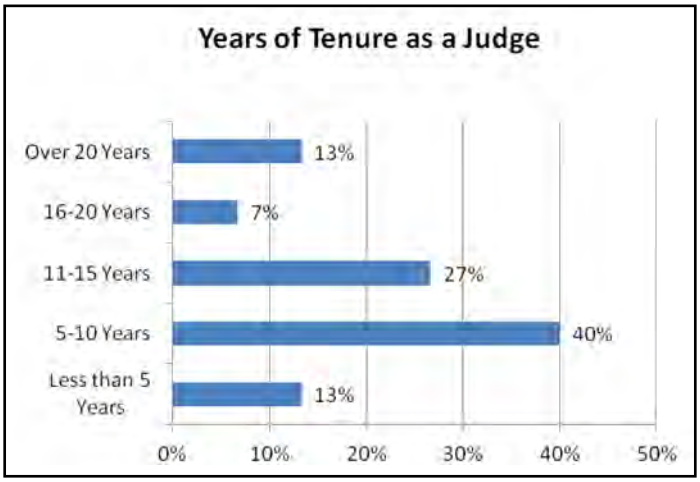
5.0 Analysis of Survey Responses

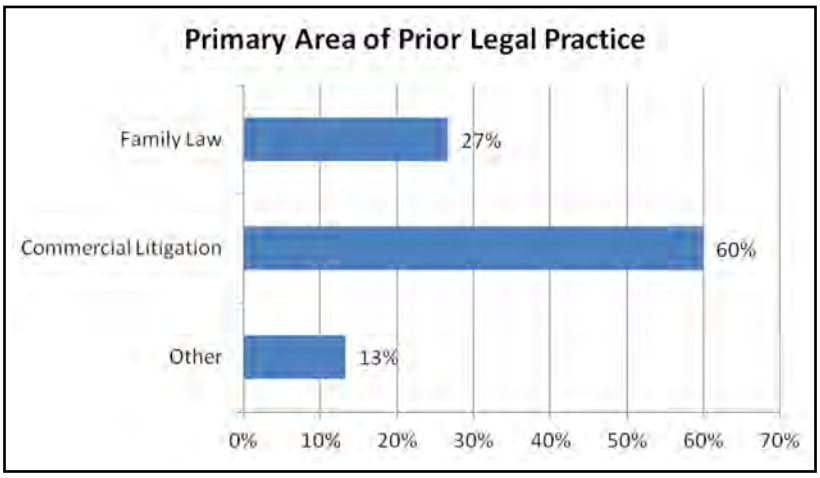
5.1 Legal Background of Participants

In order to understand the background and experience of survey participants, we asked participants the following questions:

1) As of the present date, how long has it been since you were appointed to the bench?
2) What was the primary area of your legal practice prior to being called to the bench?
3) Over the course of your tenure as a judge, approximately how many cases involving business valuation and damages quantification experts have you presided over?

Their responses were as follows:





On average, each survey respondent had presided over 10.3 cases that involved valuation or damages expert witnesses.

In short, survey respondents were from a wide range of seniority/tenure as judges, had practiced primarily in commercial litigation or family law prior to becoming judges, and had on average presided in over 10 cases involving valuation experts and valuation evidence. As a result, their feedback would be drawn from on-point experience and would be that much more relevant.

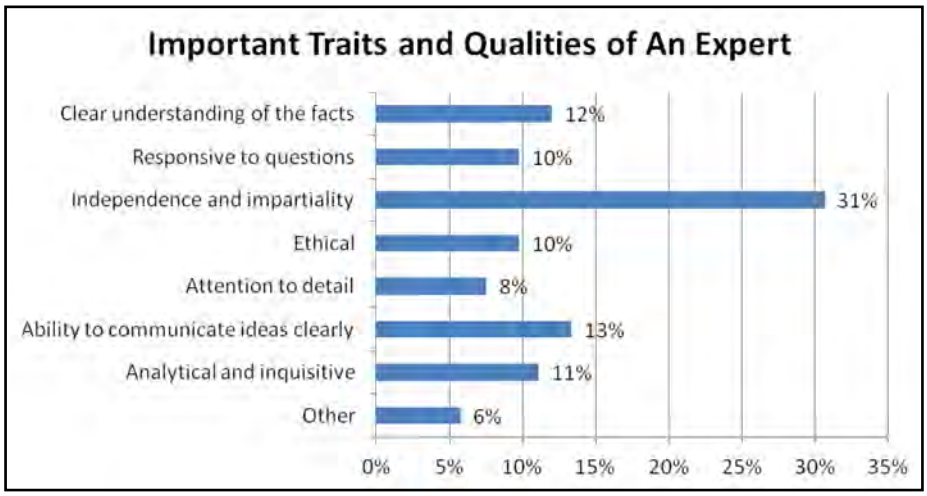
5.2 Attributes with Respect to Valuation Experts

Important Traits and Qualities of an Expert

Survey participants were asked the following question:

4) From the list below, please identify the 5 most important traits or qualities that you believe an effective valuation/damages expert should possess, and rate those 5 traits from 1 (most important) to 5 (least important).

We assigned marks to the traits that respondents selected based on their relative ratings. The results were as follows:



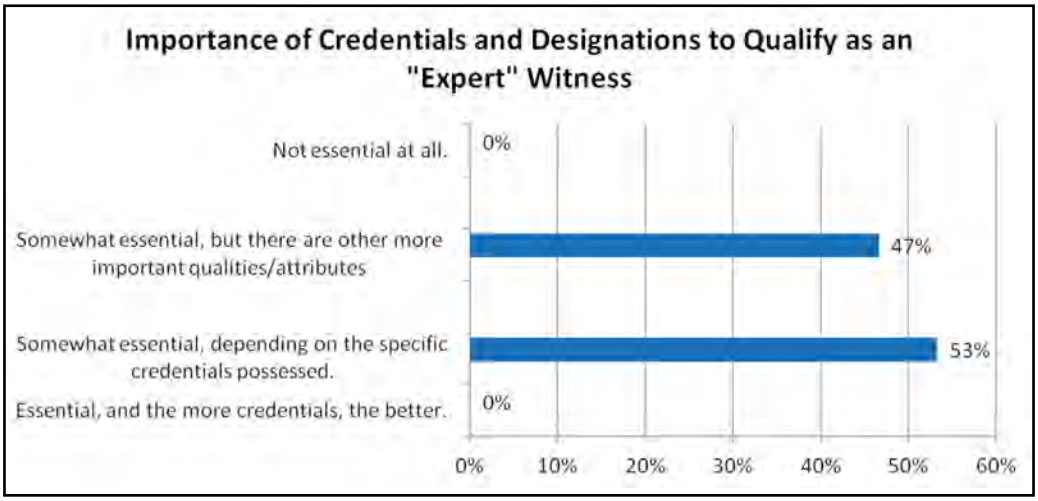
Not surprisingly, independence and impartiality was seen as very important by survey respondents. Effective communication skills, a firm understanding of the facts, and analytical abilities/inquisitiveness were also noted as valued traits. Somewhat surprisingly, attention to detail, while important, did not feature as prominently.

Importance of Credentials and Designations

Survey participants were asked the following question:

5) In your view, how essential are possessing credentials/professional designations in order to qualify someone as an “expert witness” (please select one), and why?

In response:



Respondents provided the following additional comments:

- Judges need to know an expert has the background to know what he is talking about.
- Expertise, experience, intelligence, and integrity are more important than credentials.
- In terms of qualification, training in the specified field is important, so credentials are important. However, experience in the particular area at issue is also important on the question of qualification.
- Professional designations sometimes mean joining for a fee without any special qualifications.
- Experience sometimes trumps academic and professional training. However, a balance is ideal.
- Basic credentials are critical. Beyond that, the most persuasive experts tend to have numerous credentials.

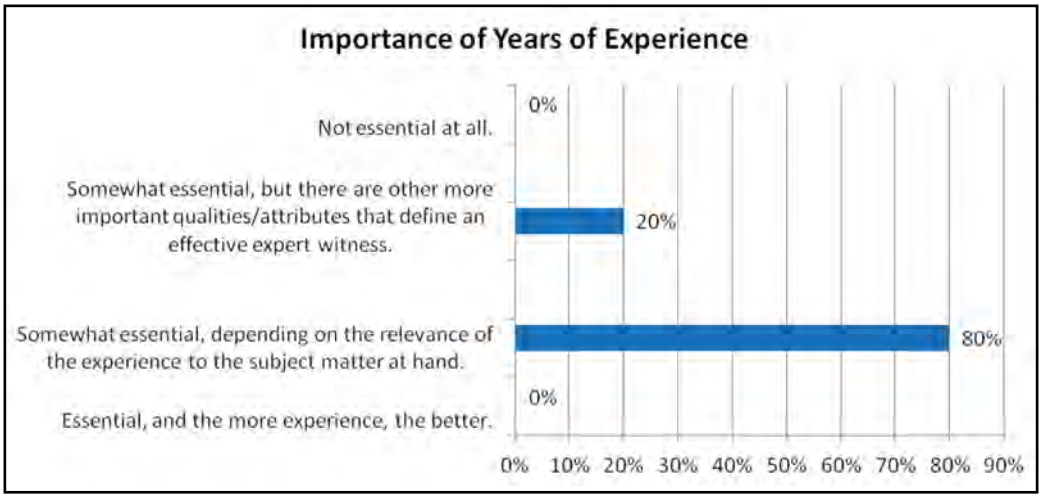
Clearly, credentials and designations are important. However, almost half believed that, while important, there were other qualities/attributes that were more relevant for expert witnesses to possess. Half also believed that credentials could be important, but their importance varied depending on the specific credentials possessed and the relevance of the credentials to a particular case or subject matter.

Importance of Years of Experience

Survey participants were asked the following question:

6) In your view, how essential is the number of years of experience that an expert witness possesses (please select one), and why?

In response:



Respondents provided the following additional comments:

- A biased valuator with 20 years experience will fare poorly against an impartial valuator with only 5 years experience.
- Some older experts tend to be somewhat stale in approach and delivery.

- Experience is always important; by the time a valuator seeks to approach the Court as an expert witness he usually has some seasoning.
- If a valuation is complex, experience is critical. Not just in terms of the number of years, but with regard to experience with similar matters.

Respondents believe that having years of experience in a particular field of practice is important. However, 20% believed that there were other qualities/attributes that were more relevant for experts to possess, while 80% believed that the need for experience depended on the subject matter at hand. Respondents' comments acknowledge the importance of experience, but also suggest that an intelligent, unbiased expert with fewer years of experience would be better received by the Court than a biased expert with many years of experience.

Which Credentials and Designations are Important for Valuation Experts

Survey participants were asked the following question:

7) In your view, which specific credentials/professional designations are particularly useful for a business valuation and damages quantification expert to possess? (Select the ones that apply).

In response:

Credentials and Designations	%
Chartered Accountant designation (CA)	47%
Chartered Business Valuator (CBV)	80%
Investigative & Forensic Accountant (IFA)	40%
Certified Financial Analyst (CFA)	20%
Certified Fraud Investigator (CFE)	7%
Undergraduate business degree	0%
Master of Business Administration (MBA)	7%
Other accounting designation	13%
Do not know	7%

It is worth highlighting that 80% of respondents noted that the CBV designation was useful for business valuation and loss quantification experts to possess. The 80% figure suggests a significant level of acceptance among judges that the CBV designation is perhaps the "premier" designation for valuation experts to possess.

Given the extent of accounting information that needs to be analyzed in valuation cases, it is not surprising that 47% of respondents suggested that a CA was a useful designation. Meanwhile, 40% suggested than an IFA would also be useful.

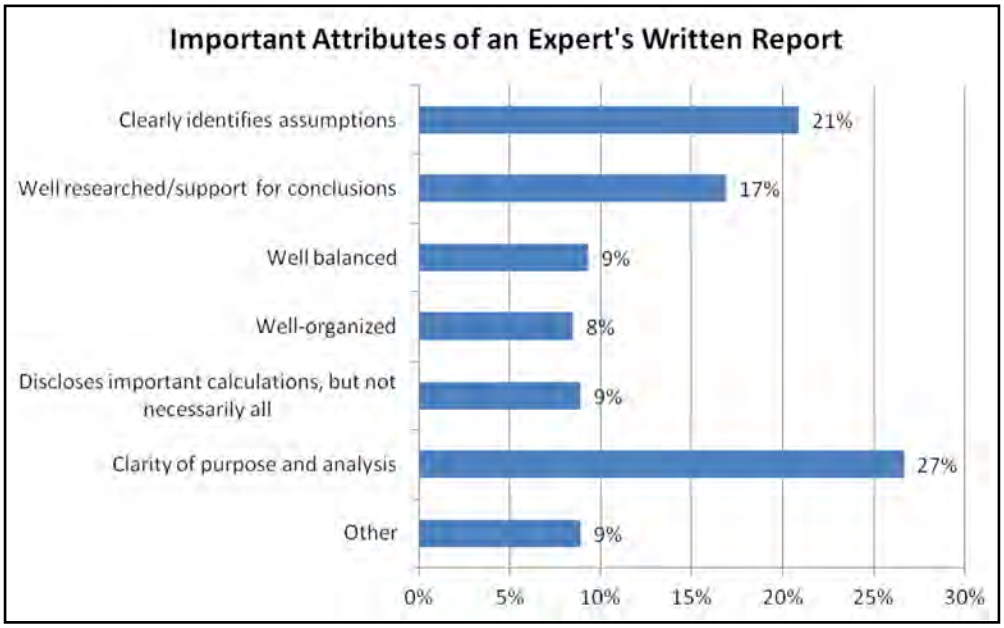
5.3 Attributes with Respect to Expert Reports

Important Attributes of an Expert's Written Report

Survey participants were asked the following question:

8) From the list below, please identify the 5 most important attributes of an expert's **written report** with respect to business value or the quantification of damages, and rate those 5 attributes from 1 (most important) to 5 (least important).

In response:



Twenty-seven percent of respondents rated clarity of purpose and clarity of analysis as the most important attribute of an expert's written report. Meanwhile, a further 21% identified the clear disclosure of assumptions used in the report as the most important attribute. This suggests that judges value "clarity". In other words, judges value reports that set out and adhere to a clear and unambiguous mandate, as well as reports that disclose key assumptions rather than attempting to be silent on those assumptions and thereby avoiding discussion of the issues associated with such assumptions. Seventeen percent of respondents rated the level of research and whether conclusions were well-supported as the most important attribute of written reports.

Interestingly, included in the "other" category above (which we did not graph in order to focus on the main categories that were selected), were two items: "details" and "discloses detailed calculations". In our survey, neither category received weight as an important attribute of a written report. One might expect that the more detailed and calculation-intensive a written report happens to be, the more credibility it might have. However, the survey findings (as well as findings from our Research Paper) indicate that this is not necessarily true.

Production/Disclosure of Draft Reports

Survey participants were asked the following question:

9) Have you ever ordered that an expert produce their draft reports? If yes, how many times approximately?

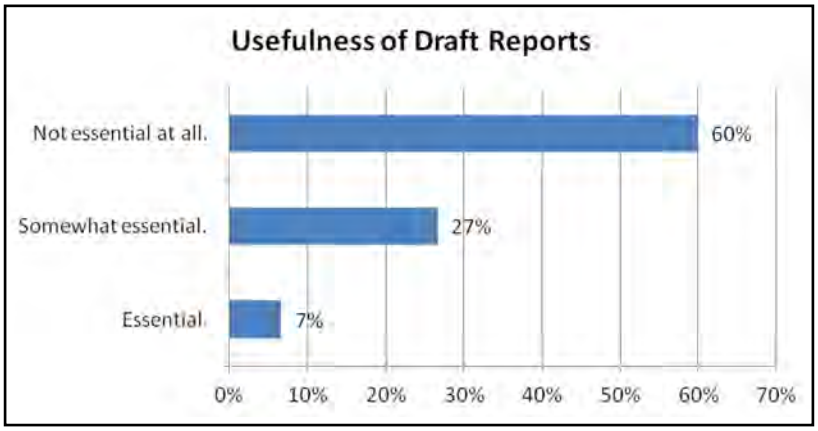
Only one respondent out of 15 had ordered experts to produce/disclose their draft reports in a proceeding and this judge noted that he/she "always" ordered that draft reports be produced.

Usefulness of Draft Reports

Survey participants were asked the following question:

10) In your view, how useful to the Court are draft reports with respect to establishing the qualifications and or credibility of an expert witness? (Please select one).

In response:



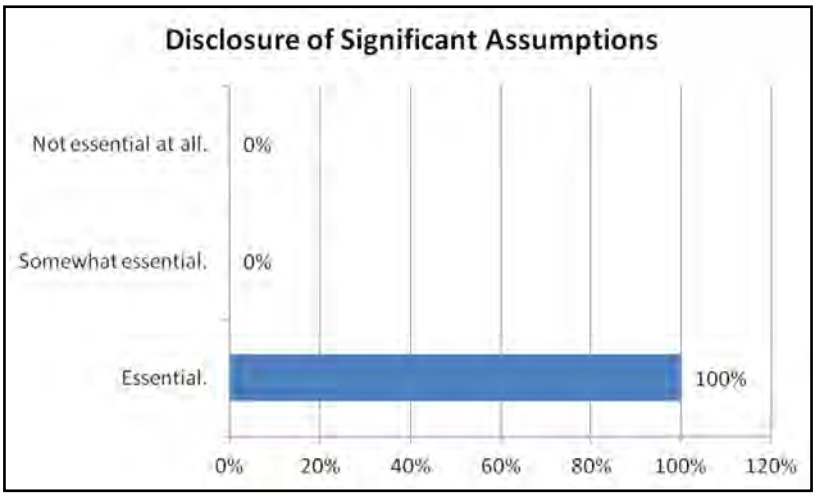
The majority of respondents suggested that draft reports were not useful/essential at all to establish the qualifications or credibility of an expert. This certainly is a widely held view among valuation experts themselves, with the notion being that a draft is an interim work product prepared for the confirmation of the accuracy and completeness of information contained therein, and which is subject to revision.

Disclosure/Verification of Significant Assumptions

Survey participants were asked the following question:

11) In your view, how important is it for expert reports to explicitly disclose significant assumptions and the verification of the reasonability of such assumptions?

In response:



Disclosure of significant assumptions appears to be regarded unanimously by the respondents as essential.

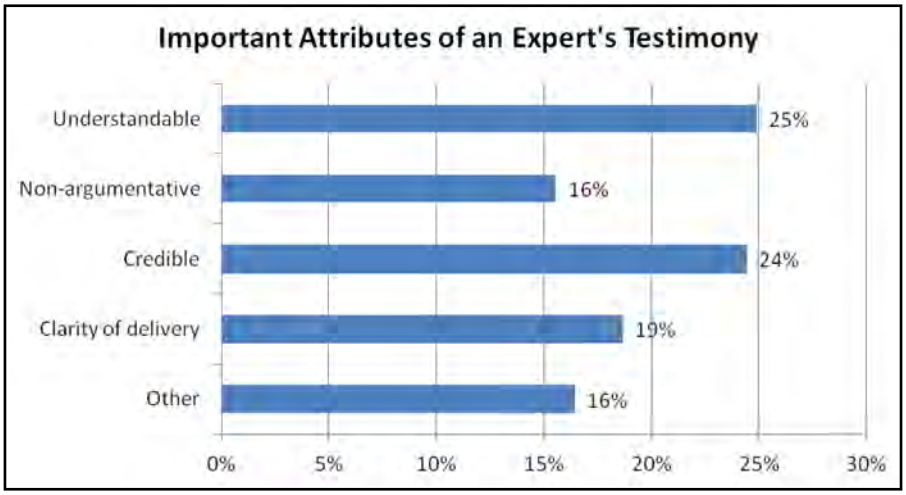
5.4 Attributes with Respect to Expert Oral Testimony

Oral Testimony

Survey participants were asked the following question:

12) From the list below, please identify the 5 most important attributes of an expert's oral testimony in Court with respect to business value or the quantification of damages, and rate those 5 attributes from 1 (most important) to 5 (least important).

In response:



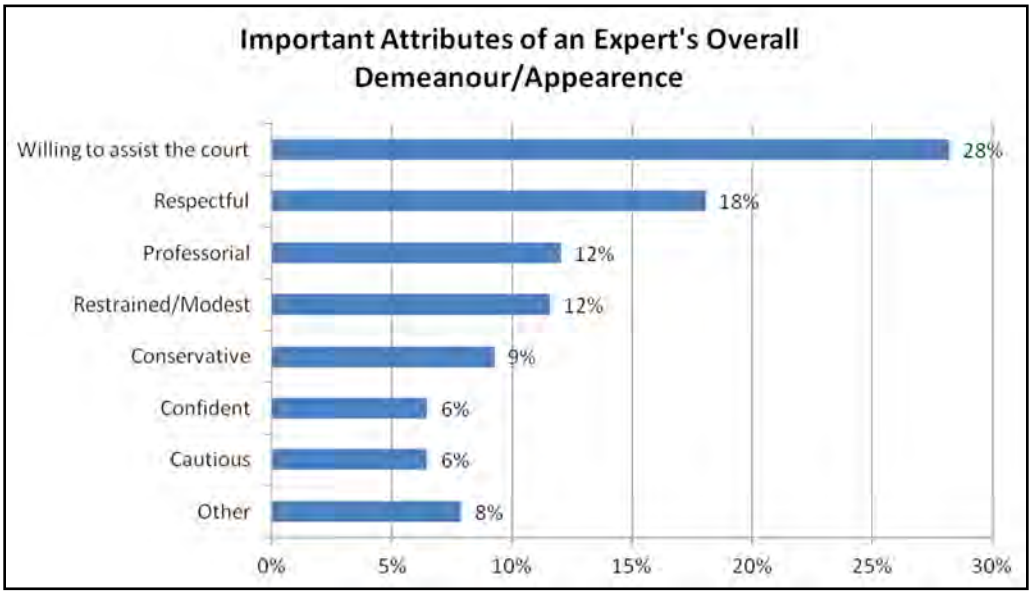
Being understandable and credible were almost equally ranked as the most important attributes of an expert's oral testimony. Clarity of delivery and being non-argumentative were also ranked as important by respondents.

Demeanour and Appearance

Survey participants were asked the following question:

13) From the list below, please identify the 5 most important attributes of an expert's overall demeanour and appearance in Court when providing expert witness testimony, and rate those 5 attributes from 1 (most important) to 5 (least important).

In response:



Respondents provided the following additional comments:

- Expert witness testimony should be “conservative” in that oral testimony should not go further than factual support.
- An effective witness answers questions, makes reasonable concessions in Court and is non-argumentative.

Twenty-eight percent of respondents indicated that a “willingness to assist the Court” was the most important attribute of an expert’s overall demeanour/appearance in Court. Eighteen percent selected having a “respectful” demeanour, while 12% selected having a “professorial” demeanour and 12% selected a “restrained/modest” demeanour.

5.5 Other Comments

Survey participants were asked the following question:

14) Given our stated intent behind this survey and our research paper — to identify specific factors which are instrumental in ensuring the success and acceptance of business valuation and damages quantification expert evidence by the Court — do you have any additional comments/remarks/advice that would be helpful to improve the quality and credibility of such expert evidence in Canadian Courts?

Respondents provided the following comments:

- Experts have to take their duty to the Court seriously. Independence and impartiality are “key”.
- Experts have to convey that they are not an advocate for the party hiring them, and are willing to assist the Court.
- An expert is not an advocate. The expert should be neutral at all times. The expert’s only client should be the Court.

- Generally, experts are professional and helpful. Occasionally, we get the impression that an expert is a “hired gun” and that quickly depreciates his or her testimony.
- Being detailed and accurate is important. However, more important is that the expert captures the “big picture” and does not make inappropriate assumptions.

6.0 Comparison of Significant Findings: Survey vs Research Paper

All said, the findings from our survey are consistent with and support many of the findings from our Research Paper. Notably:

- A valuation expert is the expert of the Court, not a particular client. Independence and willingness to assist the Court are paramount.
- Accuracy and detail are important. However, there are more important attributes with respect to written and oral testimony such as clarity of analysis and mandate and disclosure and verification of significant assumptions.
- Having a number of years of experience as an expert witness and having professional designations is important. However, more important is the credibility of an expert and the quality of an expert’s analysis in support of key conclusions.
- Many judges view having a CBV designation as useful and beneficial for valuation experts.
- Having a demeanour that is deferential, helpful to the Court, respectful and modest is preferred over having an overconfident demeanour in Court.

7.0 Conclusion

At the culmination of our analysis of reported legal judgments and our survey process as set out in our Research Paper and in this Addendum respectively, it is perhaps useful to take a step back and ponder, in the words of the Rolling Stones “(Angie)…. where will it lead us from here?”

Our Research Paper identifies a number of qualities and factors that could help distinguish a particular valuation expert over another in the eyes of the Court, ranging from explaining concepts logically and clearly to maintaining a modest demeanour. Our survey confirms many of these qualities.

Every valuation and damages quantification case/engagement is different. Every circumstance in which an expert provides testimony is different. Every judge is different and may value some attributes of written and oral testimony differently than another. However, our research and the survey results suggest that certain features are valued above all by our courts, namely:

- Experts should be independent and impartial;
- They should have relevant credentials but also relevant experience;
- Reports should clearly identify assumptions and have clarity of purpose and analysis;
- Significant assumptions should be disclosed; and
- An expert’s testimony should be both understandable and credible.

While on the one hand, some of this may be readily apparent, this underscores that above all else, an expert’s primary role is to provide independent assistance to the Court.

APPENDIX A

Prem Lobo CPA, **CA,** CBV, CPA **(Illinois), CFE**

Principal | plobo@cohenhamiltonsteger.com

Professional Experience

Prem Lobo is a Principal at Cohen Hamilton Steger & Co. Inc. Prem specializes in the quantification of damages, business valuations and forensic accounting. His practice has been focused exclusively in this area since 2001. In 2013, Prem was named the "Top Chartered Business Valuator under 40" by the Canadian Institute of Chartered Business Valuators.

Prem is located in Toronto, Ontario, but his practice has encompassed various jurisdictions across Canada, the US, Europe, South America and the Caribbean. Prem was formerly an Associate Director in a major international consultancy's Disputes and Investigations practice.

Prem has been involved in the quantification of damages with respect to breach of contract, misrepresentation, intellectual property matters, class action lawsuits and expropriation proceedings, among other commercial matters. He has been involved in preparing business valuations for shareholder disputes, purchase price allocations, corporate acquisitions, tax litigations, and for various transactions. Prem has conducted forensic accounting investigations with respect to alleged fraud, accounting improprieties and non-arm's length transactions, among others.

Prem's damages quantification, business valuation, and forensic accounting experiences have encompassed a diverse range of industries including manufacturing, oil and gas, software development, power generation, pharmaceuticals, financial services, real estate, retail and others.

Prem has prepared or assisted in the preparation of numerous expert reports and affidavits and has appeared as an expert witness at trial and at mediation proceedings.

Prem is a frequent public speaker and writer, and has published articles and papers in numerous legal and accounting periodicals including the Journal of Business Valuation, CA Magazine, Business Valuation Digest, the Advocates' Journal, Commercial Litigation Review and Class Action Defence Quarterly. Prem has taught accounting courses at the undergraduate and graduate levels at York University's Schulich School of Business and the University of Ontario. Prem has authored or co-authored six accounting-related text books and study guides.

Prem sits on the Board of Directors of the Ontario Expropriation Association.

APPENDIX B

Peter J. Henein LL.B
Lawyer | phenein@casselsbrock.com

Professional Experience

Peter Henein is a partner in the Advocacy Department at Cassels Brock & Blackwell who practices in the areas of intellectual property, including copyright and entertainment matters, product liability and class actions. He works with a wide variety of clients, ranging from Canadian copyright collectives, film and television producers, international auto manufacturers and numerous other manufacturers around the world.

Some of Peter's most recent work includes:

- Representing copyright collectives in tariff enforcement proceedings before the Copyright Board of Canada
- Representing television producers in claims of copyright infringement
- Acting on multiple class actions for auto manufacturers
- Representing numerous auto manufacturers and distributors in product liability claims
- Providing risk management advice for a diverse range of manufacturers in different sectors, including specifically auto and power products
- Assisting corporate clients with risk management issues and shareholder disputes

Peter is an active member of The Advocates' Society. Peter sat as Chair on The Advocates' Society Young Advocates' Standing Committee from 2012 to 2013, as well as on the 2009 Principles of Professionalism Committee, which held the 2009 Symposium on Civility and Professionalism. In 2012, Peter helped develop and coordinate a follow-up symposium to develop practical tips for handling civility and professionalism issues. The result of this symposium is a supplement of Best Practices to the Principles of Professionalism and Principles of Civility for Advocates. Peter is a guest lecturer for the Osgoode Hall law school civil procedure class. He is also an active member of the Defense Research Institute (DRI), and is a regular contributor to the Watson & McGowan "*Annual Survey of Recent Developments in Civil Procedure*."

He was named one of the Best Lawyers in Canada in the area of Product Liability in 2013.

APPENDIX C

CREDIBILITY UNDER SCRUTINY: A RESEARCH STUDY OF THE WEIGHT PLACED ON EXPERT VALUATION AND DAMAGES EVIDENCE IN CANADIAN COURT JUDGMENTS

LISTING OF RELEVANT LEGAL JUDGMENTS

1	1230995 Ontario Inc. v. Badger Daylighting Inc.	2010 ONSC 1587
2	27 Cardigan Inc. and 33 Cardigan Inc. v. Canada	[2004] TCJ No 318
3	342583 B.C. Ltd. v. The Queen	[1999] 3 CTC 2279
4	Aikman v. The Queen	2000 DTC 1874
5	Airst v. Airst	[1998] OJ No 2629 (SCJ)
6	Alers-Hankey v. Solomon, Teixeira, West Coast Beadworks Inc. and Justin Gems Inc.	[2004] BCJ No 2201 (SC)
7	Alfano et al v. Piersanti et al	2009 CanLII 12799 (Ont. SCJ)
8	Allegretto v. Allegretto	[1996] BCJ No 3097 (SC)
9	Alliedsignal Inc. v. du Pont Canada Inc.	[1998] FCJ No 625 (FC)
10	Altomare v. Ammar Oudeh	[2005] OJ No 1617 (SCJ)
11	Anthem Works Ltd. et al.	2005 BCSC 766
12	Antrim Truck Centre Ltd. v. Her Majesty the Queen	[2009] OMBD No 1
13	Apotex Inc. v. Wellcome Foundation Ltd.	2009 FC 949
14	Apotex Inc. v. Wellcome Foundation Ltd.	2009 FC 117
15	Balcerzak v. Balcerzak	[1998] OJ No 3860 (SCJ)
16	Baxter v. The Queen	2006 TCC 230
17	Bayer Healthcare AG v. Sandoz Canada Inc.	2007 FC 352
18	Belman v. Belman	[1997] OJ No 4071 (SCJ)
19	Biddle v. Biddle	[2005] OJ No 737 (SCJ)
20	Bloom v. Grynwald et al	[2002] QJ No 1069 (CS)
21	Bogoch v. Bogoch Estate	[2002] MJ No 83 (QB)
22	Bravo v. Pohl	(2008), 62 RFL (6th) 209 (Ont. SCJ)
23	Bristol Myers Squibb Co. v. Apotex Inc.	2001 FCT 1086
24	Brophy v. Brophy	[2002] OJ No 3658 (SCJ)
25	Brown v. The Queen	[2001] TCJ No 763

26	C & B Corrugated Containers Inc. v. Quadrant Marketing Ltd.	[2005] OJ No 1665 (SCJ)
27	Cade v. Rotstein	(2004), 50 RFL (5th) 280 (Ont. CA)
28	CanBev Sales & Marketing Inc. v. Natco Trading Company	(1996), 30 OR (3d) 778 (Gen Div)
29	CIT Financial Ltd. v. Her Majesty The Queen	2003 TCC 544
30	Cogeco Cable Inc. v. CFCF Inc.	[1996] QJ No 7 (SC)
31	Corbeil v. Corbeil	[2001] AJ No 1144 (CA)
32	Corner Brook Pulp and Paper Ltd. v. The Queen	2006 TCC 70
33	Dababneh v. Dababneh	[2004] OJ No 575 (SCJ)
34	David v. David	[2004] OJ No 5022 (SCJ)
35	de Gobeo v. de Gobeo	2003 MBQB 274
36	Debora v. Debora	(2004), 8 RFL (6th) 32 (Ont. SCJ)
37	Deer Creek Energy Ltd. v. Paulson & Co. Inc.	2008 ABQB 326
38	Deguire v. Deguire	[1997] OJ No 4897 (Gen Div)
39	Di Matteo v. Del Medico	[2005] OJ No 3213 (SCJ)
40	Dimoff v. Dimoff	[1999] OJ No 599 (Gen Div)
41	Discovery Enterprises v. Ebco Industries et al.	2002 BCSC 1236
42	Domglas Inc. v. Jarislowsky, Fraser & Company Ltd. et al.	(1980), 13 BLR 135 (Que. SC)
43	Enterprise Payment Solutions Inc., Juliana Cafik and 574073 B.C. Ltd. v. Soft Tracks Enterprises Ltd. et al	[2005] BCJ No 847 (SC)
44	Envirodrive Inc. v. 836442 Alberta Ltd.	2005 ABQB 446
45	F. v. V.	[2002] OJ No 3900 (SCJ)
46	Faulkner v. Faulkner	[1997] AJ No 730 (QB)
47	Fitzpatrick v. Fitzpatrick	[2004] OJ No 2695 (SCJ)
48	Ford Motor Company v. Ontario Municipal Employees Retirement Board	(2004), 41 BLR (3d) 74 (Ont. SCJ)
49	Fracassi v. Cascioli	2011 ONSC 178
50	Franken v. Franken	2011 ONSC 178
51	Ganson v. Ganson	[1996] OJ No 3870 (Gen Div)
52	General Electric Capital Canada Inc. v. The Queen	2009 TCC 563

53	Gilvesy Enterprises Inc. v. The Queen	[1997] 1 CTC 2410 (TCC)
54	Glaxosmithkline Inc. v. The Queen	2008 TCC 324
55	Global Communications Limited v. Her Majesty The Queen	[1999] FCJ No 966 (CA)
56	Goodwin v. Goodwin	[2002] SJ No 45 (QB)
57	Grant v. Grant	[2001] OJ No 4663 (SCJ)
58	Green v. Green	(2007), 38 RFL (6th) 378 (Ont. SCJ)
59	Greenglass v. Greenglass	(2009), 74 RFL (6th) 320 (Ont. SCJ)
60	Greither v. Greither	(2006), 22 RFL (6th) 10 (BCCA)
61	H.L. Staebler Company Ltd. v. Tim James Allan et al	2007 CarswellOnt 5792 (SCJ)
62	Hallatt et al v. Her Majesty The Queen	[2001] 1 CTC 2626 (TCC)
63	Hamilton v. Hamilton	[2004] OJ No 5260 (SCJ)
64	High-Rise Group Inc. v. Minister of Public Works and Government Services Canada	2003 FCT 430
65	Hilhorst v. Hilhorst	[2001] MJ No 560 (QB)
66	Independent Multi-Funds Inc. v. The Bank of Nova Scotia	[2004] OJ No 340 (SCJ)
67	Jay-Lor International Inc. v. Penta Farm Systems Ltd.	2007 FC 358
68	Karpes v. Karpes	[2000] BCJ No 1317 (SC)
69	Kerr v. Danier Leather Inc.	2004 CanLII 8186 (Ont. SCJ)
70	Kimla v. Golds	[2005] OJ No 1015 (SCJ)
71	Klotz v. The Queen	2004 TCC 147
72	Laboratoires Servier v. Apotex Inc.	2006 FC 1493
73	Larochelle v. The Queen	2004 DTC 2796 (TCC)
74	Lenz v. Broadhurst Main et al	[2004] OJ No 288
75	Lepage v. Lepage	[1999] SJ No 174 (QB)
76	LeVan v. LeVan	(2006), 82 OR (3d) 1 (SCJ)
77	Lockie v. The Queen	2010 TCC 142
78	Love v. Acuity Investment Management Inc.	(2009), 74 CCEL (3d) 272 (Ont. SCJ)
79	Lydia Diamond Exploration of Canada Ltd. V. Emilia von Anhalt	2011 ONSC 3862
80	Malette v. The Queen	2003 TCC 542

81	Manrell v. Her Majesty The Queen	2003 FCA 128
82	Maréchaux v. Her Majesty The Queen	2009 TCC 587
83	Marechel v. The Queen	2004 TCC 464
84	Marizor Enterprises Inc. v. Green Enterprises Inc.	[2003] OJ No 2181 (SCJ)
85	Mathew, Cook, Kaulius, et al v. Canada	[2001] TCJ No. 491
86	McClintock v. Canada	2003 TCC 259
87	McCoy v. Her Majesty The Queen	2003 TCC 332
88	Meyers v. Meyers	[1997] BCJ No 1465 (SC)
89	Montague v. Montague	[1996] OJ No 2485 (CA)
90	Morley v. The Queen	2004 TCC 280
91	Murray v. TDL Group Ltd.	2002 CanLII 23609 (Ont. SCJ)
92	Nguyen v. The Queen	2008 TCC 401
93	O'Neill v. O'Neill	(2007), 39 RFL (6th) 72 (Ont. SCJ)
94	Petrobank Energy and Resources Ltd. v. RFG No. 1 Ltd. Et al	2010 ABQB 114
95	Petro-Canada v. Her Majesty The Queen	2004 FCA 158
96	Place Concorde East Limited Partnership et al v. Shelter Corporation of Canada Ltd. et al	[2003] OJ No 5437 (SCJ)
97	Pocklington Foods Inc. v. Alberta (Provincial Treasurer)	1998 ABQB 279
98	Poirier v. Poirier	(2006), 19 RFL (6th) 197 (Ont. SCJ)
99	PreMD Inc. v. Ogilvy Renault LLP	2010 ONSC 714
100	Pro-C Ltd. v. Computer City Inc.	1999 CanLII 14926 (Ont. SCJ)
101	Raaymakers v. Green	(2004), 4 RFL (6th) 120 (Ont. SCJ)
102	RBC Dominion Securities Inc. v. Merrill Lynch Canada Inc. et al	2004 BCSC 1464
103	Redpath v. Redpath	2006 BCCA 338
104	Reid v. Reid	[2003] O.J. No. 5174 (SCJ)
105	Roesner v. Roesner	(1997), 32 BCLR (3d) 289 (SC)
106	Rosenau v. Rosenau	2004 SKQB 275
107	Royal Bank of Canada v. Slopen	[2009] O.J. No. 4135 (SCJ)
108	Saab v. Canada	2005 TCC 331

109	Saarnok-Vuus v. Teng	2003 BCSC 235
110	Salesco Ltd. et al v. William Henry Lee Paige et al	2007 CanLII 37463 (Ont. SCJ); 2009 CanLII 29899 (Ont. SCJ)
111	Sambrook v. Altamira Management Ltd.	2003 BCSC 235
112	Schamber v. Schamber	2004 MBQB 183
113	Serra v. Serra	[2007] OJ No. 446 (SCJ)
114	SevenWay Capital Corp. v. Alberta Treasury	2000 ABQB 286
115	Sharbern Holding Inc. v. Vancouver Airport Centre Ltd. et al	2000 ABQB 286
116	Sherman et al.	2008 TCC 186
117	Sibler v. BGR Precious Metals Inc.	(1998), 41 OR (3d) 147 (Gen Div)
118	Starr v. Starr	2004 OJ No 2545
119	Stelter v. Stelter	2010 SKQB 273
120	Sterling Centrecorp Inc.	[2007] OJ No 3072 (SCJ)
121	Sweet Factory Inc. v. Hudson's Bay Co.	[1999] OJ No 302 (Gen Div) 2009
122	Sylvan Adams v. Amex Bank of Canada	Quebec: N°: 500-06-000262-044
123	Tauber v. Tauber	(2001), 203 DLR (4th) 168 (Ont. SCJ)
124	TechHi Holding Ltd. v. Merrill Lych Securities Inc.	2004 CanLII 5767 (Ont. SCJ)
125	Teranet Inc. v. Canarab Marketing Corporation	[2007] OJ No 745 (SCJ)
126	Thompson v. Thompson	2004 SKQB 100
127	TNT Canada Inc. v. Parmalat Dairy & Bakery Inc.	[2004] OJ No 74 (SCJ)
128	Toole v. Acres Inc.	[2007] OJ No 1337 (SCJ)
129	Town of Oakville v. Wendell and Wendy Pitblado	2008 CanLII 76993 (Ont. SCJ)
130	Venture Capital USA Inc. v. Yorkton Securities Inc.	(2003), 66 OR (3d) 760 (SCJ)
131	In re Harvey, Assessor of Taxes and Walsh	[1950] 3 DLR 257 (Nfld. CA)
132	Westward Explorations Ltd. v. The Queen	2006 TCC 105
133	Zelinski et al. v. The Queen	[2001] T.C.J. No. 774

2

PERSONAL INJURY AND THE SELF-EMPLOYED: A BUSINESS VALUATION PERSPECTIVE ON LABOUR, CAPITAL AND EVERYTHING IN BETWEEN

by Ephraim Stulberg, MBA, CPA, CA, CBV

Business valuation concepts can be critical for the proper quantification of personal injury damages, particularly in the context of self-employed individuals.

Business valuators are commonly called upon to assess the fair market value of small, owner-managed businesses. One of the key elements to such engagements consists of distinguishing the business's return on its assets from the return on the business owner's labour. Investors are rightfully presumed to be willing to pay for only the former, since it is only the business's assets that are being sold. In addition, business valuators will often need to differentiate between commercially saleable goodwill and personal, non-transferable goodwill.[1] Finally, business valuators will determine the appropriate discount rate to be applied to the stream of profits that derive from a business's assets and goodwill to determine value.

As this article will demonstrate, these concepts should be no less critical when it comes to properly quantifying personal injury damages for self-employed business owners. Yet in practice, they are often ignored, resulting in incorrect damage assessments.

Returns to Labour and Capital

Self-employed business owners[2] generate their income from a combination of their own human capital and the business's tangible and intangible assets. When evaluating personal injury claims involving self-employed individuals, it is normally the case that only the former element is affected by the injury (see below for a discussion of some exceptions). As one leading author has commented:

> It may be necessary to analyze an enterprise in terms of "return from labour", "return from management"[3] and "return from capital". The last will usually be unaffected by personal injury,

1 We define goodwill as the business's ability to generate profits in excess of the firm's required return on invested capital and owner's labour.

Personal goodwill is defined as the unique advantage enjoyed by a given individual which arises from his or her particular abilities, good name and reputation, and which is not transferable.

2 By this term, we refer to individuals who own and operate their own businesses, and whose earnings depend to a significant degree (though not completely) on both their active labour in, and management of, the business. Such businesses will tend to be relatively small.

While it is possible that a larger business in which the owner's labour plays a less significant role would also be impacted by a personal injury, such instances are the exception; in fact, many US jurisdictions have specifically barred such claims. See for example George A Schieren and Gary R. Albrecht, "Assessing Economic Damages in Personal Injury and Wrongful Death Litigation: The State of North Carolina", *Journal of Forensic Economics*, 19(1), pp. 89-101.

3 This refers to the ability of the business owner to extract superior returns from the business's assets, in excess of those of a less skilled manager; such excess returns represent the personal goodwill of the business owner. See below.

> unless the loss of careful investment decision-making is somehow connected to the injury…The "return from labour" component of self-employment is where the loss will mostly fall.[4]

It is thus critical to examine the plaintiff's earning history from his or her self-employment, and to isolate or break down each element of his or her historical income.

There are three main methods by which this can be accomplished:[5]

1. **The opportunity cost method**
    - This involves estimating the value of the owner/manager's labour based on the average earnings of individuals involved in that occupation. Data on average earnings can be accessed from various sources, such as Statistics Canada's Census data. For example, the average employment income for managers in the restaurant and food-service industries (NOCS A221) in Ontario is approximately $40,000 in 2012 dollars.
2. **The replacement cost method**
    - This method involves measuring the actual increase in labour expense incurred by the business following the injury to the owner.
3. **The indirect method**
    - This involves first estimating a "normal" required rate of return on invested capital, identical to the rate of return that would be used in a business valuation. Note, however, that the rate of return to be used here is not an industry-average weighted average cost of capital. Rather, it should be the required rate of return on the company's tangible assets. This return is subtracted from the business's normalized historical earnings, with the residual representing the estimated return on labour.

Each of these methods comes with its strengths and weaknesses.

The opportunity cost method is ideal for occupations in which the labour supply is relatively homogenous, each worker roughly similar in skill and productivity to the next. In occupations in which significant differences in skill, or wide dispersions in wage levels, are present, this method may be of limited applicability.

The replacement cost method can, of course, only be used in situations in which a replacement worker has actually been hired. When a replacement worker has been hired, this method is generally superior to the opportunity cost method. However, it may not always be easy to identify which workers have been hired to replace the services of the injured owner/manager, as payroll increases may be due to other, non-injury related factors (such as increased sales volumes or other changes in the business's structure).

Finally, the indirect method is most useful in situations in which the value of the labour is difficult to measure directly due to the specialized nature of the labour; the injured plaintiff may have unique skills that allow him to earn higher profits than the typical business. The drawback of this method is that it fails to distinguish between those returns that are due to the value of his or her personal goodwill and those that are due to the existence of commercial goodwill of the business. This issue is discussed more fully in the next section.

The three methods will tend to generate different results, and it will be important to reconcile between them. Consider, for example, an individual who owns a restaurant who is injured in a slip-and-fall. Prior to the accident, the restaurant had $500,000 in net assets, and earned $160,000 per

4 K. Cooper-Stephenson, *Personal Injury Damages in Canada,* 2nd ed., p. 152.

5 We have adopted the terminology used by J. Thomas Romans and Frederick G. Floss, "Measuring Economic Loss for the Self-Employed: The Role of Economic Rents", *Journal of Legal Economics,* 7:1 (1997-1998).

year in pre-tax net income, prior to paying out anything to the owner of the business. Following the accident, the restaurant increased the duties of two of its employees, who took on the management of the restaurant in exchange for annual raises of $15,000 each. The annual losses to the restaurant owner under the three methods are:

- Opportunity cost — $40,000 (based on the average salary for managers in the foodservice and accommodation industries);
- Replacement cost — $15,000 × 2 = $30,000;
- Indirect method — $160,000 – ($500,000 × say, 8%[6]) = $120,000.

The higher result under the indirect method may indicate the presence of some type of goodwill (see below); the fact that the replacement cost method yielded a lower figure is indicative of the restaurant's ability to efficiently cover the labour shortfall by slightly increasing the duties of two existing employees rather than hiring a separate, more highly skilled individual.

Goodwill

In addition to the two contributory elements of labour and capital, there is a third element that represents the ability of a business to generate profits in excess of the normal required return on invested capital and labour. This component, known as "goodwill", can be due to a variety of factors. The key, from the perspective of an analyst assessing personal injury losses, is to establish whether this goodwill relates to the personal qualities of the business's injured owner/manager, in which event it will also likely be lost as a result of the owner's injuries; or whether it relates to some other, more transferable aspect of the business (e.g. its desirable location, the reputation of its products, etc.) that is more likely to remain unimpacted by the owner's injuries.

The question of the existence of goodwill in the plaintiff's business is critical. The loss of the owner/manager's labour will typically impact the business's results in the form of increased labour expenses. The loss of individual goodwill — unrivalled managerial skills, a unique ability to maintain customer loyalty, or other attributes of the owner/manager that give his or her business a "competitive edge" — will, by contrast, often have an impact on the firm's top line. If the plaintiff will be claiming a loss of sales as a result of his or her injuries, it will be important to establish that the business possessed goodwill.

Let us return to our previous example. We noted that, prior to the accident, it appears that the restaurant was generating excess returns of approximately $80,000 to $90,000 (that being the difference between the total excess returns calculated under the indirect method and the value of the owner/manager's labour of either $30,000 (replacement cost) or $40,000 (opportunity cost). To what can one attribute the excess returns? If they are due to a superior location, for instance, then one would expect that there would be no impact on the business's top line as a result of the owner's injuries. Conversely, if the excess returns are due to the specific skills of the owner — her unique ability to negotiate with suppliers, her aptitude with developing new dishes, etc. — then there may be an additional loss of revenue as a result of the accident.

6 Determining the appropriate rate is a somewhat thorny issue. For one approach, see Harry Howe, Eric E. Lewis, and Jeffrey Lippitt, "Estimating Capitalization Rates for the Excess Earnings Method Using Publicly Traded Comparables", *Journal of Business Valuation and Economic Loss Analysis.* Volume 2, Issue 1 (2007).

In practice, it is common to simply use the firm's pre-tax cost of debt.

Loss of Return on Capital

To this point, we have assumed that in the event of an injury to the business owner, no loss would occur with respect to the business's return on capital, as the business should be able to sell its assets within a reasonable period of time. Similarly, we have assumed that any non-personal, commercially transferable goodwill would not be impacted by the injuries.

In some instances, however, an individual's injuries may prevent him or her from making proper use of tangible assets and/or commercial goodwill. Below, we discuss several such scenarios:

1. **Temporary closure of business leads to permanent loss of goodwill**

   In some instances, the injuries to the plaintiff may be so severe that they result in the plaintiff being unable to transition the business to a new owner. If the business is closed for several months as a result of the plaintiff's injuries, customers may move their accounts elsewhere. This may result in a permanent loss of the business's commercially transferable goodwill.

2. **Delayed or forced sale of assets**

   A failure to properly transition may also result in the failure to achieve an appropriate return on assets in the short term. If, for instance, the assets of the business cannot be sold for a number of months while the plaintiff arranges his or her affairs or attempts to recover, the assets will fail to earn a sufficient return during that period.

   Alternatively, the business owner may be forced into selling the business at a reduced price as a result of financial distress.

Discount Rate

Another reason it is important to break out the historical income of an owner-managed business into its three components of: a) return on capital, b) return on labour, and c) excess returns, or goodwill, is that it will be appropriate to discount the lost excess returns (as well as any loss of return on capital) by a much different rate than that used to discount the lost return on labour.

In many provinces in Canada there are legislative guidelines that spell out the discount rate to be used in converting future losses of income into a present value lump sum. For example, in Ontario, Rule 53.09 of the *Rules of Civil Procedure* states that:

> 53.09 The discount rate to be used in determining the amount of an award in respect of future pecuniary damages, **to the extent that it reflects the difference between estimated investment and price inflation rates**,[7] is:
>
> a) for the 15-year period that follows the start of the trial, the average of the value for the last Wednesday in each month of the real rate of interest on long-term Government of Canada real return bonds (Series V121808, formerly Series B113911), as published in the Bank of Canada Weekly Financial Statistics for the 12 months ending on August 31 in the year before the year in which the trial begins, less 1 per cent and rounded to the nearest ¼ per cent; and

7 Emphasis added.

b) for any later period covered by the award, 2.5 per cent per year.[8]

The rate stipulated is thus a real risk-free rate;[9] this is predicated on the idea that the value of human labour is relatively riskless. Aside from the contingencies of mortality and unemployment which are typically added to the discount rate, it is normally assumed that, but for the personal injury, the plaintiff would not suddenly lose his or her capacity to labour. We would argue that the same rationale would apply to personal goodwill, and that lost returns to personal goodwill should be discounted at the risk-free rate as well.

But what if the claim for future income loss includes a portion relating to lost returns on either tangible assets or commercial goodwill? It seems clear that these profits should be discounted at a higher rate than the risk free rate; instead, they should be discounted at the weighted average cost of capital of the business.[10]

Let us return to our previous example of the restaurant owner. Above, we broke down the $160,000 in net income available to the owner/manager of the restaurant into:

1. Return on tangible assets – $40,000
2. Return on labour – $40,000
3. Excess return – $80,000.

Assume the owner is injured in an accident, and is no longer able to be involved in the operation of the restaurant; he is instead forced to devolve management of the restaurant to two other employees. These employees do not possess the unique culinary talents of the owner, and income declines by approximately $80,000 per year. At the end of two years, the owner sells the restaurant for $500,000 (i.e. its net book value).

The owner's losses consist, therefore, of two income streams. The lost return on labour — $120,000 per year, consisting of both the return on "normal" labour as well as the return on personal goodwill — is discounted at the risk-free rate until the owner's expected retirement age, say 65 (or alternatively until he is able to return to work). There is no loss, however, on the tangible assets, which continued to generate income before being sold at market value.[11] Assume that the Net Present Value ("NPV") Factor, based on a risk-free rate, is 20x. The owner's losses will therefore be:

$$(\$80{,}000 + \$40{,}000) \times 20 = \$2.4\text{M}$$

It would be incorrect, however, to take the full $160,000 in annual profits, apply the NPV factor of 20x, and then deduct the proceeds of $500,000 on the sale of the restaurant — such an approach would overstate the loss by $300,000, as shown below:

$$\$160{,}000 \times 20 - \$500{,}000 = \$2.7\text{M}$$

Failure to consider this basic distinction between returns on labour, returns on tangible assets, and excess earnings can result in damage calculations that border on the absurd. Consider an actual case in which I was involved several years ago. The plaintiff operated a hardware store, and

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8 The background to Ontario's fixed discount rate is lengthy, and has been briefly described by this author elsewhere — see Ephraim Stulberg and Matthew Mulholland, "Clarity Needed on Discount Rate", *Law Times,* August 15 2011. What is important to note is that the idea behind fixing the rule was to avoid arguments over:

a) The real risk-free rate; and,

b) Whether any adjustments for productivity should be made.

There does not appear to have been any suggestion that the risk-free rate should be applied to lost income from either tangible business assets or goodwill.

9 Actually, it is 1% *lower* than the real risk-free rate.

10 On the selection of the appropriate discount rate for calculating the present value of lost profits, see James E. Meyer, Patrick Fitzgerald and Mostafa Moini, "Loss of Business Profits, Risk, and the Appropriate Discount Rate", *Journal of Legal Economics* (1994).

11 In fact, the lost excess returns, or goodwill, will be equal to the value of the business as a whole less the value of the fixed assets.

was in the early stages of purchasing a second such store when, unfortunately, he was involved in an accident that left him partially disabled.

As a result of these injuries, the plaintiff alleged that he was unable to work at his pre-accident capacity and was forced to hire a replacement worker. In addition, however, the plaintiff alleged that the incident resulted in a delay in completing the deal for the new store, as a result of which it fell through. The plaintiff's expert calculated damages by projecting the forecasted profits of the new store and discounting them at the risk free rate; he also calculated the anticipated selling price of the new store upon the plaintiff's anticipated retirement at age 65, and netted this amount against the original planned purchase price of the store.

Absent any clear evidence that the plaintiff would have been able to generate profits from the proposed new store in excess of his required return on investment, there is no reason to believe that the new store would have been anything other than a zero-NPV investment. By discounting the projected income of the store at the risk-free rate, the plaintiff's expert significantly overstated the loss.

Earning Capacity and Loss of Earnings

Distinguishing between capital and labour can also be an important consideration when it comes to evaluating personal injury claims of self-employed workers whose businesses are not profitable.

Many small businesses do not generate a sufficient return on their capital and labour. That is to say, from a purely financial perspective, the owners of these businesses would be better off liquidating their assets and finding employment than continuing to operate their businesses.

Consider a restaurant that earns net income after taxes of $20,000 per year. The owner does not pay himself a salary, and invested capital is $400,000.

How are the plaintiffs' losses to be calculated, when clearly the restaurant is not earning a sufficient return on its capital, let alone the owner's labour? Is the fact that the restaurant has not historically earned an acceptable return on capital and labour relevant to an evaluation of the "capital asset" that is the plaintiff's ability to labour as a restaurant manager?

In situations such as this, it may be appropriate to invoke the distinction between loss of earnings and loss of "earning capacity". There may be no evidence that the plaintiff was considering selling his underperforming restaurant and pursuing employment as a restaurant manager that would yield him an appropriate return on his labour; however, it is equally clear that the historical earnings of the restaurant do not reflect the value of this individual's "capital asset".

This is a subject that Canadian Courts have touched upon in several decisions. In *Meehan v. Holt*,[12] the Alberta Court of Queen's Bench noted that upon opening a new chiropractic practice several years following her accident, the plaintiff's level of activity fell below her previously established post accident capacity; it therefore ruled that there was no future loss of income, as the patient flow at the plaintiff's new business was too low to make any of her physical limitations relevant. However, the Court granted an award for loss of earning capacity, on the grounds that the plaintiff was "rendered less capable overall from earning income", and that she was less "marketable to potential employers… The plaintiff lost the ability to take advantage of all job opportunities which might otherwise have been open to him or her".

In *Rowe v. Bobell Express Ltd.*,[13] the British Columbia Court of Appeal also offered some interesting comments in this regard. The case involved an individual who operated a seasonal guest

12 2010 ABQB 287, 28 Alta. L.R. (5th) 19.
13 2005 BCCA 141, 251 D.L.R. (4th) 290.

ranch in the name of a corporation. As part of estate planning, the company's affairs were arranged so that the plaintiff's equity in the company was converted to debt, and the company made annual payments to him of $26,250, recorded as repayment of the debt. As a result of the accident, the plaintiff was no longer able to operate the ranch; as a result, the company started to suffer losses and was unable to continue to make the payments to the plaintiff.

The Court established the plaintiff's damages as the $26,250 in "debt" repayments that would have been made to him each year. In her additional comments to the decision, Southin J.A briefly addressed a broader theoretical issue:

> 46 In the case at bar, the respondent was doing something he enjoyed at a time when money was to him of little consequence. The economic value of his time and talent obviously far exceeded $25,000.00 per year.
>
> 47 Suppose a comparatively young man or woman with a private income who devotes his or her considerable time and talents without remuneration to charitable endeavours is so severely injured as to no longer be able to do so?
>
> 48 Is it open to the tortfeasor to say to the plaintiff, "You have suffered and will suffer no financial loss. The loss is that of the charities for whom you worked and would have continued to work and therefore you are limited to non-pecuniary damages which are subject to the 'cap'"?
>
> 49 I shall not essay an answer to this question, which has implications for all those who use their time doing useful things in the community for no pay. Others will have to answer it should it arise.

The question raised by Southin, J.A., phrased otherwise, is precisely that which we posed above: To what extent does the actual historical income stream of an individual impact on an award for loss of income/earning capacity, if it can clearly be established that this historical stream bears no relation to the value of this individual in the marketplace?

Conclusion

Self-employed individuals earn income from a number of different types of assets. The returns on these assets will be unequally impacted by a personal injury. While the business owner's capacity to labour will clearly be impacted, the impact of the injury on the business's return on its tangible assets and goodwill may be negligible. Even when the returns on these other assets are affected, a much different discount factor will need to be used in discounting these losses. Failure to consider these issues can result in inappropriate economic loss calculations.

3

THE RECENT EVOLUTION OF EXPERT EVIDENCE IN SELECTED COMMON LAW JURISDICTIONS AROUND THE WORLD

A commissioned study for the Canadian Institute of Chartered Business Valuators

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1.0 Foreword

In our adversarial litigation system, expert evidence occupies a grey area between fact evidence and judicial determination; expert evidence is based on opinion, rather than fact, and is only permitted in specified circumstances and under particular conditions.

The Courts in various common law jurisdictions have historically recognized the unique nature and limitations of expert testimony, and have set clear rules and exceptions governing the admissibility of expert evidence.

Notwithstanding these safeguards, it is submitted that the probative value of expert evidence is, by its nature as opinion evidence, subject to the frailties of human nature and therefore often viewed by stakeholders with some apprehension.

Recently, the role of the expert and the manner in which opinion evidence is entered into evidence have been thrust into the spotlight thanks in no small part to instances in different common law jurisdictions where expert evidence has led to a miscarriage of justice, notably in Canada, in the recent case of Dr. Charles Smith.[1]

> In cases… where the expert's opinion is critical and the charges are so serious, tragic outcomes in the criminal justice system are hardly surprising. While Dr. Smith, as the pathologist giving expert evidence, must bear primary responsibility for these deficiencies, those charged with overseeing his performance cannot escape responsibility. Indeed, neither can other participants in the criminal justice system — Crown, defence and the court. Each had an important role to play in ensuring, so far as possible, that results in the criminal justice system were not affected by flawed expert testimony [emphasis added].[2]

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1 Dr. Charles Smith was a Canadian pathologist and director of the Ontario Pediatric Forensic Pathology Unit at the Hospital for Sick Children in Toronto. From 1982 to 2003 he conducted hundreds of autopsies and provided testimony in many criminal cases. A public inquiry in 2008 revealed fundamental errors in Dr. Smith's work. Dr. Smith later said that he believed his role was to advance the theories of the Crown. Several criminal convictions that resulted from his testimony have since been overturned.

2 *Inquiry into Pediatric Forensic Pathology in Ontario: Final Report*, the Hon. Stephen Goudge, 2008.

The ramifications from events such as the Smith affair (and other cases of miscarriage of justice in other jurisdictions) are felt well beyond the particular litigation; rightly or wrongly, some point to these events as evidence that the system is in need of repair.

Partially in response to these events, the rules of civil procedure (in Canada and in other common law jurisdictions) have recently been revised and expanded. These new rules further empower the courts, in their role as gatekeeper, to guard against improper conduct by experts.

The findings from the Smith inquiry also emphasize the need for governing bodies to remain vigilant and proactive in their oversight responsibilities. In our view, this is a call to action.

This paper examines several recent emerging trends and practices concerning the use of expert opinion evidence.[3,4]

2.0 A Better Mousetrap — The First Steps Toward Recent Procedural Reform

The rules governing the use of expert evidence in the UK, Australia, Canada, International Arbitration and, to a lesser degree, in the United States have changed considerably in the last 15 years.

The genesis for recent reform dates back to 1996 when Lord Woolf, then Master of the Rolls in the UK, published his seminal report *Access to Justice* (the "**Woolf Report**"). Lord Woolf's mandate was to review aspects of the civil justice system and outline recommendations to improve it.

He noted that the civil justice system in the UK was slow and expensive, and he credited the proliferation of expert evidence as a contributing factor.

From his recommendations, the UK Civil Procedure Rules (the "**CPR**") were enacted in 1998. The CPR, which largely replaced the Rules of the Supreme Court, were designed to improve access to justice and to make the civil justice system more responsive and less expensive. Several changes were implemented to the rules governing the use of expert evidence, which we discuss subsequently in this report.

A review of the civil justice system conducted by the Australian Law Reform Commission in 1995 led to changes in the Australian Federal Court Rules in 1998. In Canada, the Federal Court Rules Committee undertook a similar process in 2008, leading to changes to the Federal Court Rules governing expert evidence in 2010. It is noteworthy that both reviews concluded that expert evidence required further regulation and oversight.

In contrast to the general trend, there has been some antipathy towards increased regulation in the United States.

Perhaps as a result of the increased flexibility in the various international arbitration jurisdictions, international arbitration has been at the forefront of exploring novel approaches to introducing expert evidence into proceedings. We discuss more of these novel approaches in Section 5.

For ease of reference, we outline a timeline of key events in each jurisdiction at **Appendix C-1**.

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3 The contents of this paper are subject to important restrictions (see **Appendix B**).

4 Our examination consisted of a review of the findings from recent formal public inquiries, Court decisions and enacted legislation in Canada, the United Kingdom, Australia, the United States and in International Arbitration (collectively referred to herein as the "**Jurisdictions**"). We are particularly thankful to Mr. Earl Cherniak, Q.C. who reviewed a draft of this paper and provided valuable insights throughout the process. We would also like to extend our gratitude to Owain Stone (KordaMentha), Alina Niculita (Shannon Pratt Valuations), and James Patterson (J.D. Melbourne Law School) for providing us with additional information. Our methodology and scope of review are provided in **Appendix A**.

3.0 By Invitation Only — The Court's Role as Gatekeeper

Introduction — The Natural Tension

> Perhaps the testimony which least deserves credit with a jury is that of skilled witnesses. These gentlemen are usually required to speak, not of facts, but to opinions: and when this is the case, it is often quite surprising to see with what facility, and to what an extent, their views can be made to correspond with the wishes or the interests of the parties who call them.
>
> The Honourable John Pitt Taylor, 1885[5]

Concerns over the independence and objectivity (in fact and appearance) of experts providing opinion evidence in court proceedings are not new. In our adversarial litigation system, it should come as no surprise that guarding against what we term "*advocacy by experts*" has, for more than a century, been a major focus for stakeholders.

Since Taylor was quoted over 100 years ago, the role and conduct of the expert has become even more contentious as the use of expert evidence in civil litigation has expanded significantly to encompass, for example, new and often novel sciences and analytical approaches.

For example, in the seminal Canadian case *R. v. Mohan,*[6] the Court held:

> There is a danger that expert evidence will be misused and will distort the fact finding process. Dressed up in scientific language, which the jury does not easily understand, and submitted through a witness of impressive antecedents, this evidence is apt to be accepted by the jury as being virtually infallible and as having more weight than it deserves.

More recently, the Federal Court Rules Committee in Canada said, "…the misapprehension of the role of the expert witness in the trial process can result in experts advocating on behalf of a party. Such an approach diminishes the *reliability* and *usefulness* of the expert's evidence to the Court [emphasis added]."[7]

We submit that apprehension concerning expert evidence is widespread. For example, a recent survey of U.S. attorneys and judges conducted by the Federal Judicial Centre[8] found that adversarial bias was believed to be the single most important problem with expert evidence in US courts.[9]

There is no shortage of U.S. cases where the usefulness of expert evidence has been questioned. In our view, it is important to differentiate cases where the Court has not accepted the expert's opinion (based on the merits of the expert's work) from cases where the Court has not accepted the expert (based on his/her conduct prior to or during the trial). It is submitted that the former is a function of the adversarial system, is to be expected and is commonplace; the latter (i.e., advocacy by experts) is of grave concern to all stakeholders.

This concern is evident from decided Court cases. For example, in the United States (Delaware) case of *Finkelstein v. Liberty Digital Inc.,* the judge highlighted the burden imposed on the Court by biased experts:

> Men and women who purport to be applying sound, academically-validated valuation techniques come to this court and, through the neutral application of their expertise to the facts, come to

5 *A Treatise on the Law of Evidence*, John Pitt Taylor, 1885.
6 [1994] 2 S.C.R. 9 at page 17.
7 *Expert Witnesses in the Federal Courts: A Discussion Paper of the Federal Courts Rules Committee on Expert Witnesses*, The Federal Court of Canada Rules Committee, 2008 at page 1.
8 The Federal Judicial Centre is a research and education agency for the federal Courts, created by Congress in 1967 to promote improvements in judicial administration in the Courts of the United States.
9 *Judge and Attorney Experiences, Practices and Concerns Regarding Expert Testimony in Federal Civil Trials*, Federal Judicial Center, Carol Kafta et al., 2002.

> widely disparate results, even when applying the same methodology. These starkly contrasting presentations have, given the duties required of this court, imposed upon trial judges the responsibility to forge a responsible valuation from what is often ridiculously biased "expert" input.[10]

In the United Kingdom, the often cited Woolf Report framed the issue of advocacy by experts with this observation: "most of the problems with expert evidence arise because the expert is initially recruited as part of the team which investigates and advances a party's contentions and then has to change roles and seek to provide the independent expert evidence which the court is entitled to expect."[11]

In this section of our study, we examine the duties of experts in various jurisdictions as those duties have been established in common law, codes of practice and statutory regulation. Our focus is on what we consider to be the most important attributes of expert testimony being the independence and objectivity of the testifying expert and the reliability/usefulness of the proffered opinion evidence.

The Trend Towards Increased Codification — Recent Initiatives in Selected Common Law Jurisdictions

Recent amendments to the rules of procedure in various jurisdictions have sought common objectives — further defining the expert's duty to the Court and placing further limits on the allowable scope of the expert's evidence.

A summary of the current rules in the various jurisdictions is provided in **Appendix C-2.**

For example, the UK Civil Procedure Rules state that "it is the duty of experts to help the court on matters within their expertise…. This duty overrides any obligation from whom the experts have received instructions or by whom they are paid."[12]

The wording of the UK Civil Procedure Rules should be familiar to Canadian and Australian practitioners. Recent amendments to the Federal Court Rules in Canada[13] and the Federal Court Rules in Australia[14] adopt a similar definition of the expert's duty.

In the Federal Court of Australia, for example, "An expert witness is not an advocate for a party even when giving testimony that is necessarily evaluative rather than inferential… An expert witness' paramount duty is to the Court and not to the person retaining the expert."[15] Many provincial and territorial jurisdictions within Canada and Australia[16] have similar stipulations.

Other common elements in several jurisdictions include the requirement that experts formally acknowledge their duty to the Court, and also that they agree to abide by a code of conduct.

It is noteworthy that the expectations of the Courts have not changed with the "new" rules. Rather, we submit that the new rules shine a brighter spotlight on pre-existing obligations, a subtle (or not) reprimand. The practical goals of the new rules are to further define (restrict) the expert's role in the litigation process, and to remind the expert of his/her obligations in each instance where opinion evidence is being provided.

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10 C.A. No. 19598, 2005 Del. Ch. LEXIS 170 at page 29.
11 *Access to Justice: Interim Report to the Lord Chancellor on the Civil Justice System in England and Wales*, Lord Woolf, 1995 at Ch. 23 para. 5.
12 The United Kingdom Civil Procedure Rules (CPR) — Part 35.3.
13 Specifically, Rule 52.2 in 2010.
14 Specifically, Rule 23 and Practice Note 7 (CM7) in 1998.
15 Practice Note CM7, Federal Court of Australia, 2011.
16 For example, the Family Court of Australia, the Supreme Court of New South Wales, the Supreme Court of Victoria, and others.

In Canada, formal acknowledgment of the expert's duty to the Court is in the form of a signed certificate appended to the expert's report.[17] In the United Kingdom and within many jurisdictions in Australia, experts are required to state in their report that they understand their role and responsibilities as stipulated in the code, and have complied with these requirements as they pertain to the current matter before the Court.

International arbitration ("**IA**"), by its nature, draws from an assortment of influences including both common law and civil law, and there is some variance between the different IA regimes. That said, the trend is towards increased scrutiny.

For example, the International Bar Association (the "**IBA**") amended the *Rules on the Taking of Evidence in International Arbitration* (the "**IBA Rules**") in 2010 to require that party-appointed experts disclose any present or past relationship with the parties, their legal advisors, and the arbitral tribunal. Prior to 2010, experts were only required to disclose relationships with the parties. The IBA Rules now also require that party-appointed experts include an express statement of independence in their report, something previously required only of tribunal-appointed experts.[18]

The United States provides a notable exception to the trend towards increased codification of conduct — the Federal Rules of Evidence do not include a code of conduct for experts and do not formally define the expert's duty to the Court. Further, the U.S. rules do not require a signed acknowledgment or certificate of independence from the expert (e.g., when serving an expert report).

Given that many of the amendments to codes of conduct have only been recently implemented, there is little empirical evidence which speaks to whether formally defining the expert's duty has resulted in a meaningful change in the practice of experts or the reliability of the expert evidence (in fact and as perceived by the various stakeholders).

Critics of the increased codification contend that a formalized process does not (and cannot be expected to) meaningfully alter the existing practices of experts. They point to the fact that the concepts underlying the expert's duties are not new and in fact experts have been bound to "tell the truth" for as long as there has been expert evidence.[19]

Still, supporters of a formal protocol suggest that not all expert witnesses actually understand their role as impartial advisors and, while the rules are unlikely to dissuade bad behaviour in all cases, it will give reason for pause and at least remind experts of the need for "caution and humility".[20]

The Court as Gatekeeper

While debate continues on whether increased codification has led to a meaningful change concerning the conduct of experts, it is clear that courts in all jurisdictions remain vigilant in their role as gatekeeper *vis-à-vis* the expert's independence and objectivity. In the Supreme Court of Canada decision of *R. v. J. (J.–L.)*,[21] the Court said:

> 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.

17 For example, Form 52.2 from the Federal Courts Rules. Similar requirements have been adopted in many provincial jurisdictions.

18 *Lost in Translation? The Independence of Experts under the 2012 IBA Rules*, The European & Middle Eastern Arbitration Review, James Barratt, 2012.

19 *After Objectivity: Expert Evidence and Procedural Reform*, Sydney Law Review, Gary Edmond (2003).

20 *Unplugging Jukebox Testimony in an Adversarial System: Strategies for Changing the Tune on Partial Experts*, Queen's Law Journal, David M. Paciocco, 2009.

21 [2000] 2 S.C.R. 600 at para. 28.

Prior to the recent trend towards increased codification, the courts in Canada, the United States, Australia and the United Kingdom established somewhat consistent common law on the role of experts. Recent common law decisions often reference the seminal 1993 English decision of *Ikarian Reefer*,[22] a Court decision which preceded much of the recent debate and procedural reform in these jurisdictions. In essence, *Ikarian Reefer* outlined that the duty and responsibility of an expert was to provide independent assistance to the Court.[23]

In the United States, the conduct of experts is often assessed by the judge on a case-by-case basis with reference to what is known as the "Daubert Standard". The Daubert Standard is a sort of litmus test regarding the admissibility of expert witness testimony that arose from three seminal cases, collectively referred to as the "Daubert Trilogy".[24]

In 2000, the Federal Rules of Evidence in the United States were amended in an attempt to codify the structure of the Daubert Standard. Rule 702 now reads:

> A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if: (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case.[25]

Of note, the U.S. Federal Rules of Evidence do not address the expectations concerning the duty of experts.

A 2002 study conducted in the United States reported that the percentage of post-*Daubert*[26] cases in which expert evidence was admitted in federal Courts, without limitations, fell significantly. The Courts' increasing concern over partisanship in expert evidence was cited as a contributing factor to the limitations being placed on expert evidence.[27] We summarize the most commonly cited "issues" with expert testimony in civil cases, as reported in the study (pre- and post-*Daubert*), at **Appendix C-3** of this report.

The English High Court decision in *Pearce v. Ove Arup Partnership Ltd & Ors*[28] provides a recent and vivid example of the Court's vigilance in its role as gatekeeper. There, a professional architect had given evidence on whether the design of a building had been plagiarized. The judge concluded that the expert had acted as an advocate and failed to uphold his duty to the Court. The decision, handed down just three years after the UK Civil Procedure Rules were amended to include a definition of the expert's duty and a requirement that the expert acknowledge this duty in his/her report, states:

> At the end of his report, [the expert] said he understood this duty. I do not think he did… Now there is no rule providing for specific sanctions where an expert witness is in breach of his Part 35 duty [from the recently amended UK Civil Procedure Rules]. Nor is there any system of accreditation of expert witnesses… So there is no specific accrediting body to whose attention a breach of the duty can be drawn. Most (but not all) expert witnesses, however, belong to some

22 *National Justice Compania Naviera S.A. v. Prudential Assurance Co. Ltd.,* ("*The Ikarian Reefer*"), [1993] 2 Lloyd's Rep. 68 (Q.B.D.)
23 *Expert Evidence: The Requirement of Independence,* Charles Pugh et al., 2009.
24 Specifically, *Daubert v. Merrell Dow Pharmaceuticals, General Electric Co. v. Joiner, and Kumho Tire Co. v. Carmichael.*
25 Rule 702, the United States Federal Rules of Evidence.
26 The study compared the results of surveys conducted of U.S. judges in 1991 (pre-*Daubert*) with similar surveys conducted of U.S. judges and U.S. attorneys in 1998 and 1999, respectively (post-*Daubert*).
27 *Increasing Complexity and Partisanship in Business Damages Expert Testimony: The Need for a Modified Trial Regime in Quantification of Damages*, John W. Hill et al., University of Pennsylvania Journal of Business Law, 2009.
28 [2001] EWHC Ch. 455 (2nd November, 2001).

> form of professional body or institute. I see no reason why a judge who has formed the opinion that an expert had seriously broken his Part 35 duty should not, in an appropriate case, refer the matter to the expert's professional body if he or she has one…[Emphasis added][29]

The suggested interface between the Court as gatekeeper and the expert's governing body as custodian of the profession continues to be a hot-button issue.

Returning to *Pearce*, the story has a further twist. The expert's governing body (the Royal Institute of British Architects) took up the matter of the expert's conduct and a disciplinary committee found the judge's criticisms "…had been based on a series of factual inaccuracies and incorrect conclusions."[30] In the end, the committee of professional architects not only dismissed the judge's referral for discipline but also went a step further in suggesting the judge's decision in the matter was incorrect.

There is no shortage of recent examples from other common law jurisdictions highlighting expert evidence gone awry.

For example, in Canada, in *Alfano v. Piersanti*,[31] an expert prepared a forensic accounting report and the Court concluded that he had become an advocate for his client's position. This finding was based in large part on the Court's consideration of email correspondence between the expert and counsel. The issue was summarized as follows:

> …It was very apparent that [the 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 [the expert] and [the client] reveals that [his] 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'…. [The expert] became a spokesperson for [the client] and, in doing so, did not complete independent verification of key issues in accordance with the standards that are expected of an expert.[32]

And, in the recent Canadian case *Gould v. Western Coal Corporation*,[33] an expert was similarly challenged for what were viewed to be inappropriate efforts to advance the client's case. In the judge's words, the expert had an "inclination to find a boogie man under every bed. When light is actually shone on the subject, it disappears."

The point was further clarified:

> The willingness of an expert to step outside his or her area of proven expertise raises real questions about his or her independence and impartiality. It suggests that the witness may not be fully aware of, or faithful to, his or her responsibilities and necessarily causes the Court to question the reliability of the evidence that is within the expert's knowledge.[34]

The repeated admonishment of experts in recent Court decisions serves as a constant reminder to all stakeholders that there is room for improvement in how expert evidence is tendered in our litigation system. While the Courts are the gatekeeper, a recent Canadian decision succinctly summarizes the challenge:

> This gatekeeper function directly collides with the general requirement that the parties to an action must be afforded the opportunity to lead the most complete evidentiary record consistent with the

29 *Pearce v. Ove Arup Partnership Ltd & Ors*, [2001] EWHC Ch 455 (2nd November, 2001), at 60.
30 *Judge Jacob Slammed for Expert Witness Flak*, Brendan Malkin, The Lawyer, 2003.
31 2009 CanLII 12799 (Ont. S.C.J.).
32 *Ibid.* at para. 11.
33 *Gould v. Western Coal Corporation*, 2012 ONSC 5184.
34 *Ibid.* at para. 85.

> rules of evidence. This fundamental tension can only be resolved by the careful and consistent application of the rules of evidence [emphasis added].[35]

Conclusion

Expert evidence has been, and remains, an important part of the litigation process. It is submitted that in the context of our current adversarial system, the natural tension between experts and their clients is unavoidable.

This tension is not a new phenomenon and experts have been held to a high standard of conduct for some time.

That said, there is a discernible trend in various jurisdictions to increase codification of the expert's conduct; we submit that this trend highlights a continued frustration with what we term "advocacy by experts".

The jury is still out on whether increased codification will curb advocacy by experts. However, it is clear to us that future opportunities may exist for professional bodies to contribute further on this important issue.

4.0 State the Nature of Your Business — Reporting Requirements for Expert Reports

The Nature and Purpose of the Expert's Report

The rules in each jurisdiction provide only general instruction to experts with respect to the format of the tendered report. The Courts have, perhaps, recognized that specific reporting requirements will vary based on the facts and circumstances of that particular case and that a detailed description of reporting requirements is therefore generally counterproductive.

That said, there are what we would characterize as general reporting requirements in each jurisdiction studied. In particular, there is some commonality among reporting requirements pertaining to the expert's expertise, independence and objectivity.

We provide a summary of the reporting requirements of expert witnesses in each of the jurisdictions surveyed at **Appendix C-4.** We discuss noteworthy findings below.

Instructions and Assumptions

Courts in various jurisdictions have noted that differences in opinions proffered in a particular case often arise from differences in the instructions provided to each expert or the assumptions underlying the expert's analysis, rather than genuine differences in professional opinion.

The Courts are often left to wonder what the opinion of each expert would have been had they each received identical instructions. As a judge of the Federal Court of Australia has said:

> Often in my experience at the Bar, the real dispute between experts did not lie in their conclusions at all. Rather, it was that they had proceeded on different assumptions. Because they were briefed by the particular litigant paying them, they were not asked to opine as to whether, if they accepted the other experts' assumptions, they would come to the same conclusion as the other

35 *Dulong v. Merrill Lynch Canada Inc*. (2006), 80 O.R. (3d) 378 (Ont. S.C.J.) at para. 9.

> expert. Instead, the experts debated the assumptions. This was largely a sterile exercise for them, since they did not have knowledge of the primary facts.[36]

One universal requirement is that the expert explicitly state what issue(s) he/she is addressing. The requirement appears to be aimed at containing differences in experts' opinions to genuine issues of dispute rather than differences in the instructions given to each expert. For example, in the UK Civil Procedure Rules, "[t]he expert's report must state the substance of all material instructions, whether written or oral, on the basis of which the report was written".[37]

All jurisdictions also require that the expert's report outline the basis for all opinions and the material information/analysis relied upon in reaching these conclusions.

The Expert's Qualifications and Experience

Opinion evidence is a special type of evidence in that it speaks to the expert's opinion on a matter in dispute (rather than providing facts). Fundamental to this process is the basis for the opinion.

There is no substantive debate in any of the jurisdictions that the expert's state of mind is an appropriate avenue of inquiry. Examination of exogenous factors and circumstances that may have influenced the expert's perceptions and interpretations (read: independence) in the matter at hand is widely viewed to be appropriate.

An individual's expertise is most often based on some combination of formal training and experience. In all jurisdictions, there is a basic requirement for the expert to outline his/her qualifications in the matter at hand (prior to providing testimony) so that they can be probed by opposing litigants, and ultimately assessed by the trier of fact (in the role as gatekeeper). In all jurisdictions, the expert must be qualified by the Court and the assessment is based in large part on information in the expert's *curriculum vitae*. This requirement is often satisfied by appending the expert's *curriculum vitae* to the report.

In some jurisdictions, the types of information to be disclosed in the curriculum vitae are not codified and the contents are the exclusive purview of the expert. In other jurisdictions, the required disclosure is codified.

For example, the U.S. Federal Rules of Civil Procedure require that the proposed expert provide a "…list of all other cases in which, during the previous 4 years, the witness testified as an expert at trial or by deposition".[38]

In the United States, the expert's qualifications may form the basis of a "*Daubert* challenge",[39] particularly if the expert's curriculum vitae fails to adequately detail professional experience specific to the industry or the precise area(s) of expertise relevant to the matter at hand.[40]

Explicit Acknowledgment of the Expert's Duties and Obligations

In Canada, Australia, and the United Kingdom codes of procedure specify that the expert acknowledge in the report that he/she agrees to be bound by the code of conduct (including the expert's overriding duty to the Court).

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36 *Using the Hot Tub — How Concurrent Expert Evidence Aids Understanding*, The Hon. Justice Steven Rares, New South Wales Bar Association Continuing Professional Development Seminar, 2010.

37 UK Civil Procedure Rules, Part 35.10 (3).

38 Rule 26 (2) (v) of the Federal Rules of Civil Procedure.

39 A "Daubert Challenge" is a hearing conducted before a judge in which the admissibility of expert evidence is challenged by opposing counsel. The term was coined from the US Supreme Court case of *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993).

40 *Expert Reports*, John L. Tate, et al., Stites & Harbison PLLC, 2012.

In the United Kingdom, this duty to the Court is further emphasized by a requirement that experts address their report directly to the Court. This differs from the common practice in other jurisdictions where the report is typically addressed to the retaining party (litigant and/or litigant's counsel).

In the United States, the expert is required to disclose "a statement of the compensation to be paid for testimony in the case".[41] There is no such requirement in Canada, the UK, or Australia. Unanimous is the view that contingent fees are inappropriate as they impair the independence of an expert witness. For example, in the United Kingdom:

> Payments contingent upon the nature of the expert evidence given in legal proceedings, or upon the outcome of a case, must not be offered or accepted. To do so would contravene experts' overriding duty to the Court and compromise their duty of independence.[42]

Conclusion

The persistent concern regarding experts has recently led to reduced autonomy for experts regarding the contents of their report. The trend towards more particular reporting requirements, which have been driven in part by professional bodies, but to a large extent by the rules of procedure in the various jurisdictions, now mandate positive affirmation of the expert's roles and responsibilities.

Whether the increased specification of mandated reporting requirements has addressed the concerns is unclear. However, it is clear to us that as long as advocacy by experts remains a major issue (in perception or in reality), the risk of further regulation of experts' conduct and the contents of experts' reports will persist.

5.0 What Price Justice? New and Innovative Approaches to Expert Evidence and the Impact on the Cost of Litigation

> [An] important question to be reviewed is the impact that expert evidence is having on the length of trials and the corresponding increase in the cost of litigation to the parties. <u>This increase in cost raises concerns about the accessibility of the Court system to litigants</u> [emphasis added].[43]

Litigation costs are a concern in all jurisdictions and there is recent emphasis on process improvement to ensure that expert evidence is efficiently developed and presented.[44]

One of the principal findings of the Woolf Report in the UK was that the cost of litigation was becoming excessive:

> A large litigation support industry, generating a multi-million pound fee income, has grown up among professions such as accountants, architects and others, and new professions have developed such as accident reconstruction and care experts. This goes against all principles of <u>proportionality</u> and access to justice. In my view, its most damaging effect is that it has created an ethos of what is acceptable which has in turn filtered down to smaller cases. Many potential litigants do not even start litigation because of the advice they are given about cost, and in my view this is as great a social ill as the actual cost of pursuing litigation [emphasis added].[45]

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41 Rule 26 (2) (vi) of the Federal Rules of Civil Procedure.
42 *Protocol for the Instruction of Experts to Give Evidence in Civil Claims*, Civil Justice Council, 2004.
43 *Expert Witnesses in the Federal Courts: A Discussion Paper of the Federal Courts Rules Committee on Expert Witnesses*, The Federal Court Rules Committee of Canada, 2008.
44 Some of the novel approaches to this issue are discussed later in this paper.
45 *Access to Justice: Interim Report to the Lord Chancellor on the Civil Justice System in England and Wales*, Lord Woolf, 1995.

More recently in the UK, Lord Justice Jackson undertook another comprehensive review of the civil justice system, publishing his report *Review of Civil Litigation Costs* (the *"**Jackson Report**")* in 2009. The Jackson Report was commissioned in response to further concerns from the judiciary in England and Wales that the cost of litigation was disproportionate to the issues at hand. With respect to expert evidence, Jackson said:

> There is nothing fundamentally wrong with the manner in which evidence is currently adduced in civil litigation, by way of witness statements and expert reports. The only substantial complaint which is made is that in some cases the cost of litigation is unnecessarily increased because witness statements and expert reports are unduly long [emphasis added].[46]

A 2002 study conducted by the Federal Judicial Center in the United States echoed this sentiment. The study, based on a survey of U.S. judges and attorneys, found that excessive costs were the second most important problem with expert evidence, after concerns over the expert's independence.[47]

The view that expert evidence is expensive is not new. Until recently, the dialogue amounted to resigned complaint, not actionable reform. This is beginning to change.

Rules committees and other stakeholders are now focused on the possible substance and form of procedural reform, the objective being to reduce costs of opinion evidence while maintaining the tenets of the adversarial judicial system favoured in each jurisdiction.

New and innovative approaches to expert evidence are emerging, each with proponents and detractors. Some recent innovations, each of which has been implemented in one or more of the jurisdictions, are discussed below.

Concurrent Evidence ("Hot Tubbing") — Everyone Into the Pool!

Concurrent evidence, better known by the rather unfortunate colloquial term "hot tubbing" (in reference to the necessity for expert panels to share close quarters while providing concurrent evidence at trial) is a relatively new phenomenon, although Australia has some experience with the process dating back to the 1970s.

Hot tubbing proponents point to a significant reduction in the total time required to examine multiple experts (individually) and the resulting reduction in the cost of litigation.

While there are no hard and fast rules to hot tubbing, the general framework is somewhat consistent across jurisdictions.

First, each expert may be required to prepare his/her own opinion report.

Next, the experts may review each other's reports, and then confer to prepare a joint statement on the issues to which they agree and disagree. This conference may be conducted with, or without, counsel.

At trial, each expert testifies (either alone or in the hot tubbing format) in regard to the areas of agreement and disagreement between the experts, and presents his/her position on each of the issues that remains in dispute.

Next, in regard to the areas of disagreement, each expert comments on the analyses and conclusions presented by the other expert in his/her written report (and/or during testimony).

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46 *Review of Civil Litigation Costs: Final Report*, The Hon. Lord Justice Jackson, The Ministry of Justice (UK), 2009.

47 *Judge and Attorney Experiences, Practices and Concerns Regarding Expert Testimony in Federal Civil Trials*, Federal Judicial Center, Carol Kafta et al., 2002.

After each expert has testified, both experts are questioned together — the questions can be formulated by counsel, the Court, or both. Counsel may then have the opportunity to cross-examine the experts on their answers.

In Australia, the practice of concurrent evidence dates back to its use in commercial tribunals in the 1970s.[48] More recently, Australian Courts have also made extensive use of the practice.[49]

Anecdotal evidence (primarily from Australia, given the longer history) suggests that in addition to saving costs, hot tubbing also reduces the adversarial nature of cross-examination because experts are asked to address differences in professional opinion in real time, under the watchful eye of the Court and the litigants, and are also asked to strive to reach agreement (where feasible) on some if not all issues in dispute.

Agreement is often found quickly. "Because each expert knows his or her colleague can expose any inappropriate answer immediately, and also can reinforce an appropriate one, the evidence generally proceeds directly to the critical, and genuinely held points of difference."[50] By focusing only on areas of contention, particularly during cross-examination, there is said to be a significant reduction in the time required to examine each expert.

Justice Steven Rares of the Federal Court of Australia has, over the years, spoken out extensively on the topic of hot tubbing and has presided over many cases in which the method was used. Justice Rares is a proponent, stating:

> Experts generally take the various Courts' expert codes of conduct very seriously. After all, in general they value their reputations and integrity. But more fundamentally, the… process often reveals that one party's case on a critical point will succeed or fail. This is because the experts are able to understand, through professional exchanges, what each has said and on what assumptions.[51]

Hot tubbing is beginning to take hold in other jurisdictions.

In Canada, recent changes to the Federal Court Rules in Canada, as well as provincial jurisdictions, allow for this approach.[52] The Federal Court Rules, for example, state "[e]xpert witnesses shall give their views and may be directed to comment on the views of their panel members and to make concluding statements. With leave of the Court, they may pose questions to other panel members."[53]

For example, in *Apotex Inc. v. Astrazeneca Canada Inc*.,[54] the Court first followed the traditional approach for expert evidence — direct examination, cross examination and reply. The Court then conducted a "hot tubbing" session where both experts testified concurrently to answer questions from the judge (under oath). Each litigant's counsel was then permitted to ask follow up questions (to both experts) arising from the hot tubbing exchange with the judge.

Feedback from Canada is preliminary, and it is fair to say that the jury is still out.

Hot tubbing has its detractors. One recurring complaint is that the format (an "expert panel") may favour those experts who are more confident, assertive, and/or persuasive in their testimony. The weight that the Court applies to the findings of each expert may be influenced by factors other

48 *Hot-Tubbing Experts — Should Lawyers Like It?, Canadian Lawyer Magazine*, Judy van Rhijn, 2011.
49 For example, in the Federal Court of Australia, the Supreme Court of New South Wales, the Supreme Court of Queensland, and others.
50 *Expert Evidence in Copyright Cases: Concurrent Expert Evidence and the 'Hot Tub',* Federal Judicial Scholarship, The Hon. Justice Steven Rares, 2009.
51 *Using the Hot Tub — How Concurrent Expert Evidence Aids Understanding*, The Hon. Justice Steven Rares, New South Wales Bar Association Continuing Professional Development Seminar, 2010.
52 For example, see Rule 282.1 of the Federal Courts Rules in Canada.
53 Paragraph 282.1 of the Federal Court Rules.
54 2012 FC 559.

than the merits of the evidence itself. This observation is also applicable in the more traditional Court setting, although perhaps to a lesser extent, because counsel retains more control over the delivery of the testimony.

Also, the Australian experience demonstrates that hot tubbing requires that the judge take a more active role in the proceedings. Because the process is comparatively less structured, responsibility often falls to the judge to moderate the discussion between the experts. Counsel is not always keen to cede control of the expert in this fashion.

The Jackson Report revealed that sentiment towards the practice is mixed. Broadly speaking, Lord Jackson found that support for hot tubbing from advocates and judges in various UK Courts fell into three camps: a) outright support; b) cautious support subject to a pilot program; and c) outright opposition.

The Jackson Report ultimately recommended that the practice of concurrent evidence be piloted in cases where the experts, lawyers, and the judge all consent to its use, stating "if the results of this [pilot] are positive, then consideration should be given to amending Part 35 [of the UK Civil Procedure Rules] so that it expressly enables the judges to direct that the concurrent evidence procedure be used in appropriate cases".[55] *Lord* Jackson notes that the practice might be particularly effective in valuation disputes.

Early results from the pilot program appear promising:

> The evidence of the pilot to date suggests that there are time and quality benefits to be gained from the use of the concurrent evidence procedure for expert evidence. So far there is no evidence of significant disadvantages from the point of view of the judiciary, counsel, solicitors or experts themselves. What is needed is a larger evidence base so that the use of the procedure in different kinds of cases can be evaluated and a wider range of experience relating to rigor and costs can be analyzed.[56]

In the United States, lawyers have resisted hot tubbing, primarily because the process reduces counsel's control over their expert. While hot tubbing is not expressly prohibited, there are no specific provisions in the Federal Rules of Evidence specifying its use. Currently, there appears to be no imminent plan to formally adopt the hot tubbing approach, and the current preference is to maintain the traditional method of examining and cross-examining party-appointed experts individually.[57]

The prevalence of hot tubbing in international arbitration, which procedurally draws on a number of different influences, varies considerably among different jurisdictions; however, the approach is becoming more prevalent.[58]

For example, the IBA Rules provide that the arbitral tribunal may, upon the request of a party, or on its own motion, vary the conventional order of proceeding, including the arrangement of testimony by particular issues or in such a manner that witnesses be questioned at the same time and in confrontation with each other.[59]

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55 *Review of Civil Litigation Costs: Final Report*, The Hon. Lord Justice Jackson, The Ministry of Justice (UK), 2009.

56 Manchester Concurrent Evidence Pilot — Interim Report, UCL Judicial Institute, 2012.

57 *Getting into the Hot Tub: How the United States Could Benefit from Australia's Concept of Hot Tubbing Expert Witnesses*, Elizabeth Reifert, University of Detroit Mercy Law Review, 2011.

58 For example, in Austria, Korea, Japan, and Hong Kong. Refer to the IBA Arbitration Country Guides (2012) at http://www.ibanet.org/Article/Detail.aspx?ArticleUid=a646cf32-0ad8-4666-876b-c3d045028e64.

59 *The IBA Rules on the Taking of Evidence in International Arbitration*, International Bar Association, 2010, specifically Article 7, 3(f).

Similar provisions exist with other arbitral bodies including, for example, the Chartered Institute of Arbitrators Rules.[60]

A 2012 survey of international arbitrators conducted by White & Case LLP[61] found that 60% of respondents had experience with the hot tubbing method in international arbitration proceedings in the last five years. Nearly two thirds of those respondents said that, based on their experience, it should be done more often.[62]

In summary, the limited experience to date suggests to us that hot tubbing is generally seen as a positive development, and when applied appropriately, can potentially reduce litigation costs and improve outcomes.

While there are some practical complications, its use in Australia has been credited with changing the psychology of experts, thereby reducing the incidence of advocacy by experts.

The Australian Law Reform Commission summarized the experience with hot tubbing in the Australian Federal Court as follows:

> It has been the [federal Court] judges' experience that having both parties' experts present their views at the same time is very valuable. In contrast to the conventional approach, where an interval of up to several weeks may separate the experts' testimony, the panel approach enables the judge to compare and consider the competing opinions on a fair basis. In addition, the Court has found that experts themselves approve of the procedures and they welcome [them] as a better way of informing the Court. There is also symbolic and practical importance in removing the experts from their position in the camp of the party who called them.[63]

And,

> When used in appropriate cases, concurrent evidence seems likely to become a very useful method to achieve our goal of reaching the correct or preferable decision in the matters that come before us.[64]

While hot tubbing is not a panacea, there is little doubt that it holds promise to be a valuable tool.

Table for One — Jointly Appointed Experts

Another approach being tested in many jurisdictions is the use of a single (jointly appointed) expert. Recent amendments to the Federal Courts Rules in Canada, for example, now allow parties to "jointly name an expert witness", provided all parties consent. [65]

Under this approach, a single expert is retained to opine on a given subject matter and that expert is instructed jointly by both parties, or by the Court. The parties are encouraged to agree on a single set of instructions. However, where parties fail to agree on such instructions, separate instructions may be given by each party and the areas of disagreement are documented.[66] Alternatively, the Court may step in to establish the parameters for the mandate.

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60 *Protocol for the Use of Party-Appointed Expert Witnesses in International Arbitration*, Chartered Institute of Arbitrators, Article 7.
61 Consisting of in-house counsel, private practitioners, and arbitrators.
62 *2012 International Arbitration Survey: Current and Preferred Practices in the Arbitral Process,* White & Case LLP, 2012.
63 *Managing Justice: A review of the federal civil justice system*, Report No. 89, the Australian Law Reform Commission, 1999.
64 *Concurrent Evidence in the Administrative Appeals Tribunal: The New South Wales Experience*, the Hon. Justice Garry Downes, 2004.
65 Specifically, see Rule 52.1.
66 For example, as outlined at paragraph 17.7 of the UK Civil Justice Council Protocol for Instruction of Experts to Give Evidence in Civil Claims.

In the UK, the Woolf Report suggested that "single experts should be used wherever the case (or the issue) is concerned with a substantially established area of knowledge and where it is not necessary for the Court directly to sample a range of opinions".[67]

Of particular note, the Woolf Report specifically identified valuation cases as being ideal candidates for this approach.[68]

The UK Civil Procedure Rules were amended on the heels of the Woolf Report. The rules now allow the Court latitude to direct a single joint expert to give evidence on an issue. The parties are given the opportunity to choose the joint expert, but the Court will appoint the joint expert if the parties are unable to agree.

The findings of the Woolf Report were largely confirmed in the Jackson Report which recommended that single experts be appointed whenever possible, and in particular in cases where experts are opining on comparatively less controversial quantum issues.[69]

Influenced by the Woolf Report reforms in the UK, the use of joint experts in Australia has become more common and is now permitted under the rules of civil procedure in some jurisdictions.[70] The Supreme Court of Queensland, for example, requires that expert evidence be given by a single expert whenever practical, provided that it does not compromise the interests of justice. Multiple experts are permitted only when allowed by the Court, and only when necessary to ensure a fair trial.[71]

To date, there is no specific guidance given under the Federal Rules of Evidence in the United States for the use of joint experts, and there appears to be a general preference for the existing system of cross-examining party-appointed experts.

International arbitrations have, on occasion, employed tribunal appointed experts, but the use of opposing party experts is more common.

While the Federal Court Rules in Canada require consent from both parties to call an expert jointly, recent amendments to the B.C. Supreme Court Rules allow a judge to *order* that "the expert evidence on any one or more issues be given by one jointly-instructed expert".[72]

In the recent B.C. case of *Four L. Industries v. Muskwa Valley Ventures Ltd.,* a jointly appointed expert valuator was ordered by the Court despite "vigorous opposition" from one party. The judge said:

> While in this case, the amount at issue is not yet resolved and will not be until an opinion has been obtained…the amount is likely modest. In such circumstances, proportionality suggests that an effort should be made to avoid duplication of the costs of obtaining an expert report which is the likely outcome if a joint report is not ordered [emphasis added].[73]

The use of a joint expert can reduce the total time and cost of litigation by eliminating the need for each party to retain his/her own expert. It is also said to mitigate a so-called "hired gun" mentality, termed "advocacy by experts" earlier in this paper. This, in turn, it is hypothesized, leads to improved settlement prospects and trial decisions.[74]

A study undertaken shortly after changes were made to the UK Civil Procedure Rules, where the practice is still relatively uncommon, concluded that "the change to a single joint expert appears

67 *Access to Justice: Interim Report to the Lord Chancellor on the Civil Justice System in England and Wales*, Lord Woolf, 1995.
68 *The Changing Face of Expert Witnesses*, The Family Court of Australia, 2001.
69 *Review of Civil Litigation Costs: Final Report*, The Hon. Lord Justice Jackson, The Ministry of Justice, 2009.
70 For example, the Supreme Court of New South Wales, the Supreme Court of Queensland, and the Family Court of Australia.
71 Uniform Civil Procedure Rules of the Supreme Court of Queensland Ch. 11 Part 5.
72 BC Supreme Court Civil Rules, 5-3(1)(k).
73 *Leer and Four L. Industries Ltd. v. Muskwa Valley Ventures Ltd.*, 2011 BCSC 930.
74 *The Changing Face of Expert Witnesses*, The Family Court of Australia, 2001.

to have worked well." The study, conducted by the UK Department of Constitutional Affairs said, "It is likely that [the use of single joint experts] has contributed to a less adversarial culture, earlier settlement and may have cut costs."[75]

Critics of the approach argue firstly that differing views on a particular subject matter are not always the result of bias. Conflicting expert evidence often reflects a genuine difference of professional opinion within the expert's field.

Second, when a judge has ordered that evidence be given by a single expert, it can also be said to limit the evidence that parties are allowed to call.[76]

Third, cost savings are debatable. While the practice can reduce costs in relatively simple cases, some note that cost savings are not as apparent in more complicated litigation.

For example, in Australia, it is typical for each party to engage their own "shadow" expert to assist in preparing for cross-examination of the jointly appointed expert.

In North America, this shadow role is referred to as litigation consulting.

Thus, in some cases, the use of a single expert does not necessarily extinguish each party's need to retain their own expert, and the joint retainer actually contributes an additional burden of cost to the proceedings. Anecdotal evidence from Australia is that the practice is falling somewhat out of favour with Australian Courts. Most telling, perhaps, is that many jurisdictions in Australia have not followed the lead of the Supreme Court of Queensland in requiring that all evidence be given, by default, by a single expert.[77] It appears the practice has been reserved only for simple matters.

In the United Kingdom, the Woolf Report warns:

> The appointment of a neutral expert would not necessarily deprive the parties of the right to cross examine, or even to call their own experts in addition to the neutral expert if that were justified by the scale of the case. Anyone who gives expert evidence must know that he or she is at risk of being subjected to adversarial procedures, including vigorous cross-examination. This is an essential safeguard to ensure the quality and reliability of evidence.[78]

It is fair to say that the efficacy of this approach is still being debated, and the empirical results to date are inconclusive.

Expert Conferences and Joint Expert Statements

So far, we have discussed two alternative approaches to expert evidence — concurrent evidence and jointly appointed experts. A third approach, viewed as a sort of hybrid of these alternatives, is expert conferences.

The objective of an expert conference is to foster discussion between the experts, and to narrow the focus of the trial to only the genuinely disputed issues, with a view to ultimately reducing the time and cost of the litigation.[79]

In Canada, recent amendments to the Federal Court Rules give the Court discretion to order that expert witnesses "confer with one another in advance of the hearing of the proceeding in order to narrow the issues and identify the points on which their views differ".[80]

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75 *Emerging Findings: An Early Evaluation of the Civil Justice Reforms*, UK Lord Chancellor's Department, 2001.
76 *IP25–Expert Witnesses*, the New South Wales Law Reform Commission, 2004.
77 *Party Appointed Expert Witnesses in International Arbitration: A Protocol at Last*, Doug Jones, Arbitration International, 2008.
78 *Access to Justice: Final Report to the Lord Chancellor on the Civil Justice System in England and Wales*, Lord Woolf, 1995.
79 *The Changing Face of Expert Witnesses*, The Family Court of Australia, 2001.
80 The Federal Court Rules, 52.6 (1).

What does that entail?

Experts meet in advance of trial to discuss their findings, exchange information, and identify areas of agreement and disagreement. If so instructed, experts will draft a joint statement, which is served to the Court, to assist in better understanding the basis for the differences of opinion.

Anecdotally, expert conferences are often ordered by the Court prior to, or in concert with, the pre-trial conference.

In the UK, the Woolf Report recommended that the UK Courts, when reasonable to do so, require a pre-trial meeting of experts with a view to narrowing the issues at hand. The Woolf Report said: "There has been widespread support for my suggestion that experts' meetings were a useful approach to narrowing the issues. In areas of litigation where experts' meetings are already the usual practice, there is general agreement that they are helpful."[81]

The Jackson Report also encouraged the use of expert conferences whenever practical.

The UK Rules state: "The Court may, at any stage, direct a discussion between experts for the purpose of requiring the experts to — (a) identify and discuss the expert issues in the proceedings; and (b) where possible, reach an agreed opinion on those issues."[82]

In Australia, influenced in part by reforms in the UK emanating from the Woolf Report, several jurisdictions now encourage the use of expert conferences. In particular, Federal Court judges and Family Court judges have increasingly directed the parties' experts to confer with one another prior to trial.[83]

Such efforts are to be undertaken in good faith. The Australian Federal Court Rules state:

> If experts retained by the parties meet at the direction of the Court, it would be improper for an expert to be given, or to accept, instructions not to reach agreement. If, at a meeting directed by the Court, the experts cannot reach agreement about matters of expert opinion, they should specify their reasons for being unable to do so.[84]

Lawyers in Australia have expressed some concern over relinquishing control of the proceedings in this fashion; however, there has generally been little apprehension from Australian Courts and the practice is becoming more common. For example, in cases where parties do not consent to the use of a jointly appointed expert, the Court may order that the party appointed experts meet in advance of trial with a view to narrowing the issues.

In the United States, the use of expert conferences is not common. There are no specific provisions for its use under the Federal Rules of Civil Procedure.

In international arbitration, both the IBA Rules and Chartered Institute of Arbitrators Rules (for example) provide for the use of expert conferences it appears (anecdotally) that the practice is gaining in popularity.[85]

The 2012 survey conducted by White & Case LLP reports that expert witnesses are "rarely" directed to confer in advance of the hearing in order to identify the issues on which they agree/disagree; however, over half of respondents said the procedure of directing expert witnesses to confer in advance of the hearing is useful. The study concludes that "these results illustrate a disconnect

81 *Access to Justice: Final Report to the Lord Chancellor on the Civil Justice System in England and Wales*, Lord Woolf, 1995.
82 UK Civil Procedure Rules, Part 35.12 (1).
83 *Managing Justice: A review of the federal civil justice system*, Report No. 89, the Australian Law Reform Commission, 1999.
84 The Australia Federal Court Rules, Practice Note CM7, Section 3.
85 *Experts and Expert Witnesses in International Arbitration: Advisor, Advocate, or Adjudicator,* Giovanni De Berti, 2011.

between the current and preferred practices, suggesting that arbitrators should direct expert witnesses to confer in advance of the hearing more often than is currently done".[86]

6.0 Conclusions

Expert evidence has been a vital part of the adversarial litigation process. Few would dispute the need for this type of evidence, and many would say it is all the more important today, given the heightened complexities of daily life.

But it is also fair to say that expert evidence is seen by some, notably some members of the judiciary, as somewhat of a necessary evil, as it occupies the grey space between fact evidence and judicial interpretation.

Indeed, the increased codification of an expert's duties has seemingly led to an increase in the rate at which Courts are admonishing the conduct of experts (albeit our observation on this point is anecdotal).

By its nature, opinion evidence is subject to the fragilities of the human condition, and the potential for substandard expert evidence to lead to injustice is real (as the Smith affair in Canada clearly illustrates). Common law, codes of conduct and regulating bodies provide important guidance to experts and the "rules of engagement" concerning this special type of evidence will no doubt continue to evolve in the future.

Further to that point, we submit that it is in the best interest of stakeholders to familiarize themselves further with novel approaches to introduce and scrutinize expert evidence in litigation — hot tubbing, joint retainers and expert conferences/joint statements, in particular. Although these approaches do not yet have a long track record in Canada, they are generally seen as being positive developments to the litigation landscape and are becoming increasingly common practice in other jurisdictions.

86 *2012 International Arbitration Survey: Current and Preferred Practices in the Arbitral Process,* White & Case LLP, 2012.

APPENDIX A — STUDY METHODOLOGY AND SCOPE OF REVIEW

Formally, our study covers the federal Courts of Canada, the United Kingdom (England and Wales), the United States, and Australia. On occasion, we have also commented on territorial jurisdictions within Canada and Australia, and various jurisdictions of international arbitration.

The findings of our study were based on our review of the following resources in each jurisdiction:

a. The rules of civil procedure governing the use of expert evidence;
b. Selected judicial studies, reviews, and discussion papers;
c. Secondary legal sources including journals, essays, and articles;
d. Selected academic research papers;
e. Selected case law; and
f. Interviews with experts and lawyers.

The following is a list of the important documents that we reviewed in the course of our research. For ease of reference, we have included hyperlinks for online access (where available).

Canada

Rules Amending the Federal Courts Rules (Expert Witnesses), Federal Courts Act, August 4, 2010.
http://www.gazette.gc.ca/rp-pr/p2/2010/2010-08-18/html/sor-dors176-eng.html

Expert Witnesses in the Federal Courts: A Discussion Paper of the Federal Courts Rules Committee on Expert Witnesses, The Federal Court of Canada Rules Committee, 2008.
http://cas-ncr-nter03.cas-satj.gc.ca/fca-caf/pdf/Discussion-May-2008_eng.pdf

Inquiry into Pediatric Forensic Pathology in Ontario: Final Report, the Hon. Stephen Goudge, 2008.
http://www.attorneygeneral.jus.gov.on.ca/inquiries/goudge/index.html

Expert Witness Evidence in Civil Cases, William G. Horton, 2007.
http://wghlaw.com/articles-papers/publications/

Unplugging Jukebox Testimony in an Adversarial System: Strategies for Changing the Tune on Partial Experts, Queen's Law Journal, David M. Paciocco, 2009.

Hot-Tubbing Experts — Should Lawyers Like It? Canadian Lawyer Magazine, Judy van Rhijn, 2011.

Cases referenced:

R. v. Mohan, [1994] 2 S.C.R. 9
R. v. J. (J.-L.), [2000] 2 S.C.R. 600
Alfano v. Piersanti, 2009 CanLII 12799 (Ont. S.C.J.)
Gould v. Western Coal Corporation, 2012 ONSC 5184 (S.C.J.)
Dulong v. Merrill Lynch Canada Inc. (2006), 80 O.R. (3d) 378 (S.C.J.)
Apotex Inc. v. Astranzeneca Canada Inc., 2012 FC 559
Leer and Four L. Industries v. Muskwa Valley Ltd., 2011 BCSC 930 (Master)

United States

The United States Federal Rules of Civil Procedure, 2010.
http://www.uscourts.gov/uscourts/RulesAndPolicies/rules/2010%20Rules/Civil%20Procedure.pdf

The United States Federal Rules of Evidence, 2011.
http://www.law.cornell.edu/rules/fre/

Judge and Attorney Experiences, Practices and Concerns Regarding Expert Testimony in Federal Civil Trials, Federal Judicial Center, Carol Kafta et al., 2002.
https://bulk.resource.org/courts.gov/fjc/judattex.pdf

Increasing Complexity and Partisanship in Business Damages Expert Testimony: The Need for a Modified Trial Regime in Quantification of Damages, John W. Hill et. al., University of Pennsylvania Journal of Business Law, 2009.

Expert Reports, John L. Tate, et al., Stites & Harbison PLLC, 2012.

Getting into the Hot Tub: How the United States Could Benefit from Australia's Concept of Hot Tubbing Expert Witnesses, Elizabeth Reifert, University of Detroit Mercy Law Review, 2011.
http://lawschool.udmercy.edu/udm/images/lawreview/v88/Reifert.PS.pdf

Cases referenced:

Finklestein v. Liberty Digital, Inc., C.A. No. 19598, 2005 Del. Ch. LEXIS 170
Daubert v. Merrell Dow Pharmaceuticals, 509 U.S. 579 (1993)
Kumho Tire Co. v. Carmichael, 526 U.S. 137 (1999)
General Electric Co. v. Joiner, 522 U.S. 136 (1997)

United Kingdom

The United Kingdom Civil Procedure Rules (CPR) — Part 35.
http://www.justice.gov.uk/courts/procedure-rules/civil/rules/part35

The United Kingdom Civil Procedure Rules (CPR) — Practice Direction 35.
http://www.justice.gov.uk/courts/procedure-rules/civil/rules/pd_part35

The United kingdom Civil Justice Council Protocol for Instruction of Experts to Give Evidence in Civil Claims.
http://www.justice.gov.uk/courts/procedure-rules/civil/pdf/practice_directions/pd_part35.pdf

Access to Justice: Interim Report to the Lord Chancellor on the Civil Justice System in England and Wales, Lord Woolf, 1995.

Review of Civil Litigation Costs: Final Report, The Hon. Lord Justice Jackson, The Ministry of Justice (UK), 2009.
http://www.judiciary.gov.uk/NR/rdonlyres/8EB9F3F3-9C4A-4139-8A93-56F09672EB6A/0/jackson-finalreport140110.pdf

Expert Evidence: The Requirement of Independence, Charles Pugh et al., 2009.
http://www.oldsquare.co.uk/pdf_articles/3100173.pdf

Judge Jacob Slammed for Expert Witness Flak, Brendan Malkin, The Lawyer, 2003.

Manchester Concurrent Evidence Pilot — Interim Report, UCL Judicial Institute, 2012.
http://www.judiciary.gov.uk/JCO%2FDocuments%2FReports%2Fconcurrent-evidence-interim-report.pdf

Emerging Findings: An Early Evaluation of the Civil Justice Reforms, UK Lord Chancellor's Department, 2001.

Cases Referenced:

National Justice Compania Naviera S.A. v. Prudential Assurance Co. Ltd., ("The Ikarian Reefer"), [1993] 2 Lloyd's Rep. 68 at 81-82 (Q.B.D.)

Pearce v. Ove Arup Partnership Ltd & Ors [2001] EWHC Ch 455 (2nd November, 2001)

Australia

The Australia Federal Court Rules, 2011.
http://www.comlaw.gov.au/Details/F2011L01551

The Australia Federal Court Practice Note CM7 — Expert witnesses in proceedings in the Federal Court of Australia.
http://www.fedcourt.gov.au/pdfsrtfs_p/practice_notes_cm7.rtf

Managing Justice: A review of the federal civil justice system, Report No. 89, the Australian Law Reform Commission, 1999.
http://www.alrc.gov.au/inquiries/federal-civil-justice-system

After Objectivity: Expert Evidence and Procedural Reform, Sydney Law Review, Gary Edmond (2003).

Using the Hot Tub — How Concurrent Expert Evidence Aids Understanding, The Hon. Justice Steven Rares, New South Wales Bar Association Continuing Professional Development seminar, 2010.

Expert Evidence in Copyright Cases: Concurrent Expert Evidence and the 'Hot Tub', Federal Judicial Scholarship, The Hon. Justice Steven Rares, 2009.

Concurrent Evidence in the Administrative Appeals Tribunal: The New South Wales Experience, the Hon. Justice Garry Downes, 2004.
http://www.aat.gov.au/Publications/SpeechesAndPapers/Downes/concurrent.htm

The Changing Face of Expert Witnesses, The Family Court of Australia, 2001.

International Arbitration

The IBA Rules on the Taking of Evidence in International Arbitration, International Bar Association, 2010.
http://www.ibanet.org/Document/Default.aspx?DocumentUid=68336C49-4106-46BF-A1C6-A8F0880444DC

Protocol for the Use of Party-Appointed Expert Witnesses in International Arbitration, Chartered Institute of Arbitrators.
http://www.ciarb.org/information-and-resources/The%20use%20of%20party-appointed%20experts.pdf

Lost in Translation? The Independence of Experts under the 2012 IBA Rules, The European & Middle Eastern Arbitration Review, James Barratt, 2012.
http://www.globalarbitrationreview.com/reviews/40/sections/140/chapters/1430/lost-translation-independence-experts-2010-iba-rules/

Party Appointed Expert Witnesses in International Arbitration: A Protocol at Last, Doug Jones, Arbitration International, 2008.
http://www.arbitration-adr.org/resources/?p=article&a=show&id=16

“Experts and Expert Witnesses in International Arbitration: Adviser, Advocate, or Adjudicator?”, Giovanni De Berti, 2011.
http://www.dejalex.com/pdf/pubb_11_AYIA.pdf

APPENDIX B — RESTRICTIONS

This paper provides a summary of certain developments in various jurisdictions and is not intended to be legal or other advice. This paper is provided for discussion purposes only and reliance on the contents for any other purpose is strictly prohibited. The authors of this paper, and Campbell Valuation Partners Limited, are not responsible for losses or other adverse consequences to any party arising from the contents of this paper.

APPENDIX C — SCHEDULES

Appendix C-1
Summary of Some Key Developments in Various Jurisdictions

Canada	
2008	The Federal Court Rules Committee on Expert Witnesses identifies potential concerns with respect to the use of expert witnesses in civil proceedings. A published paper highlights concerns over expert independence as well as the time and cost of civil litigation.
2010	The Federal Court Rules are amended to reflect a number of findings from the discussion paper undertaken by the Federal Rules Committee. These include a codified expert duty and provisions for the use of single experts, expert conferences, and concurrent evidence.

United Kingdom	
1996	Lord Woolf's report *"Access to Justice"* concludes that civil litigation is too costly and calls for reforms to the rules of civil procedure, including a number of changes concerning the use of expert evidence.
1998	New UK Civil Procedure Rules (CPR) are enacted for civil cases in England and Wales. The CPR are designed to improve access to justice and draw on the recommendations made by Lord Woolf. Several changes relate to the use of expert evidence, including a codified expert duty and provisions for the use of single experts and expert conferences. Limitations are also placed on the use of experts in fast track cases.
2009	Lord Jackson's report *"Review of Civil Litigation Costs"* concludes that the cost of litigation is becoming disproportionate to the issues at hand. Several recommendations are made concerning the use of expert evidence, including encouraging the use of single experts whenever practical and encouraging a pilot program for the use of a concurrent approach to expert examination.

Australia	
1995	A review conducted by the Australian Law Reform Commission is published and concludes that the federal civil justice system is becoming excessively adversarial and is having a damaging effect on the delivery of justice. Several recommendations are made concerning expert witnesses, principally, that a formal expert duty must be adopted.
1998	Influenced by the work of the Australian Law Reform Commission and the Woolf Report in the UK, the Federal Court Rules are amended to include guidelines for expert witnesses, a formal expert duty and provisions for the use of single experts, expert conferences, and concurrent evidence.

United States	
1993	Daubert v. Merrell Dow Pharmaceuticals first establishes the standard for admitting expert testimony in federal courts. This seminal case is followed by General Electric Co. v. Joiner (1997) and Kumho Tire Co. v. Carmichael (1999) (collectively, the "Daubert Trilogy").
2000	Rule 702 of the Federal Rules of Evidence is amended in response to Daubert and to the many cases applying Daubert. The amendment provides general standards that the courts are to use to assess the reliability, helpfulness, and admissibility of expert testimony.

Appendix C-2
The Expert's Duty

	Canada	United States	United Kingdom	Australia
Is the expert's duty formally defined under the federal rules of civil procedure?	**Yes.** The expert's duty is defined under Section 52 of the Federal Courts Rules (Expert Witnesses). The expert duty is also formally defined under many provincial jurisdictions.	**No.** Rules governing the disclosure of expert testimony are outlined at Rule 26 (a) (2) of the Federal Rules of Civil Procedure; however, the expert's duty is not formally defined in the federal rules.	**Yes.** The expert's duty is defined in the UK Civil Procedure Rules (CPR) - Part 35. Further guidance is given under Practice Direction 35 - *Experts and Assessors*.	**Yes.** The expert's duty is defined in the Federal Court Rules at Rule 23. Further guidance is given under Practice Note 7 (CM7). The expert duty is similarly defined under many state jurisdictions.
How is the expert's duty defined?	The expert is bound by a code of conduct. The expert's duty is set out in the schedule to Rule 52.2 *"Code of Conduct for Expert Witnesses":* *"An expert witness named to provide a report for use as evidence, or to testify in a proceeding, has an overriding duty to assist the Court impartially on matters relevant to his or her areas of expertise.* *This duty overrides any duty to a party to the proceeding, including the person retaining the expert witness. An expert is to be independent and objective. An expert is not an advocate for a party."* [Emphasis added]	**Not applicable.**	The expert is bound by a code of conduct. The expert's duty is set out at 35.3 of the UK Civil Procedure Rules: *"It is the duty of experts to help the court on matters within their expertise... This duty overrides any obligation to the person from whom the expert has received instructions or by whom they are paid."* [Emphasis added]	Practice Note CM7, Paragraph 1.1 to 1.3 defines the duty of experts as follows: *"An expert witness has an overriding duty to assist the Court on matters relevant to the expert's area of expertise... An expert witness is not an advocate for a party even when giving testimony that is necessarily evaluative rather than inferential... An expert witness's paramount duty is to the Court and not to the person retaining the expert."* [Emphasis added]

	Canada	United States	United Kingdom	Australia
Is the expert required to sign a certificate or acknowledge their understanding of any specific duty or obligation to the court?	**Yes.** Section 52.2 of the Federal Court Rules now states that an affidavit or statement of an expert witness shall: "*be accompanied by a certificate in Form 52.2 signed by the expert acknowledging that the expert has read the Code of Conduct for Expert Witnesses set out in* [The Federal Court Rules] *and agrees to be bound by it.*"	**Not applicable.**	**Yes.** CPR - Part 35 requires that experts specifically acknowledge their understanding of this duty in the body of their report. CPR Part 35 (10) (2) states: *"At the end of an expert's report there must be a statement that the expert understands and has complied with their duty to the court."*	**Yes.** Rule 23.12 of the Federal Court Rules requires that counsel provide an expert with a copy of CM7. CM7, 2.1 (b) states that an expert report must: *"Contain an acknowledgement at the beginning of the report that the expert has read, understood and complied with the Practice Note* [CM7]*."*
When were the rules governing the duty of experts last amended?	Rules amending the Federal Courts Rules (Expert Witnesses) were introduced in 2010. The amended rules were the result of a process undertaken by the Federal Court Rules Committee originating in 2008 with a discussion paper titled "*Expert Witnesses in the Federal Courts.* "	**Not applicable.**	Rules governing the duty of experts are now outlined in CPR Part 35 and were enshrined through amendments made to the CPR in 1998. Changes to the CPR were influenced primarily by Lord Woolf's seminal "*Access to Justice* " report published in 1996 which examined, among other issues, the role of experts in civil proceedings.	CM7 was originally introduced in 1998, for the first time formally defining the duty of experts. The original draft of CM7 references Lord Woolf's "Access to Justice" report published in 1996 in the UK as well as the landmark British case *Ikarian Reefer* .

Appendix C-3
Summary of Statistics Reported by US Federal Judicial Centre Study (2002) [1]

Frequency of Post-Daubert Problems With Expert Testimony in Civil Cases as Reported by Judges and Attorneys (1998,1999)

	Mean Judges (average)		Mean Attorney (average)	
	Rating [2]	Rank	Rating [2]	Rank
Experts abandon objectivity and become advocates for the side that hired them	3,69	1	3,72	1
Excessive expense of party-hired experts	3,05	2	3,4	2
Expert testimony appears to be of questionable validity	2,86	3	3,05	4
Conflict among experts that defies reasoned assessment	2,76	4	3,13	3
Disparity in level of competence of opposing experts	2,67	5	3,02	5
Expert testimony not comprehensible to the trier of fact	2,49	6	2,66	6
Expert testimony comprehensible but does not assist the trier of fact	2,43	7,5	2,63	7
Failure of parties to provide discoverable information concerning experts	2,43	7,5	2,62	8
Attorneys unable to adequately cross-examine experts	2,32	9	2,05	11
Indigent party unable to retain expert to testify	2,1	10	2,13	10
Delays in trial schedule caused by unavailability of experts	2,03	11	1,76	12
Experts poorly prepared to testify	1,98	12	2,29	9

[1] Source: Judge and Attorney Experiences, Practices and Concerns Regarding Expert Testimony in Federal Civil Trials, Federal Judicial Center, Carol Kafta et al., 2002.

[2]The average rating from respondents using a scale of 1 to 5 to denote the frequency with which they encountered a problem.

Appendix C-4
The Formal Reporting Requirements of Experts

	Canada	United States	United Kingdom	Australia
Do the rules of civil procedure include specific requirements re: content and/or form of expert reports?	**Yes.** The Federal Court Rules (Form 52.2) outline the required content of an expert's report. Similar guidance is given in many provincial jurisdictions.	**Yes.** Rule 26 (a) (2) (B) of the Federal Rules of Civil Procedure outlines required disclosures for an expert's report.	**Yes.** Part 35 of the UK Civil Procedure Rules at 35.10 outlines the required content of an expert's report. Further direction is given at Practice Direction 35.	**Yes.** Part 23.02 of the Federal Court Rules outlines required content of an expert's report. Further direction is given at Practice Note CM7. Similar guidance is given in many state and family court jurisdictions.
Content required in the expert's report:				
The expert's qualifications and/or current CV	Yes.	Yes.	Yes.	Yes.
Disclosure of any persons who have carried out any examinations, measurements, or tests, their qualifications, and whether these procedures were performed under supervision of the expert	No.	No.	Yes.	No.
Acknowledgement of the expert's duty	Yes.	No.	Yes.	Yes.
A list of recent cases in which the expert has testified	No.	Yes.	No.	No.
Disclosure of the compensation paid to the expert	No.	Yes.	No.	No.

Appendix C-4
The Formal Reporting Requirements of Experts

	Canada	United States	United Kingdom	Australia
Requirement that the report be addressed to the court and not to the parties who have retained the expert	No.	No.	Yes.	No.
Disclosure of specific instructions given to the expert or specific questions asked of the expert	No. [1]	No.	Yes.	Yes.
A specific report format	No.	No.	No. [2]	No.
Disclosure of the basis for all opinions and the facts relied upon in reaching conclusions	Yes.	Yes.	Yes.	Yes.
A specific requirement to identify all areas where there is a range of opinions on the issue at hand	No.	No.	Yes.	No.
A specific requirement to disclose all areas where there is insufficient data to reach a conclusion	Yes.	No.	Yes.	Yes.

[1] Schedule 52.2 states that an expert "may" attach a letter of instructions; however, it is not a requirement.
[2] No specific report format is outlined in the rules; however, *"Model Forms of Experts' Reports are available from bodies such as the Academy of Experts or the Expert Witness Institute."*

Appendix C-5
Alternative Approaches to the Use of Expert Evidence

	Canada	United States	United Kingdom	Australia
Concurrent evidence or "hot tubbing"	The use of concurrent evidence is allowed in the Federal Court Rules. Similar provisions exist in many provincial jurisdictions. *282.1 The Court may require that some or all of the expert witnesses testify as a panel after the completion of the testimony of the non-expert witnesses of each party or at any other time that the Court may determine.* *282.2 (1) Expert witnesses shall give their views and may be directed to comment on the views of other panel members and to make concluding statements. With leave of the Court, they may pose questions to other panel members....* *(2) On completion of the testimony of the panel, the panel members may be cross-examined and re-examined in the sequence directed by the Court.*	No specific provisions for the use of concurrent evidence exist under the Federal Rules of Evidence.	No specific provisions for the use of concurrent evidence exist under the UK Civil Procedure Rules. The practice was recommended in the Jackson Report and is now being piloted in several UK courts.	The use of concurrent evidence is allowed in Federal Court Rules Part 23. Similar provisions exist in many state jurisdictions. *23.15 If 2 or more parties to a proceeding intend to call experts to give opinion evidence about a similar question, any of those parties may apply to the Court for one or more of the following orders:* *... (g) that each expert be sworn at the same time and that the cross-examination and re-examination be conducted by putting to each expert in turn each question relevant to one subject or issue at a time, until the cross-examination or re-examination is completed;* *(h) that each expert gives an opinion about the other expert's opinion;* *(i) that the experts be cross-examined and re-examined in any particular manner or sequence.*
Joint single experts	From the Federal Court Rules: 52.1 (2) Two or more of the parties may jointly name an expert witness. Similar provisions exist in many provincial jurisdictions.	No specific provisions for its use exist under the Federal Rules of Evidence.	From the UK Civil Procedure Rules Part 35: 35.7 *(1) Where two or more parties wish to submit expert evidence on a particular issue, the court may direct that the evidence on that issue is to be given by a single joint expert.*	No specific provisions for the use of single experts exists under the Federal Court Rules; however, the practice is allowed in many state jurisdictions within Australia.

Appendix C-5
Alternative Approaches to the Use of Expert Evidence

	Canada	United States	United Kingdom	Australia
Expert Conferences	From the Federal Court Rules: *52.6 (1) The Court may order expert witnesses to confer with one another in advance of the hearing of the proceeding in order to narrow the issues and identify the points on which their views differ…* *(4) A joint statement prepared by the expert witnesses following an expert conference is admissible at the hearing of the proceeding. Discussions in an expert conference and documents prepared for the purposes of a conference are confidential and shall not be disclosed to the judge or Prothonotary presiding at the hearing of the proceeding unless the parties consent.* Similar provisions exist in many provincial jurisdictions.	No specific provisions for its use exist under the Federal Rules of Evidence.	From the UK Civil Procedure Rules Part 35: 35.12 (*1) The court may, at any stage, direct a discussion between experts for the purpose of requiring the experts to –* *(a) identify and discuss the expert issues in the proceedings; and* *(b) where possible, reach an agreed opinion on those issues.*	From the Federal Court Rules Part 23: *23.15 If 2 or more parties to a proceeding intend to call experts to give opinion evidence about a similar question, any of those parties may apply to the Court for one or more of the following orders:* *(a) that the experts confer, either before or after writing their expert reports;* Similar provisions exist in many state jurisdictions.

Appendix C-5
The Use of Expert Evidence

	Canada	United States	United Kingdom	Australia
Are there any other limitations imposed on the number of experts that can be called or when an expert can be called?	From the Federal Court Rules: *52.1 (1) A party to a proceeding may name an expert witness whether or not an assesor has been called on under Rule 52.* *52.4 (1) A party intending to call more than five expert witnesses in a proceeding shall seek leave of the Court in accoredance with section 7 of the Canada Evidence Act.* Seminal case re: admissibility is R. v. Mohan. [1994] 2 S.C.R. 9	From Rule 702 of the Federal Rules of Evidence: *A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if: (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case.* Seminal case re: admissibility is Daubert v. Merrell Dow Pharmaceuticals 509 U.S. 579 (1993)	From the UK Civil Procedure Rules: 35.4 (1) No party may call an expert or put in evidence an expert's report without the court's permission. *35.1 Expert evidence shall be restricted to that which is reasonably required to resolve the proceedings.* *35.4 (4) The court may limit the amount of a party's expert's fees and expenses that may be recovered from any other party.*	From the Federal Court Rules, Part 23: *23.11 A party may call an expert to give expert evidence at a trial only if the party has: (a) delivered an expert report that complies with rule 23.13 to all other parties; and (b) otherwise complied with this Division.*
Is the expert report considered to be evidence?	From the Federal Court Rules: *280. (1) Unless the Court orders otherwise, evidence in chief of an expert witness may be tendered at trial by:* *(a) the witness reading into evidence all or part of an affidavit or statement referred to in paragraph 279(b); and* *(b) the witness explaining any of the content of an affidavit or statement that has been read into evidence.* *(2) With leave of the Court and the consent of all parties, all or part of an affidavit or statement referred to in paragraph 279(b) may be taken as read into evidence by the witness.*		From the UK Civil Procedure Rules: *Part 35.5 (1) Expert evidence is to be given in a written report unless the court directs otherwise* *(2) If a claim is on the small claims track or the fast track, the court will not direct an expert to attend a hearing unless it is necessary to do so in the interests of justice.* *Part 32.5 (2) Where a witness is called to give oral evidence under paragraph (1), his witness statement shall stand as his evidence in chief unless the court orders otherwise.* *(3) A witness giving oral evidence at trial may with the permission of the court –* *(a) amplify his witness statement; and* *(b) give evidence in relation to new matters which*	From the Federal Court Rules, Part 23: *(1) A report that complies with rule 23.02 will be admissible at trial as the evidence of the Court expert.* *(2) A party may apply to the Court for an order: (a) to cross-examine a Court expert before or at trial; and (b) if the cross-examination is to take place before trial — that the cross-examination take place before a Registrar or an examiner.* *Note Section 177 of the Evidence Act 1995 deals with the tender of an expert's report.*

4

VALUING CONTINGENCIES: PART SCIENCE, PART ART[1]

by Igor Heinzer, CFA[2]
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Overview

Valuing contingencies is a fundamental skill for providing decision advisory services to clients that involve financial analysis or valuation. Furthermore, with the advent of a fair value balance sheet, we are now seeing this type of skill set required for financial reporting as well.

The objectives of this paper are:

- To define contingencies, and identify the reasons for valuing them
- To discuss techniques and approaches that can be used to value contingencies
- One particular question to address is, how do you capture uncertainty in your valuations? This is an area that has been neglected in recent literature and presentations on this topic
- To acknowledge some of the softer skills used in valuing contingencies, such as how to frame analysis, and how to assess probabilities from subject matter experts
- To move onto some advanced topics that can further enhance your knowledge and skills

Motivation: we live in a contingent world

Madonna sang, as you may recall, that "we live in a material world". If she were a valuation appraiser, she probably would have said that we live in a *contingent* world. Contingency is everywhere; it drives our decisions, behaviour, and outcomes.

For example, before flying to Vancouver, the author checked the weather forecast and was told to expect sunny weather. He checked the forecast because he wanted to plan his trip to Vancouver: wanted to know what items to pack, what kind of clothing to bring, and what kind of activities to prepare for.

When the author arrived in Vancouver, it turned out that the sun was indeed shining, and he was able to spend time outdoors in Stanley Park.

This is a very simple example to show that just knowing the forecasted weather impacted the author's behaviour and the decisions he made; it also impacted the outcomes that he experienced.

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1 This paper is a modified transcript of a presentation originally delivered at the Canadian Institute of Valuators Annual Conference, 2012.

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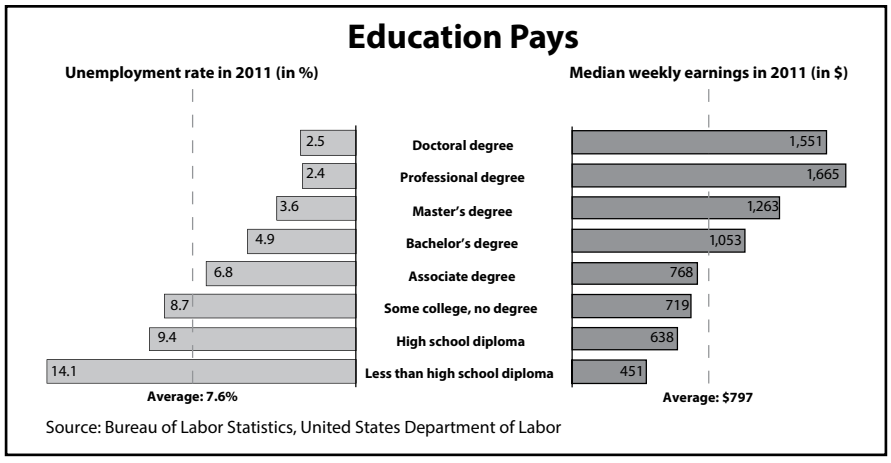
He also had a contingency plan: *if* it rained, he would do something indoors — visit an art gallery, perhaps.

This is a simplistic example, but it highlights that contingency, uncertainty and chance are everywhere. Here is how the forecast was displayed:

According to this forecast, there is a *chance* of rain, expressed as a probability. The weather forecaster can never be wrong, because it's indicated that there's only a *chance* of rain. This chance is calculated by using a type of *model*, a weather model to help create the forecast.

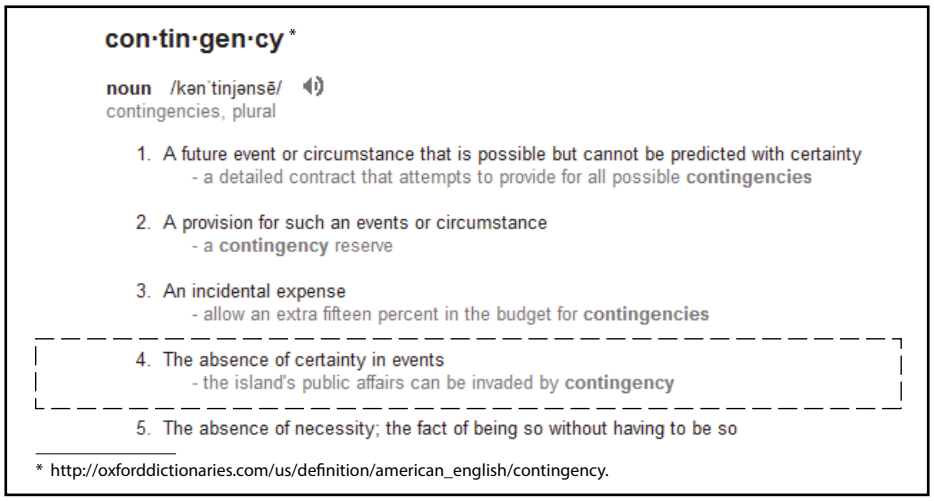
Using the example of education, we can again see how paying attention to probability informs our decisions. Parents encourage their children to get an education. This is assumed to be the surest way of becoming a self-sustaining adult. Indeed, the empirical data shows that the higher the level of education a person attains, the less likely they are to be unemployed, and the higher their earnings are likely to be.



The empirical data shows that a good education is likely to result in a well-paying job. The data cannot predict a person's future, but it does show the odds of success. In this case, empirical data is used to highlight what the future may hold.

Defining Contingency

There is a tendency to use the words *chance*, *uncertainty*, *risk,* and *contingency* interchangeably. It is worth taking a moment to define what we really mean by *contingency*. Below are some definitions:



con·tin·gen·cy *

noun /kənˈtinjənsē/
contingencies, plural

1. A future event or circumstance that is possible but cannot be predicted with certainty
   - a detailed contract that attempts to provide for all possible **contingencies**
2. A provision for such an events or circumstance
   - a **contingency** reserve
3. An incidental expense
   - allow an extra fifteen percent in the budget for **contingencies**
4. The absence of certainty in events
   - the island's public affairs can be invaded by **contingency**
5. The absence of necessity; the fact of being so without having to be so

* http://oxforddictionaries.com/us/definition/american_english/contingency.

The fourth definition — *the absence of certainty in events* — is particularly pertinent. There is almost always, in every aspect of life, some degree of uncertainty. People will claim that death and taxes are certain; however, *how much* will one be taxed? And *when* will death strike? These things are not certain.

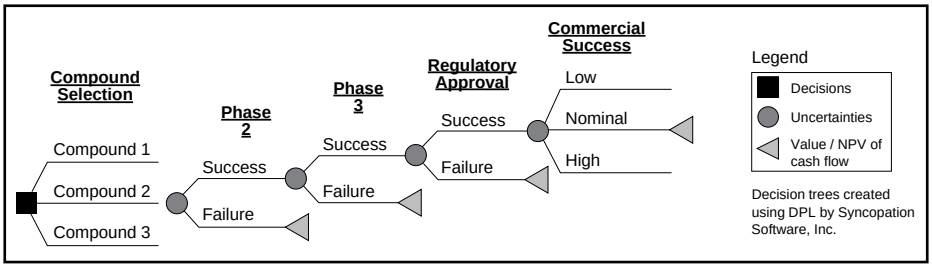
So, to be able to analyze and value contingencies, we must embrace the idea of modeling uncertainty and capturing uncertainty in our valuations.

Each and every company faces some degree of uncertainty. They may face it when making a capital allocation decision; they may face it when making an acquisition decision; they may face it when measuring their own performance against that of their competitors. Every industry has to deal with uncertainty. What is truly amazing is that we as a people are not paralyzed by that. The uncertain nature of business may actually be what motivates us.

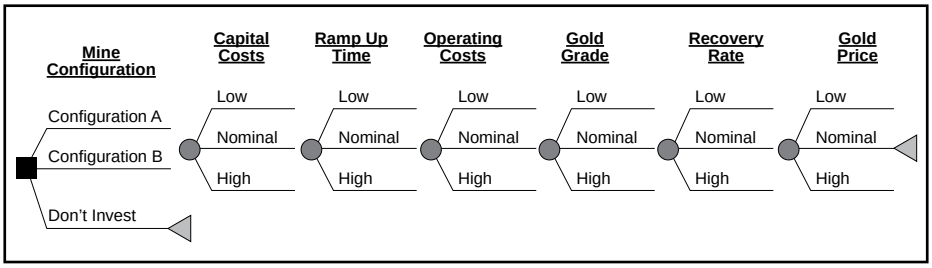
The Role of Uncertainty in Analysis and Decisions

In some industries, the ability to analyze risk or uncertainty is a core competency for the organization. Two areas for which this is especially true are the life sciences industry, and the natural extraction (mining, oil and gas) industries. The following diagram illustrates the technique of using decision trees or probability trees to plot the uncertainties that may impact value:

Life Science (pharma, biotech)*



Extraction (oil & gas, mining)*



* Inspired by the book "Surviving and Thriving in Uncertainty: Creating the Risk Intelligent Enterprise" by Frederick Funston and Stephen Wagner.

This diagram represents a methodology that is typically used in decision analyses. Most people would call the green circles "risk", but this tends to emphasize the potential downside; to see them as "uncertainties" allows for a potential upside.

The first example in the diagram represents a life science company that undertakes the following steps: the company develops a certain compound; subjects that compound to a clinical trial; sends the compound, if successful in its trial, to the Food and Drug Administration; and then makes the compound, if approved, commercially available, where it may or may not have success in the marketplace.

The second example supposes that an oil and gas or mining company is investing in a new mine. There are various stages of uncertainty: the amount of capital to be initially invested; the time taken to reach the ore; the cost of extracting the materials if they have been reached; the price of gold (supposing that this is a gold mine) and the eventual value of the materials in the marketplace.

These two examples show how companies may look at internal capital decisions when making investments.

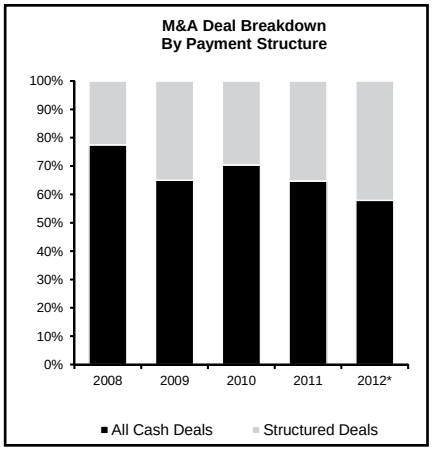
For the life science example, imagine that the process does not illustrate an internal decision, but an overall acquisition. The buyer will consider the resources of their own company, and the

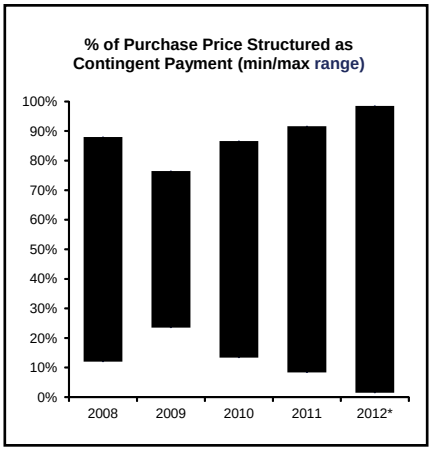
acquired company, and ask key questions: how are we likely to perform from a cost perspective, and how are we going to perform from a commercialization perspective? A very similar decision tree could illustrate these uncertainties.

According to statement 141R under U.S. Generally Accepted Accounting Principles, as well as IFRS 3, when assessing an acquisition, it is necessary to look at valuing contingent consideration as part of the purchase price policy. And so, for the general practitioner performing valuation analyses and purchase price allocations, it is now essential to value contingent consideration as part of your allocation.

Deal Structure Trends in Life Sciences

Regarding acquisitions in particular, especially in the life science area, the recent trend is towards more and more deals involving structured payouts — that is, deals involving an upfront payment, but also a contingent payment that makes up part of the purchase price. Focusing on those acquisitions that involve the structured payment, we see a very wide variant in how those payments are structured. For example, after the financial crisis, we see that the maximum and minimum percentage that is contingent in a transaction can vary dramatically. Most interestingly, if you follow the trend upwards, there have been some transactions in 2012 where almost 100% of the purchase price was contingent on some future event. This trend is the result of companies trying to share the risk in an acquisition.





Based on a set of Pharmaceutical and Biotech deals of at least $25M for listed and private companies from 2008 to 2012. Source: Deloitte Recap LLC; *as of 8/1/2012

Typical Deal Structures

In a contingent consideration setting, which is especially relevant for financial reporting, typical structuring mechanisms are an *earn-out*, which means that the buyer is required to pay the seller an additional amount if certain conditions are met, or a *claw-back* where the buyer will receive money back from the seller if certain conditions are not met.

Some deals are structured to acknowledge a payout event or condition. The event could be a milestone — for example, a technical milestone in life science. If approval is met, a payment will be made. The condition could be a financial one — if a certain level of EBITDA is reached over time,

for example, then a payment is made. Again, the condition could be some other type of market condition, such as an IRR hurdle or a total shareholder return hurdle.

Attention should be paid, also, to how the payout or the conditions are designed. The design could range from a simple, single payment, to a multi-period contingent event or payment, to a complex series of caps and floors on how much the buyer has to pay the seller if certain conditions are met. The payments made consist of a percentage of final revenue, cash, or equity, depending on how these terms are contractually defined.

Of these variables, the ones that need to be modeled in our analyses are the payout events or conditions. It is worth looking, also, at how the merger agreement or acquisition agreement legally defines these contingencies.

An Approach to Valuing Contingencies

There is a simple three-step approach to valuing contingencies:

1) *Frame the analysis*, so that the analysis is structured before opening Excel. For these sets of analysis, it is very useful to take a step back: structuring occurs *before* opening the model
2) *Develop and populate the model* with uncertainty data / probabilistic data
3) *Interpret and share the results*

This approach can be used either in helping a company pre-transaction (when planning the structure of the deal, and considering how to share risk) or post-transaction (when doing a purchase price allocation).

From a skill-set perspective, there are some core fundamental skills for valuing contingencies: knowing how to frame the analysis; doing valuation (primarily income approach); having some understanding of probability theory, and probability assessments; and ideally having some grasp of stochastic modeling skills, using simulation and probability trees. Some slightly more advanced skills may also be useful: stochastic modeling (using option-pricing models to help do these analyses); an understanding of statistics; and lastly, an understanding of behavioral economics — because, when obtaining information from individuals, cognitive or emotional biases tend to come into play, so it is essential to be aware of these, especially when assessing probabilities.

Valuing Contingencies Part 1: Framing the Analysis

As mentioned above, framing the analysis before opening Excel is highly recommended. Framing analysis is something that we all do, with varying degrees of robustness. The type of framing described here is particularly relevant for pre-transaction analyses, where the valuator advises the client on the *risk profile* or *uncertainty profile* of an investment. It can also be adapted to suit a post-transaction analysis, for example in a purchase-price allocation situation.

There are some fundamental principles of framing analysis:

1) *Stakeholders*: It is useful to have a broad stakeholder group involved in the framing process. Taking the mining case discussed above, for example: to assess the risks involved in that investment, you would need to invite the technical people, the financial people, the engineers, and someone with a view of the current marketplace. You would bring these different experts from the company, who often are not already in conversation, and conduct a facilitated session dedicated to looking at the risks and opportunities of the proposed

investments. From these conversations you can create a blueprint for how the financial analysis should be modeled.

2) *Environment*: It is advisable to create an environment in which people are willing to share the risks. This can be very challenging, especially if dominant, bullish personalities are involved in the discussions. The typically optimistic demeanor of investors can make it tricky to hold conversations about what *could* go wrong in a deal.

3) *Questions*: Be prepared to ask some tough questions during the framing session.

There are likewise a series of framing steps that can be followed:

1) *Pre-work*: It is useful to learn a lot about the business, and specifically about the proposed investment. For example, they may have a feasibility plan connected to that investment. Know the specific industry, know the target, know the buyer.

2) *Workshop*: Facilitate a creative brainstorming session. One helpful technique is to do a SWOT analysis: what are the *strengths*, *weaknesses*, *opportunities* and *threats* in this investment? Another technique is a headlining/backcasting exercise, an example of which is provided in the case study below.

3) *Factor map*: Create a diagram of important drivers of uncertainty, then validate the diagram, choose a modeling approach and identify sources for uncertainty assumptions.

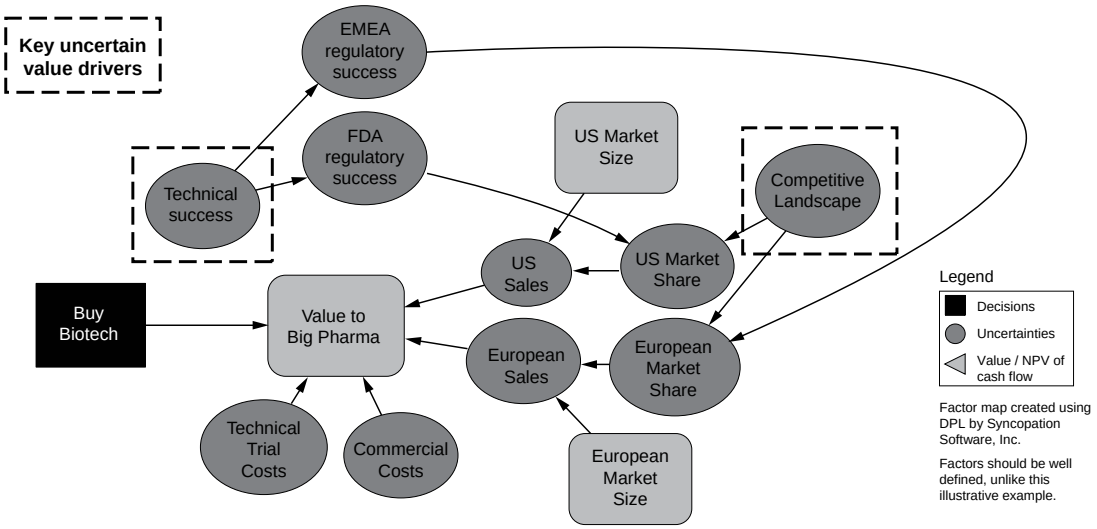
Framing Analysis: A Case Study

In this case study, a hypothetical business, Big Pharma, is in the life science industry (when doing purchase price allocations, it is commonplace to see contingent consideration in the life science industry). Suppose that you represent the large pharmaceutical company that is targeting a smaller company, Biotech. This target develops, or is looking to develop, a therapy for a rare disease for which there are currently very few effective therapies. As the leader of the Big Pharma transaction team, let's suppose, you are in charge of evaluating this opportunity, and of structuring the bid that is being submitted to the target. You are required to frame this analysis. One way of doing this is to gather key members of your own science, finance and sales teams and conduct a headlining/backcasting exercise, which could be called a *pre-mortem analysis* of the investment.

Now, imagine ahead to 2017. In this near-future you open a newspaper and read the following headline: "BIG PHARMA WINS BIG, THE WORLD FLOCKS TO OUR LATEST DRUG." This is obviously a positive headline. What does it mean for Big Pharma to reach that future outcome in the space of five years? What are all the things that have to go right, to achieve this outcome? These exercises in thought, simple as they are, can really open people up: we were able to leverage our sales force in Europe; we were able to leverage our sales force in the U.S.; we performed well during the clinical trials; we were able to sell *x*-thousand drugs during the first year; we were able ramp up very quickly. The assembled team are contributing visions of what they think will go right.

Now, a reverse version of the exercise can be performed. Again, it is 2017. The newspaper headline reports a gloomy outcome: "BIG PHARMA FAILS AGAIN WITH LATEST BIOTECH INVESTMENT." So now you will ask, what are all the things that would go wrong, to result in this outcome? In general, there is a reverse side to all the above-mentioned things that could go right, but you may also highlight some additional risks.

The result of these exercises is a list of all the things that could go right, and all the things that could go wrong — we call these *factors* or *value drivers*, and these can be structured. Below is a factor map that structures all of the ideas that came out of that framing session; in valuation terms, this is known as an *influence diagram*. Simply put, it is a factor map capturing value drivers:



Bid strategy: share risks using an earn-out for technical success and sales; communicate to target the advantage of having established sales tean in US and Europe (synergies built-in to pricing). Result: $400m upfront + $300 technical milestone earn=out + 10% of revenue through 2017, $300m cap.

This map begins with a decision: Big Pharma could buy or not buy the small company. There are several uncertainties. The company is hopeful of achieving technical and regulatory success, both in the U.S. and Europe; depending on how those trials pan out, the company will be left with some share of the U.S. and European markets, but the exact percentage is unknown — we cannot predict the performance of competitors that will ultimately have an impact on U.S. and European sales, and so on.

The diagram is simplified for the purpose of the case study. It captures the key drivers of value. If performing a basic valuation analysis, you will perhaps ask management for a forecast. In this case, however, you are not asking for a forecast; you are asking for the fundamentals that drive that forecast. We are able to capture risk, not only in the forecast, and not only in the discount rate: but we are able to capture risk by delving into the different value drivers.

In talking to the team, as the diagram shows, you decide that the two biggest risks — those likely to drive value the most — are technical success (whether or not the drug meets the clinical endpoint) and the performance of key competitors. Taking these risks into consideration, you wonder why the buyer, Big Pharma, should take on *all* the risk. Can you share that risk with the seller?

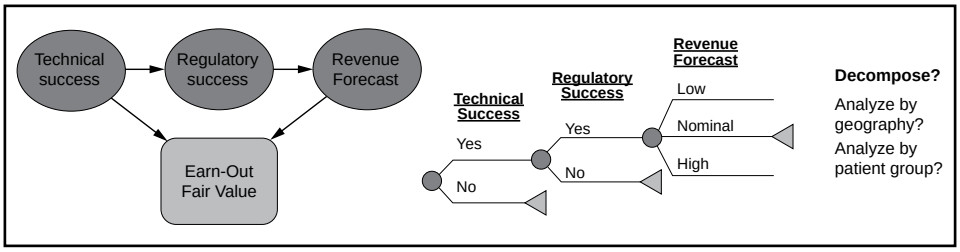
The way to share that risk is to create a contingent payout. In this case you decide on the following strategy: you will pay $400 million upfront to the seller, then create a technical milestone that, if met, will precipitate an additional $300 million payment. Then, addressing the competitive risk, you may build in one more contingency: for example, you will pay 10% of revenue through 2017, with a cap of $300 million.

The seller, who is evaluating this offer against other offers, will feel happy that they are getting some money upfront. If they are confident in their drug, the fact that monies are tied to success

is not a problem. (The buyer's sales force in the U.S. and Europe may be another benefit to the seller). This analysis, then, takes that synergy into consideration. If all goes well, the seller stands to make $400 million + $300 million + $300 million through the acquisition. If things fall apart, the seller will still make the $400 million upfront payment, but the buyer is not left fully at risk.

The scenario outlined above describes a *pre-transaction* valuation. Suppose now that you are performing a *post-transaction* valuation. The acquisition has already taken place, you have seen the milestone payment and the earn-out on the revenue, and you want to be able to structure these in a contingent consideration evaluation, as part of IFR3 or 141R. In this case, there are some simple steps that a valuator should go through:

- Research the target, the acquirer and the industrial landscape
- Review the merger agreement or transaction agreement in detail. Note the specific understanding of the contingency consideration
- Review the deal model. This can vary drastically from one company to another. Some companies will have a very detailed deal model, but most companies will not — in these cases you will likely see a forecast with a very high discount rate
- You may not get a lot of insight from looking at this type of deal model
- Finally, structure the analysis, in a manner similar to the example below:



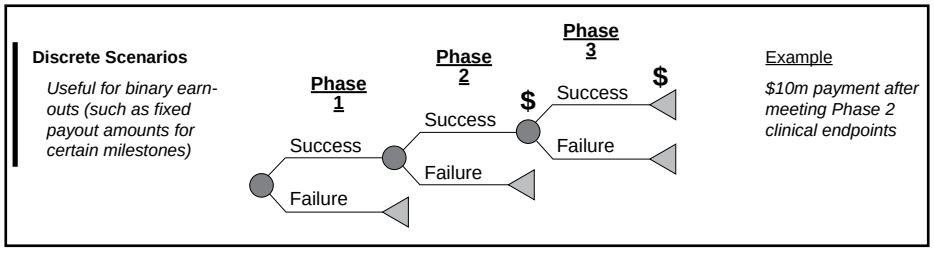
In the case of the post-transaction valuation, the diagram is relatively simpler. We need not address all the variables, as before, but we can focus on the ones that have been proven to drive the contingent consideration — in this case, technical success, regulatory success, and the revenue forecast. It may be useful to create a probability tree to perform the probability assessment, as we will see below.

One additional concept to note here is the idea of decomposition. As a valuator, you could ask the client *directly* to tell you about their forecast, overall. However, you could also *decompose* and talk first about the trends and competitors and likely market share in the European market, then ask the same questions about the U.S. market, eventually aggregating the two sets of information. Decomposition can help to break the problem down into something that submits more easily to comprehension and analysis.

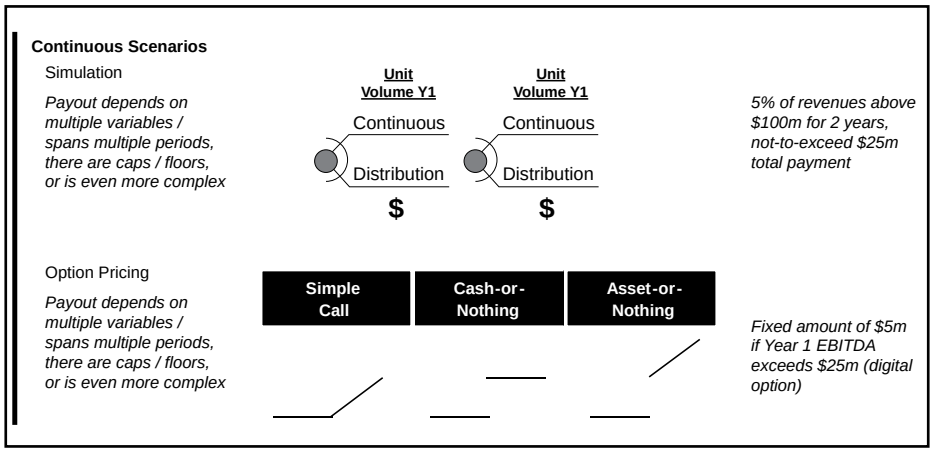
Valuing Contingencies Part Two: Develop and Populate the Model

After going through the framing process, it is necessary to develop and populate the model, by actually valuing the contingencies. This is where we have to consider how to *capture uncertainty* in our analyses. Valuation models are typically built for contingencies using the income approach. If you have experience of early stage valuations, and have valued complex capital structures that have common stock and preferred stock, you may be familiar with the concept of doing a PWERM (*probability weighted expected return method*). That approach is, in its way, a simple probability tree, which proves useful in valuing contingencies. What really differentiates what kind of tree you build, and what kind of analysis you perform, is whether or not the underlying metric is *discrete*, or if it is *continuous*.

The technical milestones discussed above lend themselves to clear yes/no answers (do you need it, or do you not?); these are discrete events. One way to capture this is in a tree, with a branch that says the milestone is needed, and a branch that says it is not.



You may also see events or conditions that are continuous in nature, such as EBITDA targets or revenue targets. These could give a broad range of results or outcomes over time. One way of capturing these results is with a continuous distribution around the variable. Alternatively, as we will see, there are techniques for taking that continuous set of distributions or outcomes, and converting them into very discrete results (*discretizing* them).



Finally, a more advanced topic: the idea of using closed-form solutions, such as option models to value contingencies. Options have payouts. The first case in the diagram above shows a simple call option, where you may exercise above a certain strike price, and make some return; you could also include a cash-or-nothing option, or an asset-or-nothing option. These types of payouts are connected to contingent payouts; there has been much recent discussion about using option models to value contingencies.

Quantifying Uncertainty

Where does the data come from to populate the stochastic value drivers? There are arguably three different data sources:

- *Market data*: When risks are priced in the capital markets, price (historical and futures) and volatility data tell us how the market quantifies uncertainty By looking at options that are being traded in the market, and by looking at their price we can derive the implied volatility of that stock. Unfortunately, there are likely to be few risks that are priced in the market, forward-looking. Market data can keep you informed on variables such as stock prices, commodity prices, foreign exchange and interest rates.
- *Empirical data*: There is a good deal of empirical data available. Comparable historical data can be analyzed to inform uncertainty assumptions. With the advent of big data analytics, companies are increasingly looking at how they can mine the information that they have collected, to help inform future decisions. The risk when using empirical data, however, is bringing together data that is not truly comparable or relevant. Empirical data will provide guidance (depending on the nature of the company being assessed) on variables such as drug development success rates, life spans and accident rates, and geological uncertainties.
- *Subject matter specialists*: Knowledgeable parties can be interviewed to provide uncertainty assessments. These sessions should be facilitated; providing opinions is not always a strictly intuitive skill. The opinions of subject matter specialists can be sought on any number of variables, from EBITDA, to market success, to competitive response.

These data sources are not mutually exclusive. When we approach an analysis, we typically try to look at what empirical data is available, consider how that can be used in a subject matter expert interview, and then have the empirical data corroborated or adjusted based on what the experts think is going to happen.

Soliciting Opinions from Subject Matter Specialists: A Softer Skill

Obtaining and interpreting opinions from subject matter experts, particularly regarding uncertainty, is a softer skill, and one that is less discussed in business valuation literature.

To capture uncertainty, we need to talk in terms of probabilities; this way of talking does not always come naturally. To take a simple example: someone asks me if I think Brazil will win the World Cup in 2014. I say I am “pretty confident” that this will happen. How should that response be quantified? Do I mean to say that there is a 50% chance, a 60% or 80% chance that Brazil will win?

When doing a business assessment and soliciting opinions on uncertainty, experts may well respond using this type of “soft” answer: “it’s unlikely”, “I doubt it” and so on. You will have to make a decision that is on some level rather subjective, as to whether these responses signify 20%, 50% chances, and so on. These subjective responses are difficult to use in valuation data.

It is necessary, then, to move away from these types of responses, which most people are used to giving, and to ask for opinions expressed in terms of probabilities, which in itself presents a new challenge: the potential variance in results is extraordinary.

Some events or processes are well understood in terms of probabilities. For example, if I am to roll two six-sided dice, I can precisely map out the probabilities, as shown below:

Die 2 \ Die 1	1	2	3	4	5	6
1	2.78%	2.78%	2.78%	2.78%	2.78%	2.78%
2	2.78%	2.78%	2.78%	2.78%	2.78%	2.78%
3	2.78%	2.78%	2.78%	2.78%	2.78%	2.78%
4	2.78%	2.78%	2.78%	2.78%	2.78%	2.78%
5	2.78%	2.78%	2.78%	2.78%	2.78%	2.78%
6	2.78%	2.78%	2.78%	2.78%	2.78%	2.78%

The important thing about using these types of probabilities in analyses is that, as in the example above, the outcomes are *mutually exclusive* and *collectively exhaustive*. The probabilities must add up to 100%, and it is important to capture the full range of possible outcomes. Of course, that can be very hard to do when assessing a continuous variable such as revenue: there are an infinite number of possible results.

Another thought experiment can help us to see that uncertainty is not just about forecasting the future; uncertainty is a state of knowledge. Rather than forecasting what will happen *if* I roll the two dice, in this case let's suppose that *I have rolled* the dice. I have the results in my hand. I ask you what the outcomes are. At this stage you don't know anything that you knew when forecasting the outcomes, as before, so you would give exactly the same response, as if you were predicting the future. This is a subtle point to illustrate that uncertainty is not only about the future; it is about what you *currently* know and do not know.

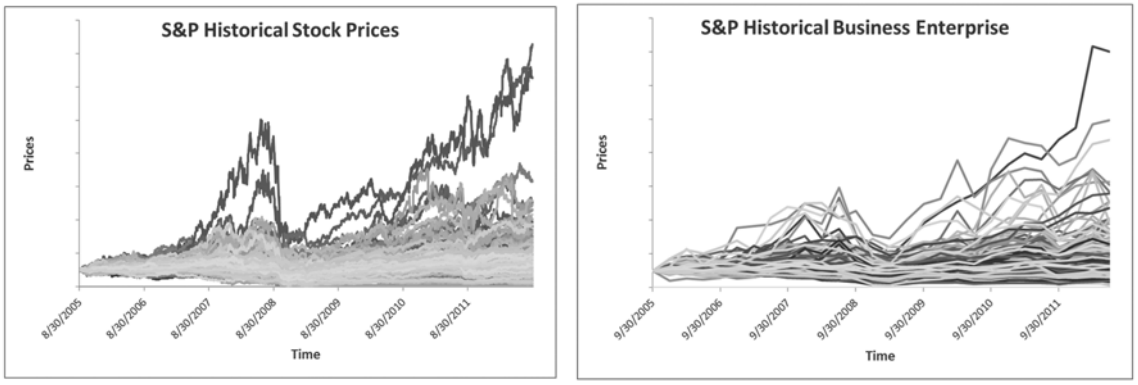
Now, to revisit the mining example discussed earlier: the geology of the earth is defined. This is not a future event. The mining company, however, will not fully know about the geology of the earth until they commence digging. The uncertainty in this case is a stage of knowledge. Companies can do pilot tests, and start drilling, to learn more about what is currently below the ground, so they are not blindly predicting the future. And the same can be said of market competitors. Your competitors know what they are going to do, but you do not. So again, the uncertainty is a state of knowledge.

It is useful to model discrete events in the manner described above; it is harder to do so for continuous events. However, one familiar example dealing with a continuous event is a weather forecast showing the projected path of a tornado.

Source: The Weather Channel

What is this forecast really saying? It shows that the forecaster didn't want to draw a single line indicating precisely where the tornado was going to go. Instead, the forecaster gives a *confidence interval* that is presumably above 80%, meaning that the model is predicting an above 80% chance that the tornado will travel somewhere within that *cone of uncertainty*.

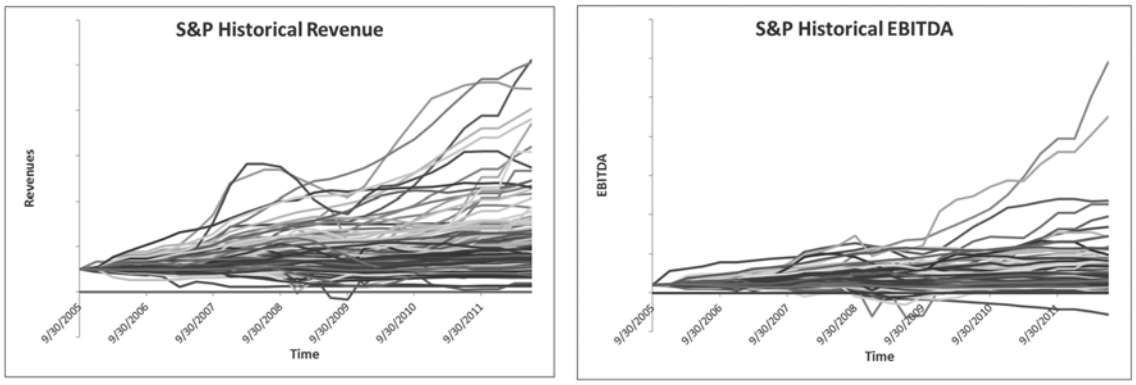
This concept of the certainty interval equally applies to valuation exercises. We try to capture that risk in a discount rate, and to unpack that risk into specific value drivers. This *cone of uncertainty* idea is very helpful, in that it causes us to think about ranges instead of point estimates, as shown by the following diagram, drawn from data from the marketplace. Stock prices are represented in the left-hand diagram, business enterprise values on the right:



Source: CapIQ; values are normalized based on starting date values

We looked at a subset of companies in the S&P* 500 over the last five years, and we normalized the data: as the left-hand diagram shows, the cone of uncertainty becomes greater over time, and that's how we would create an option valuation, in a Black-Scholes type of model. The Business Enterprise Value data on the right shows a similar trend.

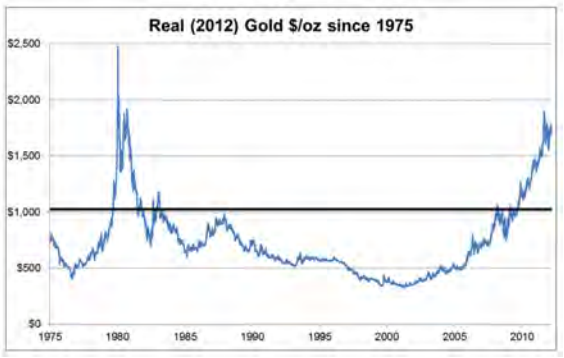
The following diagram shows similar information, relating to revenues and EBITDA:

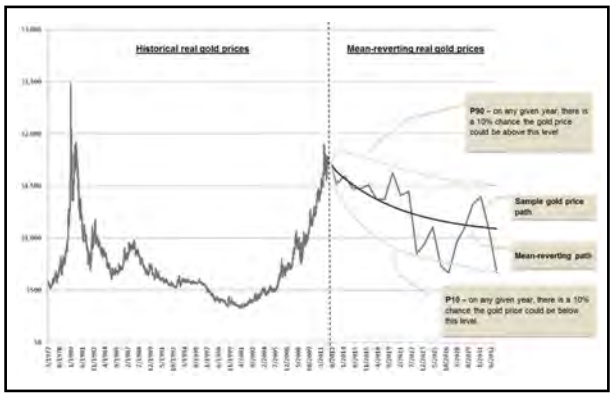


Source: CapIQ; values are normalized based on starting date values

These charts display quarterly data. Again, in each case the cone of uncertainty increases over time.

However, not all variables can be modeled according to the notion that over time the range will keep growing and growing. A perfect example of this is commodity prices. The chart below illustrates one commodity, or asset class: gold prices. Gold prices, going back to 1975, are shown in nominal terms and in real terms:



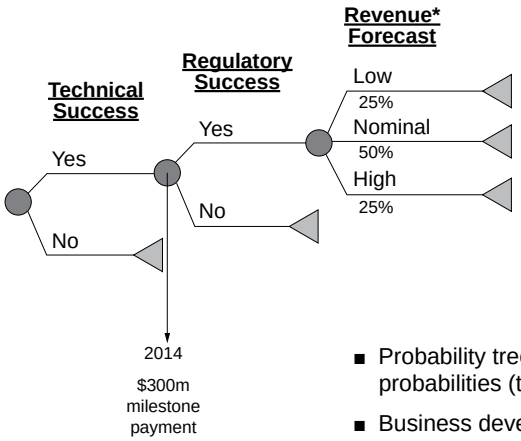


Future price path developed using an Ornstein-Uhlenbeck (mean-reverting) model

The graph showing gold prices in *real* terms puts things into a slightly different perspective. It could be argued that what is happening here is a reversion towards an average: the price started very low back in the 1970s, rapidly shot up, quickly dropped back down, dipped below the historical average for many years, and has now rapidly increased again. Commodities tend to be by nature mean-reverting, because of the supply-demand dynamics of the industry. Business cycles, over time, drive mean-reverting processes. If that type of behaviour is apparent, the cone of uncertainty doesn't necessarily apply. So to project this data, you could use a mean-reverting model (typically called an Ornstein-Uhlenbeck model). In this mean-reverting model (shown above) we projected the future price of gold and, as you can see, it simply starts coming back down towards the historical mean, in real terms. This range is called a P10-P90 (P10 meaning that on any given year, there is a 10% chance the gold price could be below this level; P90 meaning that on any given year, there is a 10% chance the gold price could be above this level).

Case Study, Continued: Building and Populating the Model

To continue the case study outlined above, the valuation model has been plotted, and now it must be built and populated. A probability tree, as shown below, can support the discussion and assessment of probabilities.



Conditional revenue projections assuming technical and regulatory success

2015	2016	2017
$50m	$75m	$100m
$250m	$450m	$600m
$750m	$1b	$1.5b

10% of revenues through 2017, $300m cap

- Probability tree supports discussion and assessment of probabilities (typically *conditional* assessments)
- Business development team coordinated with science and sales teams to provide inputs (used p10, p50, p90 questions for revenue forecast, given tech. and reg. success)
- Compared historic probability data to corroborate uncertainty assumptions

The first uncertainty to be assessed, through conversations between the business development team and science and sales teams, is the likelihood of initial technical success (the deal is structured, remember, to ensure a $300 million milestone payment if technical success is attained). The probability of success needs to be expressed as a percentage here, and again for the next uncertainties (regulatory success and the eventual revenue forecast if the drug is put on the market). In the illustration above, U.S. and European processes are bundled together for simplicity's sake; however, in handling this type of valuation you may also consider decomposition. Perhaps the teams would prefer to separate the probabilities for the U.S. and European markets, rather then take them in aggregate.

Now, based on these projected probabilities, what discount rate should be used? This topic is causing much discussion at the moment. There are tools and techniques available that perform all the necessary probabilistic modeling. However, the subject is a controversial one. Most would agree that the lowest discount rate that you would apply is a cost of borrowing for the buyer. This is because, post-transaction, the buyer will pay the seller an amount. If it is 100% likely that you will pay that amount, then you are simply holding an unsecured liability from that buyer — so you could assess their borrowing costs and credit-worthiness. You may discount that milestone payment if it is really unlikely to occur, by their cost of borrowing; this would be a type of floor.

But generally we do not see that type of scenario playing out. We see that the outcome is risky, and that it is already tied to a probability, but it is not possible to capture all the risk in that probability. The probability tree is capturing either some project-specific risk, or company-specific risk; it is not capturing *all* the possible risk factors.

A typical starting point in calculating a discount rate, then, is an industry *weighted average cost of capital* (WACC), and that WACC can be adjusted up or down depending on the facts and circumstances. The discounting process will ultimately depend on the specific circumstances: if there is a general market risk associated with revenues and EBITDA, then the discount should probably be

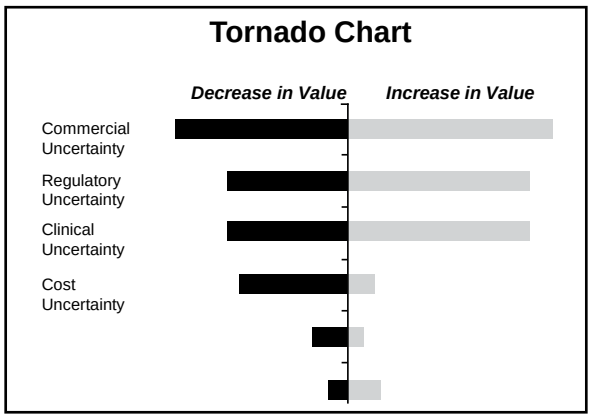
close to the WACC, in the cost of equity. If there are a lot of internal risks connected to technical milestones, it may make sense to recommend a discount rate a little lower than the WACC, but usually not lower than a borrowing cost, and certainly not the risk-free rate. Some people are currently advocating the use of the risk-free rate, but we rarely see this used in practice.

When we perform analyses for capital allocation and pre-transaction analyses, companies simply ask us to input their cost of capital. This is how they evaluate whether or not they are going to break even with the investment.

Due to the current variability in the marketplace, The Appraisal Foundation in the U.S. is putting together a working group to provide guidance on this discount rate question.

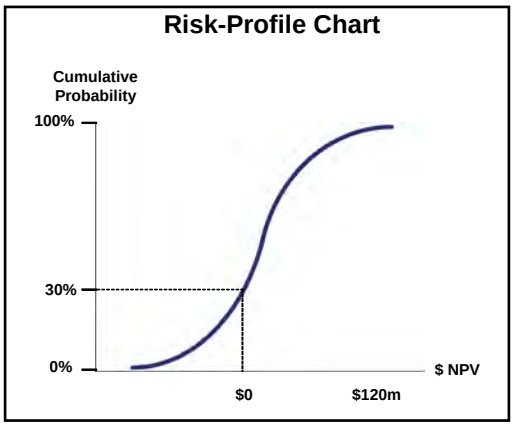
Valuing Contingencies Part 3: Interpret and Share the Results

The final step, having built the model and inputted the probabilities, is interpreting the results. One common output of these analyses is the tornado chart shown below.



The tornado diagram rank-orders the uncertainty factors from the greatest to lowest value impact. The end-points typically reflect P10 / P90 states of the world for each uncertainty factor. These results are arrived at by taking the various value drivers one at a time and keeping all others at their "base" case (deterministic tornado), or by varying uncertainties one at a time and then running the model stochastically for all other variables (stochastic tornado).

To assess a probabilistic value profile, a risk-profile chart similar to the one below can be used:

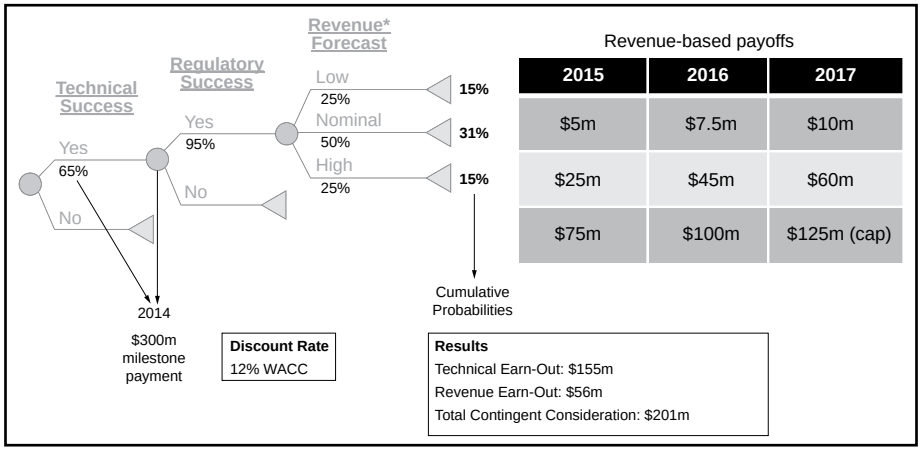


The risk-profile chart depicts the cumulative likelihood (y-axis) of achieving a certain value or less (x-axis). For example, in the chart above, there is a 30% probability of achieving a $0 NPV or less. The smoothness of the risk-profile will depend on the number of uncertainties and whether they are modeled using discrete scenarios or continuous distributions.

It is useful to express risk in this manner (in the chart above, there is a 30% chance of not breaking even as a result of the deal) because here hidden risks are accounted for.

Case Study: Finalized

To estimate the value of the contingent consideration, we need to discount the probability-weighted payoffs. In our case study, we supposed an initial $300 million milestone payment, made in 2014.



If we multiply the probability, and we have therefore the probability-adjusted milestone payment in 2014, we then need to discount that back to the present. We then compute the cumulative of the three revenue scenarios, multiplying the probabilities: 65% multiplied by 95% multiplied by 25% gives us 15%, for example, so 15% is the ultimate probability that we reach that particular revenue stream. We then apply the 12% discount rate (though some people would argue that we could use something lower for the first milestone items, or use something higher for the market based outcomes; for simplicity, we are using 12% throughout this example). The results are shown in the diagram above: in total, the contingent consideration is worth $201million.

Other Types of Contingencies

- *Options / Warrants / Convertible Preferred Stock and Debt*: these are instruments where option-pricing theory can be used to quantify the value of the contingent up-side. It is common to use models such as Black-Scholes, although probability-weighted return methodology (PWERM) may also be used.
- *Guarantees*: if assessing a company that guarantees, for example, the debt of another company, income approach is now typically used. You can assess what credit enhancement means from a rate of borrowing perspective, and then apply the income approach with a different rate of borrowing, in order to value the guarantee.
- *Claims or lawsuits*: the expected payout (and other indirect impacts) of a claim or lawsuit could be explored with probability trees. These are likely to have an increasing impact on value.

- *Environmental liabilities*: again, the decision-tree approach probability models can be very useful for assessing value of these contingencies.

Additional Resources

Valuation and accounting considerations for financial reporting

- ***Accounting guidance*** – IFRS 3, FASB ASC 805, VRG Issue No 2010-05
- ***Valuation of Contingent Consideration – a "How To" Guide*** by Amanda Miller and Travis Chamberlain presented at the ASA Advanced Business Valuation Conference
- ***Valuation of Contingent Consideration*** by Jeremy L. Krasner, Stout Sirius Ross
- ***Contingent Consideration: Valuing Earnouts*** by Dan Peckham and Brent E. Sloan presented at the BVR's 3rd Annual Summit on Fair Value for Financial Reporting

Decision analysis concepts and techniques

- ***Making Hard Decisions: An Introduction to Decision Analysis*** (Business Statistics) by Robert T. Clemen
- Society of Decision Professionals at www.decisionprofessionals.com
- Publications by Ron Howard (Stanford University), James Smith (Duke University), Ralph Keeney (Duke University), Howard Raiffa (Harvard University)
- Institute for Operations Research and the Management Sciences at www.informs.org
- Topics to explore: real options, Bayesian updating, learning models

Useful software tools for valuing contingencies (not a comprehensive list)

- Cash flow modeling, probability trees with few branches, lattices, and close-form option models: Microsoft Excel
- Decision trees and simulation:
  - Decision Programming Language (DPL) by *Syncopation Software Inc.*
  - @Risk (simulation) and The Decision Tools Suite by *Palisade Corporation*
  - RiskSolver by *Frontline Systems Inc*.

5

THE IMPORTANCE OF LICENSE AGREEMENTS AND ROYALTY RATES IN IP VALUATIONS

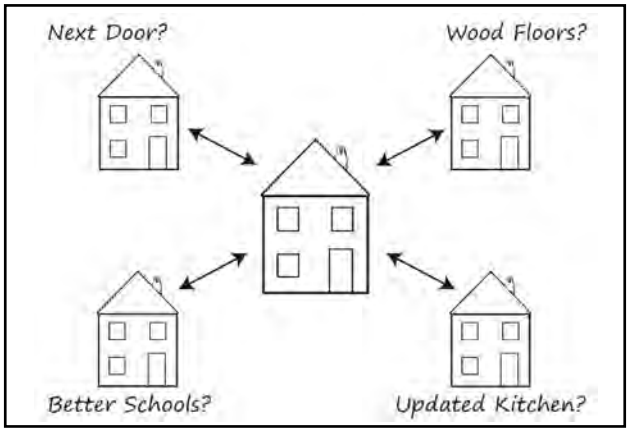
by David R. Jarczyk
President & CEO ktMINE

Introduction

This paper seeks to introduce a very important set of information and data, namely IP license agreements and royalty rates, in order to ensure their proper use in IP valuation cases. License agreements are legal documents that present the mutual agreement of the terms, structure, and consideration for the license of IP from one party to another. In other words, license agreements provide a disclosure of the terms surrounding an IP deal. These agreements contain royalty rates, or the payment for the use of IP. Royalty rates are one important input in IP valuation models, specifically when using the Relief-From-Royalty Method. The use of license agreements and royalty rates as comparables aids in the valuation of IP.

The exercise of using license agreements and royalty rates as comparables to value IP is not unlike using comparables when purchasing/valuing a house (see Exhibit 1). The house next door is similar, but it has a better kitchen. The house down the block is very similar, but it has updated floors. The house in the next neighborhood is spot on, but it is in the wrong neighborhood. While not perfect comparables, all of these serve as benchmarks for the price of the house.

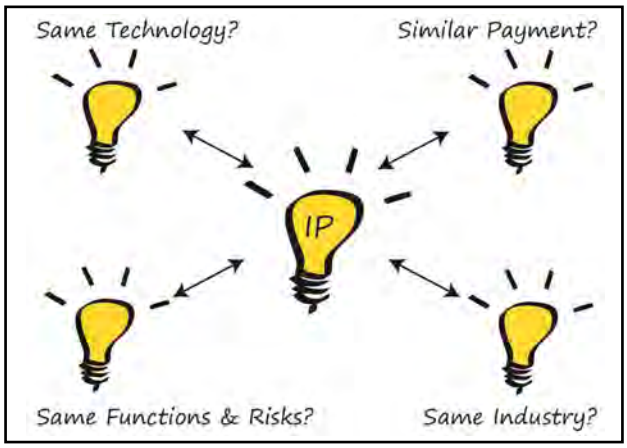
Exhibit 1: Use of Comparables When Valuing a House



Similar to this analogy, the use of comparables for IP valuation provides much needed transparency to independent-party deal structures, the functions performed, the risks assumed, and the payments made (see Exhibit 2). In fact, the practical application of this method generally provides

more-than-sufficient benchmarks to act as one part of a prudent valuation exercise involving intangibles. While these benchmarks may not be perfectly comparable, they do offer guidance and provide experts with real-life negotiated data points for consideration.

Exhibit 2: Use of Comparables When Valuing IP



The paper is divided into three parts. Part 1 introduces license agreements as a source of IP valuation intelligence. This information can sometimes be difficult to find, organize and analyze. Part 2 focuses on the royalty rates contained within license agreements and provides a method for selecting comparable royalty rates for IP valuation calculations. The royalty rate used in a valuation can have a significant impact on the value conclusion and therefore proper care must be taken to select an appropriate royalty rate. Part 3 presents market evidence from certain industries to highlight how different license deal structures and royalty rates can be, even at a high level. By reviewing this information and seeing the vast difference in structures and terms, valuation experts can see the importance of reviewing license agreements and properly selecting royalty rates for IP valuations.

In an environment flush with advances in technology, IP represents an increasing proportion of total corporate value. The preferred method to value IP is the income approach.[1] As such, valuation experts know royalty rates are a critical, sensitive input to the income approach — a 1% change in the royalty rate input could translate into millions of dollars in total valuation.

Until recently, common practice and legal precedent had established the 25% rule of thumb (the “25 Percent Rule”) as an acceptable approach to approximate reasonable royalty rates that licensees would be willing to pay to licensors, based on profit. On January 4, 2011, the United States Court of Appeals for the Federal Circuit changed that practice when it deemed the 25 Percent Rule inadmissible during the *Uniloc USA v. Microsoft* patent infringement case (the “Uniloc Ruling”). The results of this ruling have gradually spread across the world, including the knowledge base of valuation experts in Canada.

In the Uniloc Ruling, the Court pronounced the 25 Percent Rule a fundamentally flawed tool for determining a baseline royalty rate, thus concluding that evidence supported by the 25 Percent Rule was inadmissible in the case because it does not tie a reasonable royalty base with the factual profile of the case at issue. The Uniloc Ruling set a new precedent that more stringent analysis and documentation is required to develop a position that can withstand this new level of scrutiny.

1 Cite LESI IP Valuation Committee Survey.

The use of fact-based evidence, namely comparable license agreements, is more important than ever. To use this evidence, one must understand license agreements and their structure. Then, one must understand the critical factors impacting the selection of royalty rates.

PART 1: ANATOMY OF A LICENSE AGREEMENT

Introduction

License agreements are legal documents that present a mutual agreement between two or more parties involved in granting certain IP rights from the owner of said IP rights ("licensor") to the exploiter of said IP rights ("licensee"). License agreements can be complicated legal agreements and may vary in organization or structure. There is no simple, efficient way to identify them or navigate through them. License agreements vary in size, structure, and intricacy, yet most license documents will contain these key licensing terms:

- **Agreement parties** (licensor, licensee);
- **Relevant dates** (effective date, duration of agreement);
- **Description of intangibles being licensed** (including associated products with which they are related and industries in which they are used);
- **Legal consideration** (royalty rates, lump sums, milestone payments, etc.); and
- **Coverage** (territory and exclusivity).

The challenge is that there is no one standard for where these elements fall within an agreement or how these sections are labeled. In fact, when more than 80,000 intangibles license agreements were analyzed by ktMINE, it was rare to find two that were nearly identical in construct. While no clear construction pattern emerged among the thousands of analyzed agreements, the most common flow tended to be some variation of:

1. **Introduction** — agreement parties, locations of parties, specific company names and effective date;
2. **Recitals** — containing background information regarding what the parties are trying to accomplish, whether there are any previous agreements between the parties or affecting the current agreement, industry particulars and what type of intangibles are being licensed;
3. **Definitions** — context behind specific terminology in agreement;
4. **License or Grant(s) of Right** — detailing what is being licensed, and how/when/where it can be used;
5. **Payments** — royalty rates and other types of consideration;
6. **Legal Terms** — defining on-going activities such as how royalty payments will be audited;
7. **Intellectual Property** — IP ownership protocols such as maintenance and enforcement;
8. **Confidentiality** — explaining what can and cannot be disclosed and to/by whom;
9. **Term/Duration** — length of agreement and any termination rights/procedures;
10. **Warranties** — declaring lawful ability of each party to enter into the agreement;
11. **Indemnification** — liability limitations and dispute resolution protocol;
12. **Miscellaneous** — containing terms and information such as governing law, how modifications can be made, and the relationship of the parties;
13. **Signature** — noting the authorized officer for each party and date signed; and
14. **Exhibits and Attachments** — additional information previously referenced in an agreement.

Expediting the Review of License Agreements

With over 14 sections of terms and general contract language to communicate, it is not uncommon for agreements to exceed 100 pages. As a result, many analysts streamline their research by pairing license agreement executive summaries (offered by data providers) with full license agreements in their review process.[2] Agreement summaries distill important details that empower an analyst to quickly reject the transaction based on some non-comparable factor relative to the transaction under study. When the potential pool of comparables is narrowed to align with the functional and risk profile of the tested transaction, analysts can conduct the necessary due diligence by reviewing the full license agreement text.

The full license agreement text contains the entire context of terms and factors that may affect comparability to the subject transaction, and also provides vital evidence in litigation matters. Using a process to review both agreement summaries and full text documents can significantly streamline a search process while ensuring appropriate due diligence has been performed.

Full Text Analysis of License Agreements

While intangibles license agreement summaries can significantly streamline the analysis of potential comparables, it is imperative to read the full text for additional terms or details that can impact results.

Validation of Intangibles

The full text of a license agreement can provide additional details justifying, or negating, the comparability of particular intangibles. If negating, this detail can be used to either make adjustments to an analysis or to document the reason why a comparable was rejected. Within the actual agreement, this information would typically be found across several different sections including the Recitals, Definitions, Grants of Right, and Exhibits and Attachments.

Detecting Related Parties within an Agreement

Licensing Party information is most often located in an agreement's Introduction, with the exception of the filing company, which would be part of the filing details. Within the agreement, it is prudent to also review the Miscellaneous section, if there is one, to be aware of any additional information that is being disclosed regarding the relationship of the agreement parties. Additional external research into party relationships is often required to complete due diligence.

Validating Relevant Dates

Effective Date details tend to be in an agreement's Introduction, but may also reside in the Definitions, Signatures or Term section. The Term details will generally be documented in the agreement's Term or Definitions section, but will often appear in the Grants of Right(s) if perpetual in duration.

Validating Market

The industry or industries related to an agreement can typically be deciphered from context provided in the Recitals or Definitions section, or from the Exhibits and Attachments. This is one of the most critical comparability factors and often one of the most time-consuming terms to decode

2 An example of an agreement summary can be viewed in Exhibit 4.

directly from the license agreement, many times requiring external research into the business and products of the licensing parties. The Standard Industrial Classification (SIC) code details filed with an agreement record may not relate to the intangibles being licensed, so analysts should not necessarily rely on this for validation without further investigation.

Validating Geographic Impact

Territory terms tend to be contained in an agreement's Definitions section or in the Grants section. If the list of territories is extensive, this information may appear in an attachment in the Exhibits and Attachments section. Exclusivity information is most often found in the Grants section. Exclusivity can be more complex than appears from an agreement summary as some documents contain additional conditions such as sales milestones that must be met in order to maintain the licensee's rights to a particular exclusivity level.

Determining Reasonable Royalty Rates

Royalty rates tend to be captured in one of the more intuitive sections of an agreement with labels (e.g., Payments, License Fees, Consideration), which are clear indicators of their contents. This section may also detail collateral transactions, such as lump sums and milestone payments, which can impact the results of an analysis and/or the overall comparability of the license agreement to the tested transaction. Analyzing all royalty rates in an agreement is vital to determining whether specific adjustments should take place to calculate an effective royalty rate.

Summary

Moving forward, analysts will be tasked with finding the best way to efficiently and meticulously conduct analysis of intangibles license agreements. Since no two license agreements are identically constructed, the process can often be an arduous one for even the most seasoned analyst. Utilizing this two-tiered approach of comparing executive summaries to identify comparables and then reviewing the agreements in detail to further confirm the comparability provides additional defensibility when providing final results to a team, client, or in the courtroom.

PART 2: A GUIDE TO FINDING AND ANALYZING ROYALTY RATES

Introduction

In the wake of the Uniloc Ruling, it is clear that analysts will need to be as thorough as possible in performing due diligence to support their estimation of a reasonable royalty rate. Toward that end, a more defensible approach for determining reasonable royalty rates for infringement damages, intercompany licensing, and the transfer of intangibles involves the examination of third-party license agreements that are sufficiently similar to the subject situation or tested transaction.

Third-party licensing agreements may provide the most defensible source of fact-based evidence for several reasons. First, there are substantial, publicly-available repositories of representative license agreements maintained by the SEC in the United States, SEDAR in Canada and other open information sources due to government regulations calling for public companies to file these material contracts. Second, an adequate percentage of these publicly-available license agreements offer unredacted royalty rate information, along with other licensing terms that are key

factors of comparability, including licensing parties, product descriptions, territories and exclusivity. Third, the licensing terms within these license agreements can offer arm's length comparable transactions, which can present an unbiased model from which to determine a reasonable baseline royalty rate or set of royalty rates for IP valuations.

Finding Fact-Based Evidence

When seeking fact-based evidence as the basis for estimating a reasonable royalty rate, defining your search methodology based on the functional profile of the tested transaction is a key factor in performing due diligence.

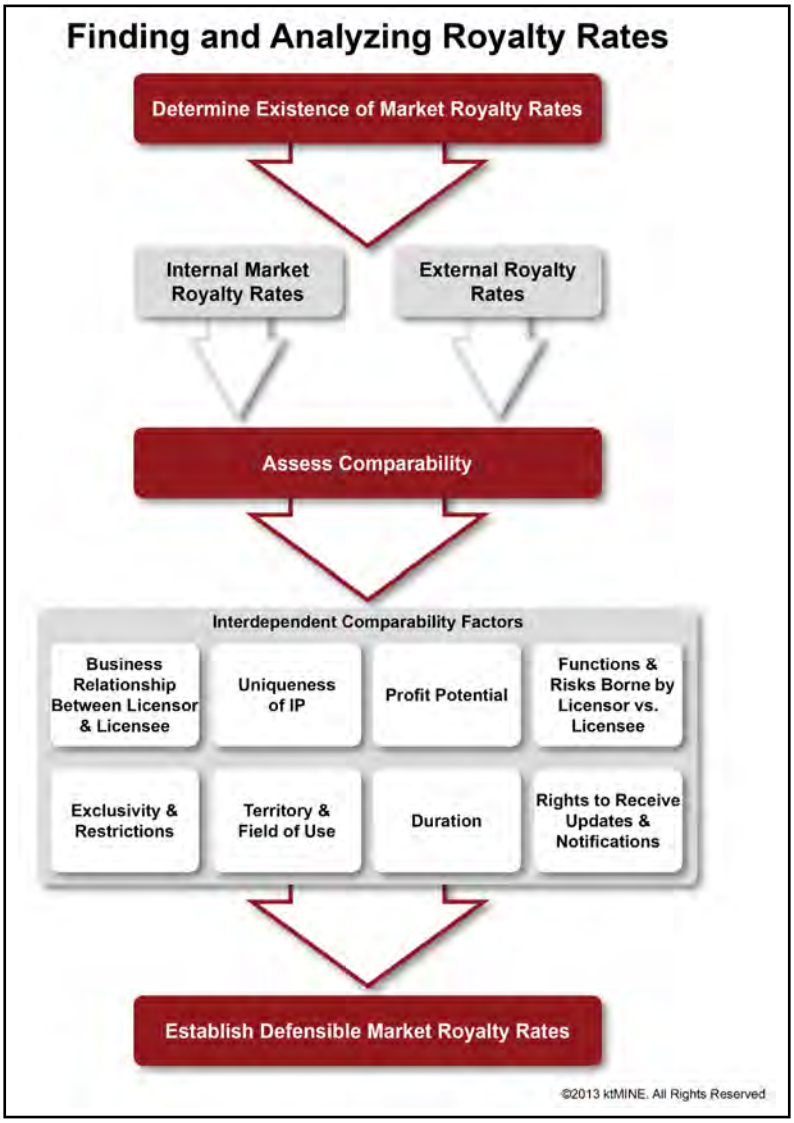
Defining Criterion

A prudent first step in defining the criteria of the search methodology is the identification of all intangibles related to the subject situation or tested transaction. Types of intangibles include:

- Manufacturing intangibles such as patents, inventions, formulations, recipes, processes, technical information, designs, patterns, or know-how;
- Marketing intangibles such as trademarks, trade names, trade dress, brand names, or service marks;
- Copyrights and literary, musical, or artistic compositions;
- Franchises (or business systems);
- Methods, programs, systems, procedures, campaigns, surveys, studies, forecasts, estimates, customer lists, or training materials;
- Software or source code; and
- Intangible generating services including research and development, engineering, or marketing.

After the appropriate intangibles have been identified and inventoried as the basis for matching comparable transactions, a pivotal next step is to identify what key factors of the subject situation or tested transaction affect comparability and, therefore, the final results. Exhibit 3 provides a list of comparability factors that should be considered when selecting royalty rates.

Exhibit 3: Road Map to Finding and Analyzing Royalty Rates



These factors of comparability are generally accepted by global analysts, although perhaps not in this exact form. Having a referenceable list of comparability factors developed beforehand is a useful method for ensuring a consistent critique of each license agreement.

Sourcing License Agreements

Fact-based evidence in the form of license agreements exists for each type of intangible. However, finding a defensible set of comparable transactions from license agreements can be an arduous process depending on the resource used.

There are a variety of sources for this information that generally can be classified into three main categories: government information databases (free), multi-purpose information databases (subscription-based) and royalty rate databases (subscription-based).

Government databases are often the most challenging resource for locating comparables, as these vast repositories were designed to accommodate a diverse audience seeking information for a wide range of purposes. In the SEC's EDGAR database, for example, the available information is indexed very broadly and the key attributes that could help an analyst find comparable transactions in license agreements are not easily searchable. Further, license agreements in EDGAR are not necessarily filed in one intuitive location, such as Exhibit 10 Material Contracts (as many analysts believe), which increases the risk of missing a pivotal comparable. Not surprisingly, many analysts consider government databases more time-consuming and less reliable than other sources of market comparable data.

Multi-purpose information databases offer another resource for locating comparable license agreements but, in general, are similar to government databases in terms of the broad organization of their data. While most multi-purpose databases will have more sophisticated search tools, both the manner in which the documents are indexed and the way the results are presented may not provide a clear and comprehensive fact pattern necessary for conducting a thorough comparables analysis.

Specialized royalty rate data providers offer another alternative information source, and their tools and outputs tend to be aligned with the analyst's specific needs when performing a license agreement search. Royalty rate data providers aggregate intangibles information and organize key terms into searchable attributes that can significantly streamline the search process. In addition to offering more sophisticated search filters, most royalty rate data providers will offer a summary of licensing terms and comparable criteria needed for each transaction matched within the defined search methodology. An example summary is shown in Exhibit 4.

Exhibit 4: License Agreement Summary[3]

Synopsis

Grant the right to utilize the Licensed Patents and the Licensed Processes and any improvements thereon made by Svelte Medical Systems, Inc. relating to medical devices using its proprietary stent-on-a-wire stent delivery system and the Svelte helical stent, with the right to use, make, have made, (including the right to have a third party to manufacture the Licensed Products) sell, offer, distribute, market, import and export the Licensed Products (Inspire/MD Ltd.'s RX stent delivery catheter with the Svelte helical stent and Inspire/MD Ltd.'s mesh covering) and to otherwise practice the technology related to the Svelte helical stent and the Licensed Patents and Licensed Processes, for the purposes of this Agreement as well as each component of or material or apparatus for use in making any Licensed Products in the Territory.

Agreement ID:	68505
Filing Company:	INSPIREMD, INC. FILING: 8-K DOCUMENT: EX-10.13 FILING DATE: 4/6/2011
Licensor(s):	SVELTE MEDICAL SYSTEMS, INC.
Licensee(s):	INSPIRE/MD LTD.
Effective Date:	03/19/2010
Term:	Unless sooner terminated as provided in this Agreement, the License shall extend until the expiration, abandonment or invalidation of the last to expire, abandoned or invalidated of the Licensed Patents that is material to the License.
Type:	MANUFACTURING/PROCESS INTANGIBLE
Industry:	HEALTHCARE: PRODUCTS AND SUPPLIES
SIC Code:	1000
Territory:	UNITED STATES, WORLD
Exclusivity:	MULTI-EXCLUSIVITY

Royalty Rates

View Royalty Rate Text | Statistics Only | Actuals Only | Statistics and Actuals

License Actuals	Value	Agreement Base		Modifier	Common Base
	7%	NET SALES	Licensee shall pay Licensor a royalty in the aggregate amount of seven percent (7%) of Net Sales (the "Worldwide Royalty") actually received by Licensee from the sale of any Licensed Product in any country other than the United States.		NET SALES
	7%	NET SALES	Licensee shall pay Licensor a royalty equal to the sum of (i) seven percent (7%) of the first US$ 10,000,000 of Net Sales resulting from the sale of any Licensed Product in the United States, and (ii) ten percent (10%) of Net Sales for all amounts of Net Sales resulting from the sale of any Licensed Product in the United States in excess of the first $ 10,000,000 of Net Sales		NET SALES
	10%	NET SALES	Licensee shall pay Licensor a royalty equal to the sum of (i) seven percent (7%) of the first US$ 10,000,000 of Net Sales resulting from the sale of any Licensed Product in the United States, and (ii) ten percent (10%) of Net Sales for all amounts of Net Sales resulting from the sale of any Licensed Product in the United States in excess of the first $ 10,000,000 of Net Sales.		NET SALES

3 The License Agreement Summary is provided by ktMINE.

While summaries offered by royalty rate providers can provide a helpful snapshot of the license agreement, it is important to note that reading the full agreement text is still a critical step in performing due diligence. In fact, reviewing all licensing terms contained in a license agreement document is the only way to validate that those terms fully support the factual profile of the subject situation or tested transaction. Reading the full text will also provide assurance that the document itself is usable, as some databases occasionally provide royalty rates from trade journals, financial newspapers or magazine articles gathered from unusable sources. Royalty rate comparables from unsubstantiated sources, such as newswire listings, cannot be used in Court or with tax authorities unless backed by a full text, corroborating license agreement.

Analyzing Fact-Based Evidence

Once the search methodology has been employed and a set of potential comparables has been found, the next steps in a prudent license agreement analysis are:

- Perform an initial review of identified license agreements (i.e. review agreement summaries);
- Perform a detailed review of appropriate agreements (i.e. review actual license agreements);
- Select comparable license agreements and, therefore, royalty rates; and
- Construct an arm's length range.

Validating Comparability

As an analyst reviews potential comparable license agreements, a thorough and savvy examination of all licensing terms is critical. Exhibit 4 provides an example of a license agreement that has been summarized to show key licensing terms that can affect the comparability of one transaction to another.

In Exhibit 4, the **Synopsis** details the rights being granted and for what type of intangible(s). In this case, the license agreement applies to a patented technology associated with medical systems for stents. All are key factors of comparability, as a patent-only license agreement would not be an appropriate comparable to use in benchmarking a trademark-only transaction.

In the next area, parties to the license agreement are captured — **Filing Company, Licensor(s) and Licensee(s).** This information is useful in ensuring that a transaction satisfies the criteria of being a third-party transaction, as opposed to a transaction between related parties, which will contain an unbiased market royalty rate(s).

The **Effective Date** is a key comparability factor, as it shows this transaction to be contemporaneous with market conditions of 2010, which may be quite different from those of previous years depending on the industry, type of IP and other relevant factors. Transactions taking place around the same time as the subject situation, in general, are more comparable than those that are older. Market conditions regularly change and a solid comparability analysis takes this into account.

The **Term** field defines the length of the license agreement and provides necessary insight for an analyst trying to identify comparable agreements that are not expired or do not have significantly different term than the subject situation.

The **Agreement Type** field lists all applicable categories from which intangibles are being licensed in the license agreement. While the Agreement Type field provides good shorthand on the nature of the intangibles being licensed, it is wise to read the full text of the license agreement to see if there are any other conditions that could affect the comparability of this transaction. For

example, if an analyst was looking to benchmark a royalty rate for a patent-only transaction and a comparable included licensing terms for both patent and know-how intangibles, this may call for an adjustment with respect to any utilized royalty rates. This is also an instance where the full license agreement would provide critical context and support for the adjusted calculation.

The **Industry** and **SIC** fields may appear to go hand in hand here, but they are actually quite different in terms of reliability and results.

The SIC code represents what was filed with the government database at the time of submission, if one was actually provided. If SIC is used as a search criteria and a means for rejecting transactions, the analyst should take note of the potential risks. First, filing companies do not always supply an SIC code when submitting their documentation. Second, the filing company SIC code may have no correlation whatsoever to the intangibles being licensed or the industry in which the licensee can exploit the intangibles, meaning an analyst could overlook a pivotal comparable that was filed under a misrepresentative SIC code.

As a case in point, in Exhibit 4, the summary shows an SIC code of 1000, which is the code used to designate mining activities. Yet the intangibles being licensed in this agreement are more closely related to the Healthcare: Products and Services industry. In fact, the filing company is in the healthcare industry. This is a perfect example of a mistake by the filing company. If an analyst were seeking intangibles related to the latter industries, but only relied on an SIC search, this potential comparable might be missed.

Alternatively, a more reliable criterion to use (if available) when seeking intangibles from a particular vertical market may be Industry. In Exhibit 4, the Industry field documents all applicable industries directly related to the intangibles being licensed therein, and the industries in which the licensee has the right to exploit the intangibles. Searching by Industry typically allows an analyst to more precisely, and more comprehensively, identify potential comparable transactions directly related to a particular vertical.

Territory and Exclusivity are both good indicators of the potential market impact from the agreement based on licensing reach, but territory is often one of the first factors dismissed in a litigation situation as being of lessor importance than other comparability criteria. This happens primarily in cases where there is a lack in the number of total license agreements for that territory. For instance, it is nearly impossible to find specific license agreements that exploit an intangible solely in Ireland, so it may be more likely to find a comparable agreement with coverage in Europe or the world than one from specific geographies.

Royalty Rates are key factors of comparability and the detailed summary in Exhibit 4 offers a full breakdown of all rates within the license agreement, including tiers. In instances where a license agreement has tiered or multiple royalty rates — which can be for a single intangible, and/or across a group of intangibles — a thorough analysis of how each rate impacts the overall value is critical in approximating a reasonable royalty rate. Once again, reading the full license agreement is a vital step toward ensuring that comprehensive due diligence has been performed as it is the only way one can see, and address, all collateral transactions such as lump sums, milestone payments, etc., that may impact the results of an analysis.

While there is no guidance to the appropriate number of comparables to choose — comparability could be determined by just one transaction — it is prudent to analyze any and all possibilities and to allow statistical calculations, such data documenting an interquartile range, to assist in identifying a comparable range.

Summary

Finding and analyzing fact-based evidence may provide the most defensible method for approximating reasonable royalty rates in the wake of the Uniloc Ruling. There is a substantial repository of fact-based evidence available in the form of third-party license agreement data and documentation, and specialized royalty rate data providers can provide analysts with an efficient and reliable portal to finding representative transactions. As a result, when comparable transactions are identified and analyzed with a thorough methodology and comprehensive search process, fact-based evidence can support the resulting analysis with proof of thorough due diligence that can stand up in litigation matters.

PART 3: ROYALTY RATE & DEAL STRUCTURE STUDY

Introduction

In order to demonstrate the differences in license deal structures and royalty rates by industry, even when reviewing facts at a high level, a study was conducted to identify trends in various industries.[4] For this study, licensing trends from the past 11 years for the Pharmaceuticals, Software, Consumer Products, Telecommunications and Chemicals industries were reviewed with the goal of identifying key licensing trends specific to each sector. The authors analyzed over 4,000 license agreements. Specific attention was paid to the royalty payment structures, type of IP licensed, exclusivity, territory and right to sublicense within each industry.[5]

Pharmaceuticals

Over 1,200 license agreements were reviewed from the pharmaceutical industry. The data shows a trend to license-out manufacturing intangibles such as patents, know-how and formulas rather than marketing intangibles such as trademarks, trade names and similar marks. Indeed, over 82% of reviewed agreements licensed the right to manufacturing intangibles, while only 3% of reviewed agreements licensed the right to marketing intangibles. Approximately 14% of reviewed agreements licensed the right to both marketing and manufacturing intangibles.

When manufacturing intangibles were licensed, almost 60% of agreements provided for both exclusive rights in a specific field, market or territory, and non-exclusive rights in non-primary fields, markets or territories. In addition, agreements for manufacturing intangibles typically specified sublicensing rights. When marketing intangibles were licensed, only 40% of agreements granted exclusive rights, and sublicensing rights were not typically extended to licensees.

Although royalty payments in the pharmaceutical industry generally favoured a payment structure based on net sales, a small number of agreements reported royalties based on gross sales, gross profit and operating profit. There is also select evidence of per unit royalty structures. Many pharmaceutical license agreements also specified sophisticated milestone-based payment structures.

While more than 90% of reviewed pharmaceutical agreements granted worldwide rights, there are select examples of agreements limited to North American, European, Asian and South American territories.

4 The study was conducted by ktMINE using its repository of IP information.

5 The remainder of this article summarizes the findings of the study, which can be found here: http://www.ktmine.com/royalty-rate-deal-structure-study/.

Software

Over 1,100 license agreements were reviewed from the software industry. Of these software agreements, approximately 55% related to business services and approximately 40% related to consumer goods. The telecommunications, pharmaceutical and chemicals industries were also represented in the sample.

Over 60% of reviewed software license agreements provided both exclusive rights in a specific field, market or territory and non-exclusive rights in non-primary fields, markets or territories. Only 25% of agreements provided for exclusive rights, and sublicensing rights were not typically extended to software licensees. Over 67% of agreements provided worldwide territory rights.

Royalty payments in the software industry generally favoured a payment structure based on net sales, but there are also examples of royalty payments based on gross sales, gross profit or operating profit. Within financial services applications, there is evidence of royalty payments based on percentage of assets under management. There is also select evidence of per unit royalty structures.

Consumer Products

Over 1,600 license agreements were reviewed from the consumer products industry. The data shows a trend to license-out marketing intangibles versus manufacturing intangibles. Specifically, over 52% of reviewed agreements licensed the right to marketing intangibles. An additional 20% of reviewed agreements were “combo agreements” granting rights to both marketing and manufacturing intangibles.

In consumer products agreements addressing marketing intangibles, approximately 43% granted exclusive rights in a particular territory or field of use, while approximately 50% granted both exclusive rights in a specific field, market or territory, and non-exclusive rights in non-primary fields, markets or territories. In consumer products agreements addressing manufacturing intangibles, almost 60% of agreements provided for both exclusive rights in a specific field, market or territory, and non-exclusive rights in non-primary fields, markets or territories. Across the sample, the specified rights typically excluded the right to sublicense. Over 55% of agreements provide worldwide territory rights.

Although royalty payments in the consumer products industry generally favoured a payment structure based on net sales, payment structures based on gross sales were also prevalent. There is also select evidence of royalties based on gross profit, operating profit, or unit volume.

Telecommunications

Over 180 license agreements were reviewed from the telecommunications industry. The data shows a trend to license-out manufacturing intangibles such as patents, know-how, formulas and technical information rather than marketing intangibles such as trademarks, trade names, and similar marks. Specifically, almost 50% of reviewed agreements licensed the right to manufacturing intangibles, while less than 30% of reviewed agreements licensed the right to marketing intangibles. The balance of reviewed agreements included rights to both marketing and manufacturing intangibles.

In telecommunication license agreements addressing manufacturing intangibles, almost 70% specified both exclusive rights in a specific field, market or territory, and non-exclusive rights in non-primary fields, markets or territories. In agreements addressing marketing intangibles, over 73% of agreements granted exclusive rights in a particular territory or field of use. Across the sample, the specified rights typically excluded the right to sublicense. The majority of agreements provided worldwide territory rights.

Although royalty payments in the telecommunications industry generally favoured a payment structure based on net sales, there are a number of agreements based on gross sales or operating profit. There is also select evidence of per unit royalty structures.

Chemicals

Over 380 license agreements were reviewed from the chemicals industry. The data shows a trend to license-out manufacturing intangibles such as patents, know-how, formulas, and technical information rather than marketing intangibles such as trademarks, trade names and similar marks. Specifically, over 75% of reviewed agreements licensed the right to manufacturing intangibles, while less than 1% of reviewed agreements licensed the right to marketing intangibles. The balance of reviewed agreements included rights to both marketing and manufacturing intangibles.

When manufacturing intangibles were licensed, over 63% of agreements provided both exclusive rights in a specific field, market or territory, and non-exclusive rights in non-primary fields, markets or territories. Additionally, licensees granted the right to use manufacturing intangibles generally received the right to sublicense to third parties. When marketing intangibles were licensed, less than 20% of agreements granted exclusive rights in a particular territory or field of use. The right to sublicense was generally not permitted for marketing intangible agreements. Although the vast majority of agreements specified either worldwide or North American territory rights, there are also examples of agreements for European, Asian and South American territories.

Although royalty payments in the chemicals industry generally favoured a payment structure based on net sales, there are also select examples of royalty payments based on gross sales, gross profit or operating profit.

End Note

The value given to IP is greatly dependent on the information used and assumptions made in valuation calculations. Using license agreements for comparable information, selecting the appropriate royalty rates, and applying them to IP valuation calculations in a proper manner will ensure the proper values are assigned to the subject IP assets. For more information, or to provide commentary on this piece, please feel free to contact David R. Jarczyk at david.jarczyk@ktMINE.com.

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TRENDS IN CANADIAN SECURITIES CLASS ACTIONS: 2012 UPDATE — PACE OF FILINGS AND SETTLEMENTS FALLS; AUDITOR RISK AND COURT RULINGS TAKE CENTRE STAGE

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13 February 2013

Introduction

In 2012, there were nine new securities class actions filed in Canada — down from 15 new cases in 2011. Six of these nine new cases involve companies in the mining and oil and gas sectors. Our database now includes 100 Canadian securities class actions filed over the 16-year period from 1997 to 2012. Three cases were settled and two were dismissed during 2012, leaving a total of 51 active securities class actions, representing more than $23 billion in total claims, as of 31 December 2012.[2]

There were eight new filings of claims under the secondary market civil liability provisions of the provincial *Securities Acts* ("Bill 198" cases), in line with the nine new cases filed in 2011 and eight filed in 2010. There have now been a total of 43 Bill 198 cases filed since the statutory amendments came into force in Ontario at the end of 2005. Of these, 28 cases (or 65%), representing more than $19 billion in total claims, remain unresolved. Twelve Bill 198 cases (28% of those filed) have settled, and three (7%) have been dismissed — including two that were dismissed in 2012.

Perhaps the most notable development during 2012 was the agreement by Ernst & Young to pay $117 million to settle claims in relation to its role as auditor of the Toronto Stock Exchange (TSX)-listed Chinese company Sino-Forest. Although this represents only a partial settlement of that case (claims against other defendants are still pending), and is still subject to Court approval, it is the largest total settlement in any Bill 198 case to date, exceeding the $28-million settlement in 2010 in the case against Novagold.

Also notable in the Canadian securities class action arena during 2012 were the Court rulings in the actions involving Timminco, CIBC, and IMAX, each of which concerned the limitation period for obtaining leave of the Court to pursue Bill 198 claims; the ruling in the case against Western

1 Bradley A. Heys is a Vice President and Mark L. Berenblut is a Senior Vice President with NERA Economic Consulting. We thank Andrea Laing and Ron Miller for helpful comments on earlier drafts. We also thank Jacob Dwhytie, James Mancini, and Brian Shaposhnik for valuable research assistance with this paper. We gratefully acknowledge the contributions of Svetlana Starykh to this and previous editions of this study. These individuals receive credit for improving this paper. All errors and omissions are our responsibility.

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

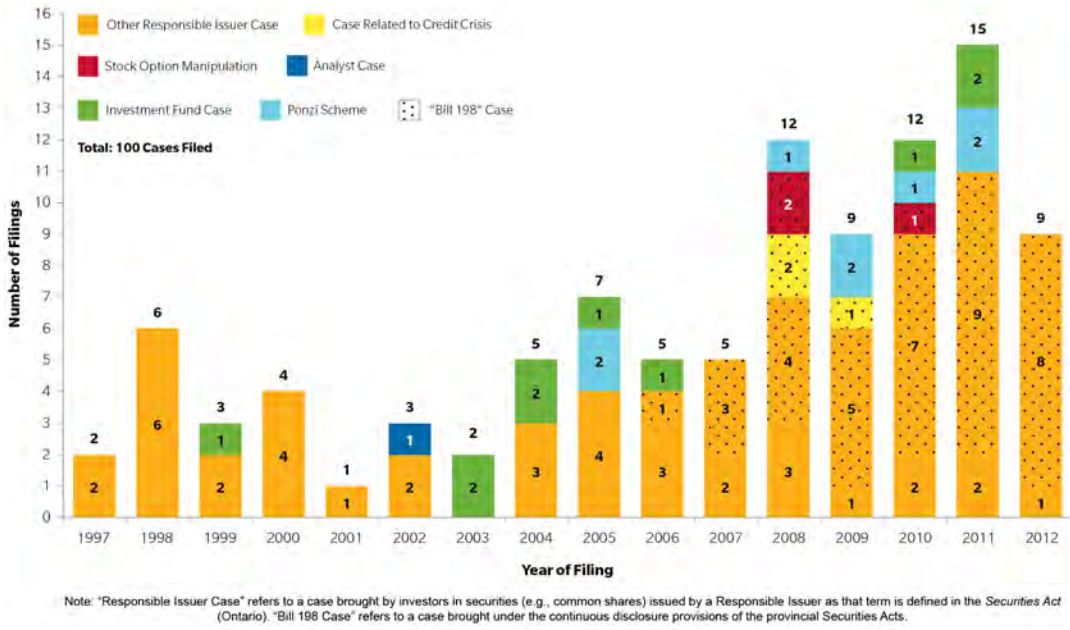
Coal, for which the Court both denied leave and refused class certification; and the ruling in the case against Canadian Solar, which addressed the statutory definition of a “responsible issuer”. In their own way, each of these rulings may impact future trends.

In past years Canadian filings have tended, at least to some extent, to reflect the major trends in filings observed in the U.S. Consistent with the experience south of the border during 2012, it seems we have now seen the last of the credit crisis-related class actions in Canada. Also, last year’s surge of filings against Chinese companies did not continue in 2012 on either side of the border. However, none of the new filings in Canada are similar to the merger objection cases which had a significant influence on filings south of the border in 2012.[3]

Trends in Filings

The total of nine new securities class actions filed in 2012 is down from the all-time high of 15 new cases filed in 2011, and less than the average of 12 new cases per year in the period since 2008. See **Figure 1**. Our database now includes data for 100 Canadian securities class action cases. More than half of these (57%) were filed within the last five years.

Figure 1. **Cases Filed by Year**
1997 – 2012



Note: “Responsible Issuer Case” refers to a case brought by investors in securities (e.g., common shares) issued by a Responsible Issuer as that term is defined in the *Securities Act* (Ontario). “Bill 198 Case” refers to a case brought under the continuous disclosure provisions of the provincial Securities Acts.

Shareholder Class Actions

Each of the nine new filings in 2012 is a shareholder class action. This is in contrast to recent years which also saw filings of new cases involving Ponzi schemes and/or investment funds. For

3 Renzo Comolli, Sukaina Klein, Ron Miller, and Svetlana Starykh, “Recent Trends in Securities Class Action Litigation: 2012 Full-Year Review, Settlements Up; Attorneys’ Fees Down,” NERA report, 29 January 2013 (http://www.nera. com/nera-files/PUB_Year_End_Trends_01.2013.pdf).

example, two cases in 2011 were filed in relation to investment funds and two others involved allegations of Ponzi schemes.

Eight of the nine cases filed in 2012 involved issuers with securities listed on the TSX (the other one involved an issuer whose shares are not listed in Canada). These eight companies represent approximately 0.6% of the 1,287 companies listed on the TSX.[4] Over the past five years (i.e., 2008 through 2012), a total of 40 cases have been filed against TSX-listed companies, representing approximately 3% of the average number of companies listed over that period. In other words, averaged annually, filings are less than 1% of TSX-listed companies. In addition, over the same five-year period, filings have been brought against five companies listed on the TSX Venture Exchange ("TSX-V"), being a very small percentage of the roughly 2,200 TSX-V listed companies.

Reflections of U.S.Trends

In previous years, trends in U.S. securities class action filings have tended to be reflected in Canadian filings. For example, last year we noted that the three Canadian filings against Chinese companies with securities listed on North American exchanges — Sino-Forest, Cathay Forest Products, and Zungui Haixi Corporation — reflected one of the trends driving filings in the U.S. Trends in U.S. filings from 2008 to 2010 relating to options manipulation, Ponzi schemes, and the credit crisis were also reflected to some extent in Canadian filings.

In 2012, the abatement of these recent trends was evident on both sides of the border. In the U.S., only four cases filed in 2012 related to the credit crisis (down from a high of 103 in 2008), none of the filed cases involved allegations of a Ponzi scheme, and only 16 cases were filed against Chinese-domiciled companies (down from 37 in 2011).[5] In Canada none of the cases filed in 2012 related to any of these trends.

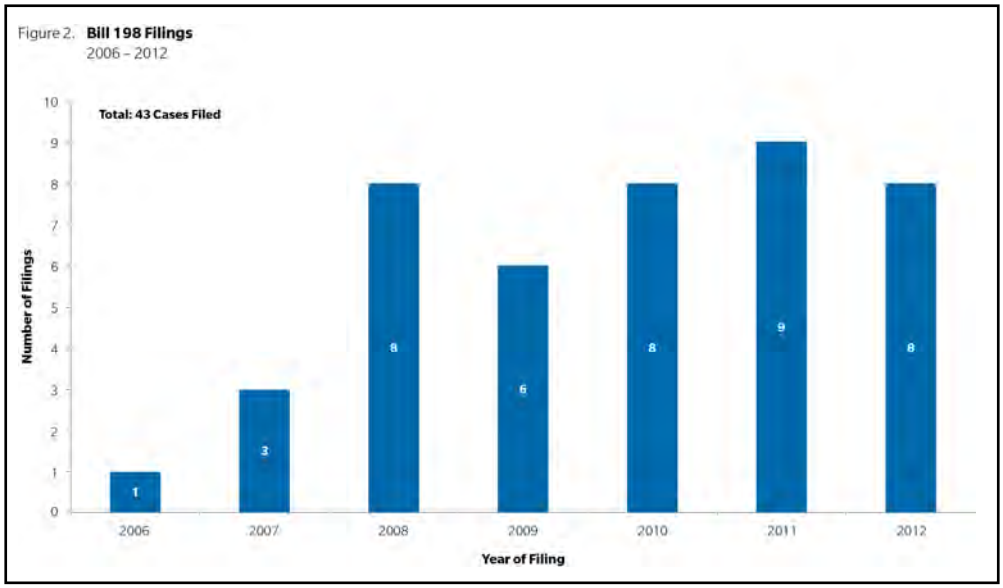
The nine new Canadian filings in 2012 also appear to be unrelated to any new trends driving U.S. filings. Notably, while there has been a surge in filings of merger objection-related cases over the last three years in the U.S., to date we have not seen any reflection of that trend in Canada.[6]

Overall, the total number of filings in 2012 in both Canada and the U.S. was at the low end of the range of annual filings seen in each country over the last five years. A summary of the recent trends in U.S. securities class actions is appended to this report.

4 As of 31 December 2012. Excluding exchange-traded funds.
5 Note 3, pp. 5, 8.
6 Note 3, p. 5.

Bill 198 Cases

Eight of the nine new cases filed in 2012 are Bill 198 cases — one fewer than last year, but generally in line with the number of filings of such cases since 2008 and continuing the trend of a higher volume of cases following the introduction of the secondary market civil liability provisions into the provincial *Securities Acts*. See **Figure 2**.



Filings by Province

As we have noted in prior years, the vast majority of Canadian securities class actions are filed in Ontario, with several also having parallel filings in other provinces.[7] The cases filed in 2012 continued that trend:

- Each of the nine new cases filed in 2012 was filed in Ontario.
- Two of these cases — the claims against SNC-Lavalin and Agnico-Eagle — were also filed in Québec.
- Two cases were also filed in British Columbia — namely, the claims against Facebook and GLG Life Tech Corp. A similar claim against Facebook was also filed in Saskatchewan.
- The case against BP p.l.c. was originally filed in Alberta, but was dismissed for jurisdictional reasons and subsequently re-filed in Ontario.
- The case against Poseidon was filed only in Ontario during 2012, but similar filings were made against the company in Québec and Alberta early in 2013.

7 Bradley A. Heys and Mark L. Berenblut, "Trends in Canadian Securities Class Actions: 2011 Update, Pace of Filings Grows, Pace of Settlements Slows" NERA, 30 January 2012, p. 5.

Cross-Border Cases

Six of the nine new securities class action filings in 2012 also had parallel U.S. filings: those against Agnico-Eagle, BP p.l.c., Facebook, GLG Life Tech, Kinross Gold, and Nevsun Resources.[8]

It is notable that shares of Facebook are not listed on a Canadian exchange. In addition to this case, there have been two other cases brought by shareholders of public companies whose securities were not listed on a Canadian exchange — namely, the cases against AIG and Canadian Solar. We noted last year that the Ontario Superior Court allowed the case against Canadian Solar to proceed despite the company's primary place of business being China and the fact that its shares are listed only on the NASDAQ in the U.S. During 2012, the Ontario Court of Appeal affirmed that decision finding that an issuer whose shares trade exclusively on a foreign exchange can fall under the definition of a "responsible issuer" and can be subject to civil liability under the Ontario *Securities Act* (OSA) provided that a "real and substantial connection to Ontario" is established.[9]

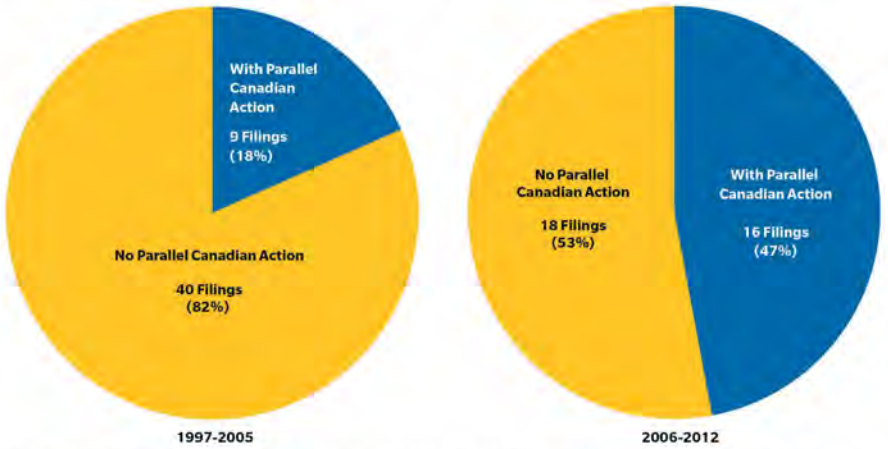
U.S. Securities Class Actions against Canadian Companies

Securities class action filings were made against six Canadian-domiciled companies during 2012. These include:

- U.S. cases against Kinross Gold and Nevsun Resources for which there are parallel Canadian securities class actions; and
- Cases against Magna International, Æterna Zentaris Inc., Swisher Hygiene Inc., and Neptune Technologies & Bioresources Inc. for which no parallel claims were filed in Canada in 2012.

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

Figure 3. **U.S. Filings against Canadian-Domiciled Companies**



Note: If multiple U.S. federal court cases are filed against the same defendant, are related to the same allegations, and are in the same circuit, we treat them as a single filing. However, multiple actions filed in different circuits are treated as separate filings. We have counted each U.S. filing as having a parallel Canadian action where there is at least one Canadian action against the same defendant and involving similar allegations. In some instances, more than one U.S. filing relates to a single Canadian action.

8 The U.S. case against Agnico-Eagle was dismissed in early January 2013 with the Court finding that Plaintiffs' failed to adequately "plead fact supporting a strong inference of scienter." 11 Civ. 7968 (JPO), U.S. District Court, SDNY.

9 *Abdula v. Canadian Solar Inc.*, 2012 ONCA 211.

Industry Sectors

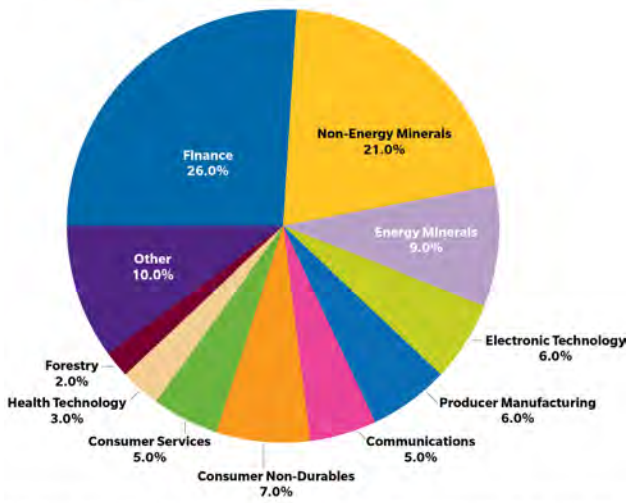
Two-thirds of the new cases filed in 2012 (i.e., six of nine cases) were brought against companies in the mining or oil and gas sectors, continuing a trend we have previously noted.[10] As we have also previously noted, about one quarter of all cases are brought against companies in the finance industry. Bucking that trend in 2012, none of the new filings involve claims by shareholders of financial sector companies. Filings of Canadian securities class actions by industry sector for the period 1997 to 2012 are illustrated in **Figure 4**.

Twenty-seven of the 30 cases filed between 1997 and 2012 involving companies in the energy and non-energy minerals (oil & gas and mining) industries involve TSX- or TSX-V-listed companies.

Of the 21 filings against companies in these industries over the past five years, 18 were against TSX-listed companies (out of a total of about 500 TSX-listed companies in these industries), and two involve TSX-V-listed companies (out of a total of about 1,500 TSX-V-listed companies in these industries).

Interestingly, of the 26 cases brought against companies in the finance industry since 1997, only six have involved claims by shareholders against publicly listed companies. Since 2008, only four TSX-listed finance companies have faced shareholder class actions — representing approximately 5% of the average number of TSX-listed companies in this industry over this period, or about 1% per year, on average.

Figure 4. **Filings by Industry Sector**



Note: Cases are coded based on the industry sector reported by FactSet Research Systems Inc. for the issuer of the securities that are the subject of the litigation.

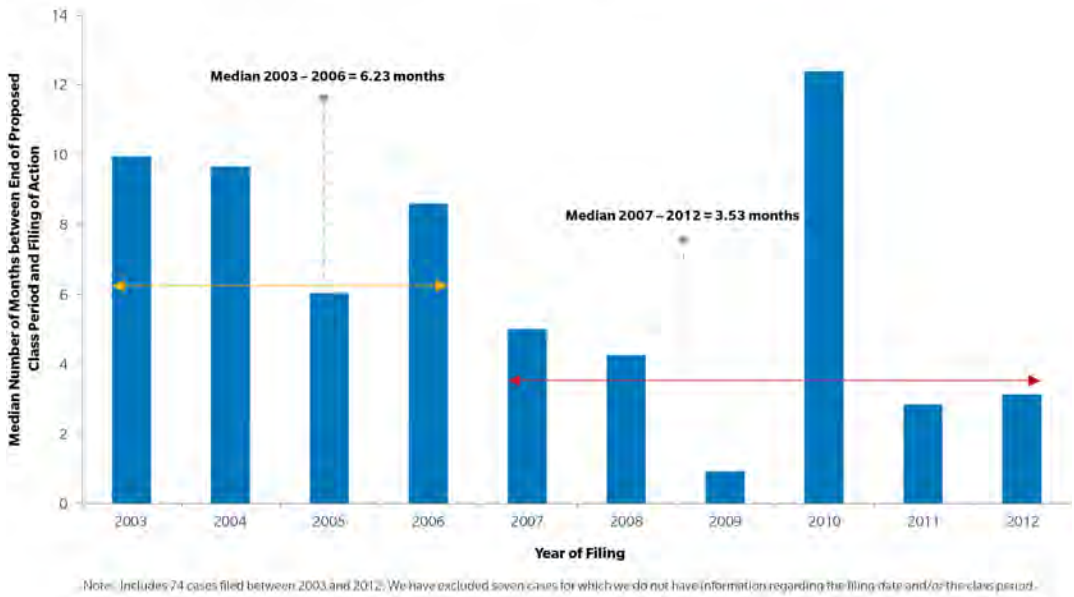
10 Note 7, p. 8.

Time to Filing

The median time from the end of the proposed class period to the date of filing for cases filed in 2012 was approximately 3.1 months, and the average was 4.6 months. The case with the longest time to filing is the claim against BP, which was filed approximately 17 months after the end of the proposed class period. All eight of the other cases filed in 2012 were filed within 10 months of the end of the proposed class period. Excluding the filing against BP, the average time to filing in 2012 was three months.

The median time to filing for 2012 is in line with recent history and seems to confirm our suggestion last year that the time to filing for cases filed in 2010 was an aberration in what is otherwise a trend towards faster filing.[11] See **Figure 5**.

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



Note: Includes 74 cases filed between 2003 and 2012. We have excluded seven cases for which we do not have information regarding the filing date and/or the class period.

Trends in Resolutions

Settlements

As noted above, perhaps one of the more significant developments in 2012 is the agreement by accounting firm Ernst & Young to pay $117 million to settle claims made against it in relation to its role as the auditor of Sino-Forest. If approved by the Court, that partial settlement alone would represent the largest settlement in a Bill 198 case to date. That case remains active against the company (which is in proceedings under the *Companies' Creditors Arrangement Act* (CCAA)) and other named defendants (including the company, various investment banks, and the audit firm BDO Limited). Plaintiffs in that case have claimed a total of approximately $9.2 billion in damages.

11 Note 7, p. 8.

Audit firm defendants have reached settlements in only two other Bill 198 cases to date — being those involving Redline Communications (settled in 2010) and CV Technologies (settled in 2009). In each of these cases, the auditor defendants agreed to pay $500,000 to settle the claims.

Excluding partial settlements, three cases were settled during 2012 — two Bill 198 cases and one Ponzi scheme case. None of these was a cross-border case:

- Arctic Glacier settled for $13.8 million, about 5.6% of the $245 million claimed;
- Gammon Gold settled for $13.25 million, about 16.6% of the total claimed damages; and
- RBC paid $17 million — 42.5% of the $40 million in claimed damages — to settle a case relating to the Earl Jones Ponzi scheme.

The two Bill 198 settlements bring the total number of settlements in these cases to 12. The average settlement amount across these 12 settled Bill 198 cases is $10.5 million. The median settlement is $9.3 million. The average settlement as a percentage of compensatory damages claimed in these cases is 12.6% and the median is 8.9%.

As we noted last year, the average settlement in four Bill 198 cases which had a parallel U.S. claim is $16.9 million and the median is $17.2 million (figures which are unchanged since there were no settlements in any cross-border cases in 2012). As a percentage of the compensatory damages claimed, the average settlement is 13.7% and the median is 11.0%.

The average of the settlements in the eight domestic-only cases is $7.4 million, and the median is $5.4 million. As a percentage of the compensatory damages claimed, the average is 12.1% and the median is 6.8%.

Our database now includes data for 38 Canadian securities class actions settlements (excluding partial settlements). The average settlement across all cases is $102.2 million — a figure which is heavily skewed by two large settlements in the class actions relating to Nortel. The median settlement is $13.0 million.

Dismissals

Two cases — namely, the cases brought against Western Coal and CIBC — were dismissed during 2012 (although these dismissals may yet be subject to appeal).

In the *Western Coal* case, the Ontario Superior Court dismissed the plaintiff's application for leave on the grounds that "the plaintiff's claim has no reasonable possibility of success at trial and that there is no reasonable possibility that a trial judge would accept [the evidence of the plaintiff's accounting expert] in preference to the defendants' expert evidence."[12]

In the case against CIBC, the Court declined to grant the plaintiff's application for leave because the action was statute-barred by the three-year limitation period imposed by section 138.14 of the OSA, but indicated that leave would otherwise have been granted.[13]

The ruling in *CIBC* reflected that of the Court of Appeal for Ontario in *Timminco*. In *Timminco*, the Court of Appeal overturned the Superior Court's 2011 ruling that the limitation period could be suspended.[14] The Court of Appeal held that leave to pursue a claim under the secondary market civil liability provisions must be granted for the claim to be deemed to have been "asserted" for the purposes of the limitation period. Since leave in that case had not been granted within three

12 *Gould v. Western Coal Corp.*, 2012 ONSC 5184 (CanLII), ¶239.
13 *Green v. Canadian Imperial Bank of Commerce*, 2012 ONSC 3637 (CanLII).
14 *Sharma v. Timminco Ltd.*, 2011 ONSC 8024 (CanLII), rev'd, 2012 ONCA 107. Leave to appeal to the S.C.C. refused, [2012] S.C.C.A. No. 157.

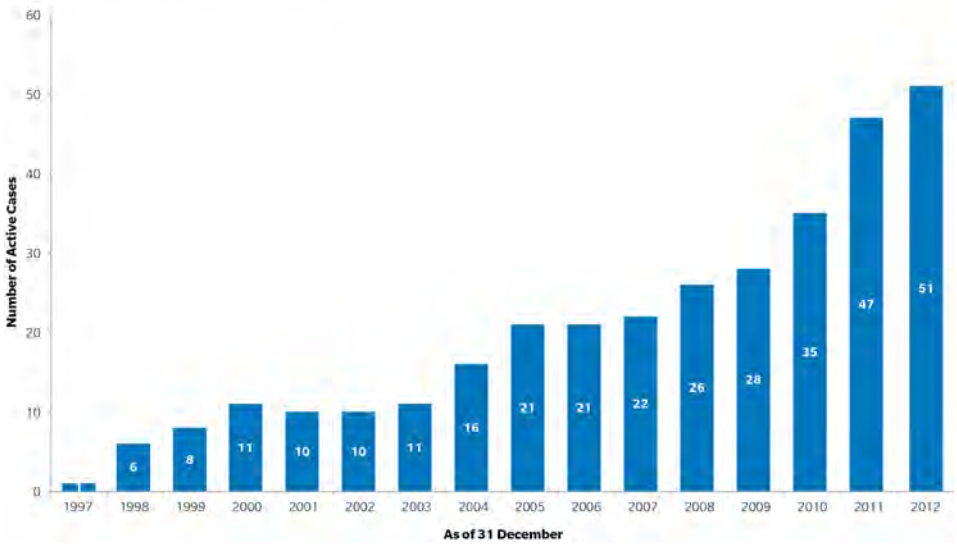
years of the alleged misrepresentation, the statutory claims were dismissed. The case against Timminco is still considered to be “active” in our database since, notwithstanding the denial of leave to proceed with the statutory (Bill 198) claims, there are still outstanding common law misrepresentation claims against the company.

The denial of leave applications in *Timminco* and *CIBC* contrasts with the case against IMAX, in which the motions judge determined that she had the jurisdiction to amend the date of the leave order to a date prior to the expiry of the limitation period (notwithstanding that the limitation period had expired by the date leave was actually granted), thereby allowing the action to continue.[15] Similarly, the motions judge in *Celestica* refused to strike the claim notwithstanding that the proposed class period ended on 31 January 2007 and leave has yet to be granted. He suggested that it would be an appropriate case in which to apply the “special circumstances” doctrine to retroactively grant leave.[16]

Status of Active Cases

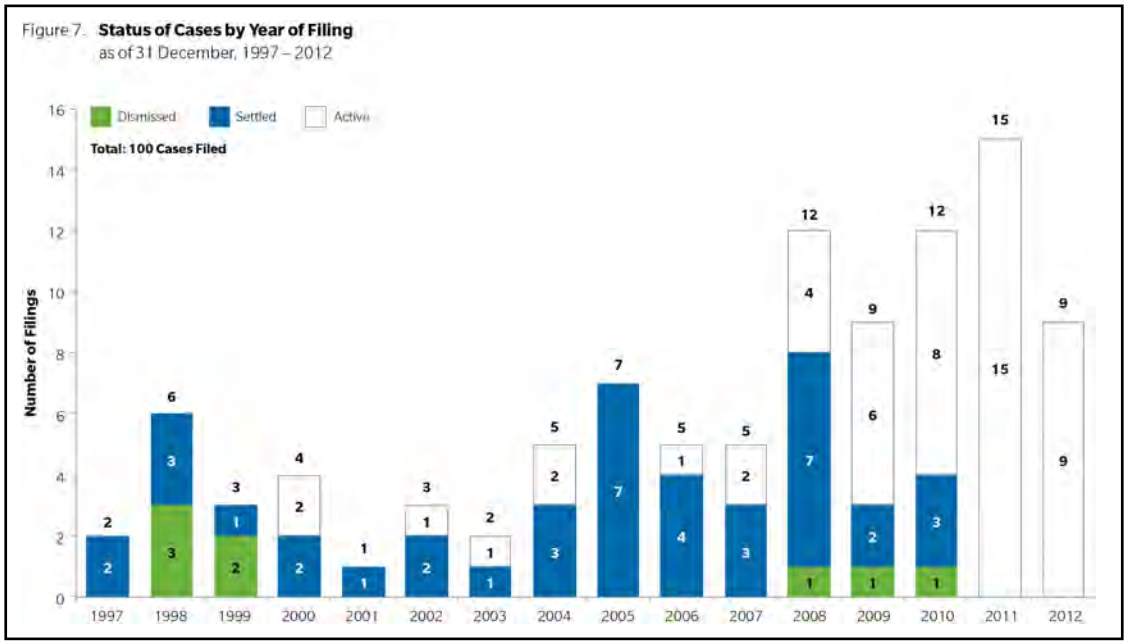
With the nine new cases filed and resolutions in five cases during 2012, there are now 51 active Canadian securities class actions — four more than at the end of 2011, 16 more than at the end of 2010, and nearly double the number of active cases four years ago. See **Figure 6**.

Figure 6. **Active Cases as of 31 December 2012**



15 *Silver v. Imax Corp.*, 2012 ONSC 4881 (CanLII).
16 *Trustees of the Millwright Regional Council of Ontario Pension Trust Fund v. Celestica Inc.*, 2012 ONSC 6083 (CanLII).

These 51 active cases represent more than $23 billion in claims, including both compensatory and punitive damages. All but nine of the cases still active as at the end of 2012 were filed after 2007. See **Figure 7**.



Active Bill 198 Cases

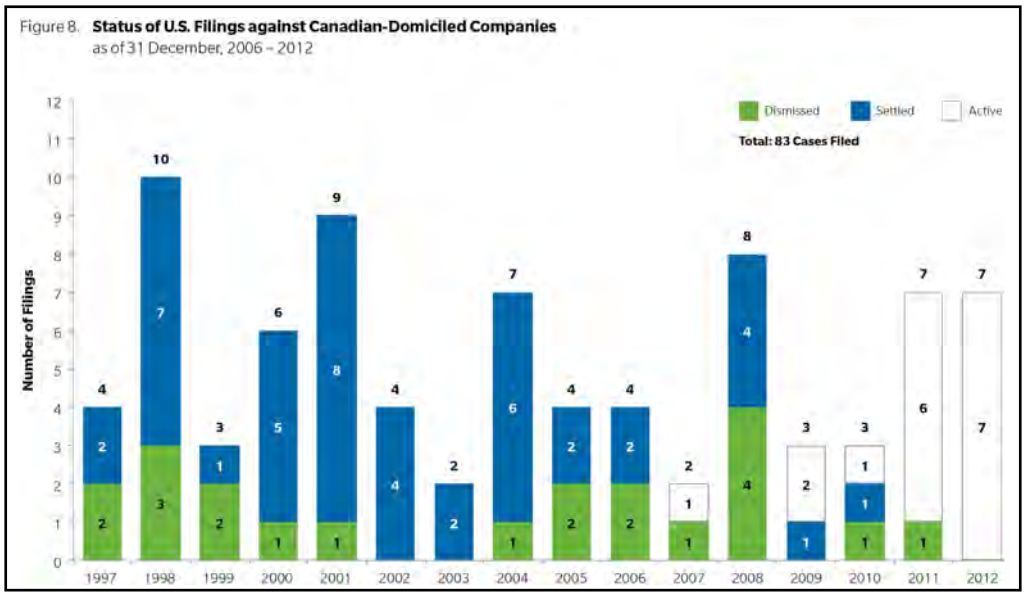
Twenty-eight of these 51 active cases (or 55%) are Bill 198 cases representing more than $19 billion in claimed damages (about 84% of the total outstanding claims). Of these, 22 cases have not yet reached the leave application or class certification stage. As mentioned above, leave was denied in *Timminco*, but there remain unresolved common law claims that have not yet been certified. The case involving IMAX has been granted leave of the Court and is certified as a class action. Similarly, the case in Québec against Theratechnologies has been authorized,[17] although we understand this decision has been appealed. Leave to proceed has been granted by consent of the defendants in the actions involving easyhome and SNC-Lavalin, and both cases have been certified as class actions.[18] In the matter involving Zungui Haixi, leave has been granted (which may be subject to appeal), but the claim has not been certified as a class action.[19] A case involving Manulife was authorized as a class action in Québec, but motions for leave and certification have not yet been heard by the Court in Ontario.[20]

Of 23 Bill 198 cases which have not yet been granted leave of the Court, 10 have either already reached, or at some point during 2013 will reach, the three-year mark from the end of the proposed class period. For some of these cases, tolling agreements are in place which stop the clock running on the limitation period. However, to the extent some of these cases do not have such agreements we can expect to see more leave applications and rulings during 2013.

17 *121851 Canada Inc. c. Theratechnologies Inc.*, 2012 QCCS 699.
18 *The Trustees of the Drywall Acoustic Lathing and Insulation Local 675 Pension Fund v. SNC-Lavalin Group Inc.*, 2012 ONSC 5288. *Sorenson v. easyhome Ltd.*, 2012 ONSC 1946.
19 *Zaniewicz v. Zungui Haixi Corp.*, 2012 ONSC 6061.
20 *Comité syndical national de retraite Bâtirente inc. c. Société financière Manuvie*, 2011 QCCS 3446.

Active U.S. Cases against Canadian Companies

As of 31 December 2012, there were also 17 active U.S. cases against Canadian-domiciled companies.[21] See **Figure 8**.



Looking Forward

Our database now includes 100 Canadian securities class actions, 51 of which remain active. Looking forward to 2013, it seems reasonable to expect to see these cases generally move at a more rapid pace.

The combination of the growing number of active Canadian securities class actions and the decisions in *Timminco* and *CIBC* may suggest that (notwithstanding the potential availability of the special circumstances doctrine in some cases) there may be impetus for more cases to proceed to the leave application stage over the next year.

More cases and a more rapid pace may also mean that we will see more settlements during 2013 than we saw in 2012.

To the extent that we do see more rulings at the leave stage, those decisions are likely to impact future trends in filings of Canadian securities class actions.

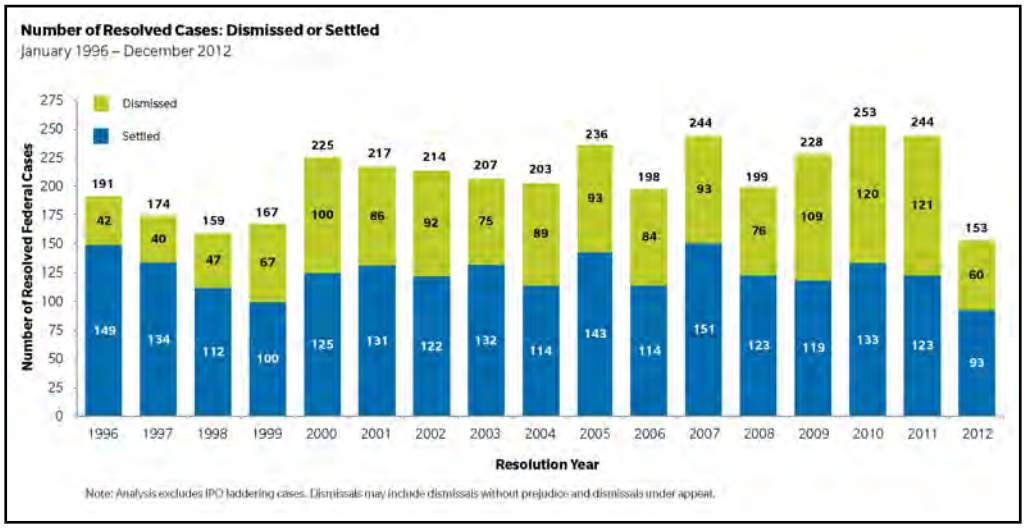
21 Our U.S. database records multiple filings where actions are filed against the same defendant in more than one Federal Court circuit (unless they are subsequently consolidated).

GLOBAL TRENDS: SUMMARY OF OTHER NERA STUDIES*

Securities Class Actions: U.S.

The year-end edition of NERA's semi-annual study of U.S. federal securities class action filings showed that the number of securities class action cases resolved in 2012 plummeted to record lows. Co-authored by Senior Consultants Dr. Renzo Comolli and Svetlana Starykh, Vice President Dr. Ronald Miller, and Consultant Sukaina Klein, the study draws from more than 20 years of NERA research on case filings and settlements in U.S. securities class actions. The authors find that 152 cases were dismissed or settled in 2012, compared to the 244 securities class actions resolved in 2011. Only 93 securities class actions were settled in 2012 — also a record low since 1996 and a 25% reduction over 2011. For the modest number of cases that were actually settled in 2012, settlement values were near their average level of recent years, up from the relatively low level of 2011. Plaintiffs' attorneys' fees, by contrast, have decreased.

Filings of securities class actions only slightly declined in 2012, with a total of 207 class actions filed in Federal Courts last year, compared to the average rate of 221 over the previous five years. The authors also observed a decline in the pace of filings over the course of 2012. Sizeable reductions of credit-crisis litigation and cases with a Chinese company defendant were largely offset by filings of merger objection cases, which accounted for 25% of new filings in 2012.

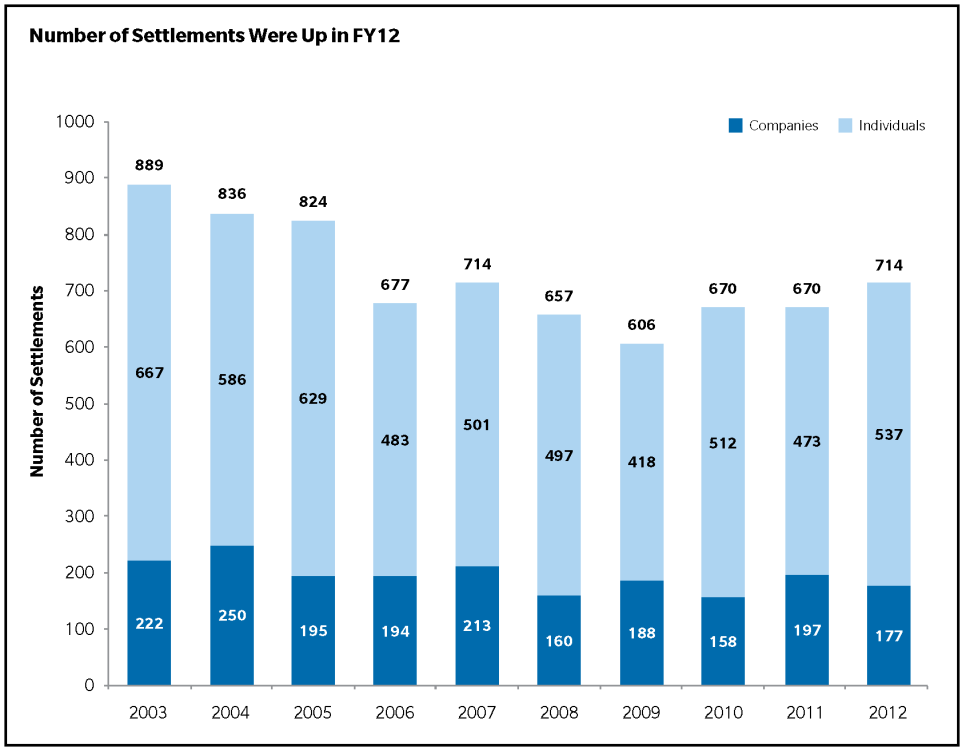


* NERA has been analyzing trends in shareholder class action litigation for more than 20 years, and we publish several studies annually examining class action litigation trends around the world. This overview summarizes the most recent edition of each of these reports.

SEC Enforcement Actions: U.S.

The latest report from NERA's ongoing analysis of trends in Securities and Exchange Commission (SEC) enforcement action settlements finds that settlements with the SEC continued their upward trajectory, reaching 714 in fiscal year 2012 (FY12), the highest number since 2007. This increase in total settlements represents a 6.6% increase over the 670 SEC settlements in fiscal year 2011 (FY11). The total number of settlements with individuals in FY12 reached the highest level recorded since 2005, with 537 — up 14% from 473 in FY11.

The authors — Vice President Dr. James Overdahl, Senior Vice President Dr. Elaine Buckberg, and Senior Consultant Jorge Baez — note that median settlement values for companies declined to $1 million in FY12 from the $1.4 million observed in FY11. Consistent with the SEC's emphasis on individual accountability, median settlement values for individuals reached a post-Sarbanes Oxley ("SOX") high in FY12, having more than doubled since 2009 from $103,000 to $221,000. The authors also find that settlements for several categories of allegations reached new highs in FY12. The SEC reached a record number of insider trading settlements in FY12, with 118 individuals and eight companies. Settlements involving allegations of misrepresentation and misappropriation by financial firms also hit a post-SOX record high in FY12, with 208 total cases.



Regulatory Enforcement Actions: U.K.

Five of the 10 largest Financial Services Authority (FSA) fines of all time have been levied since 1 January 2012, according to NERA's latest report. Authored by Vice President Paul Hinton and Senior Consultant Robert Patton, the report analyzes trends based on NERA's proprietary database of fines and other enforcement activity by the FSA. Among the report's findings are that fines imposed by the FSA since 1 January 2012 (through 20 December) have totaled £310 million, more than four times the total for 2011. This increase is due to a handful of very large fines, including the £160 million fine against UBS for LIBOR manipulation announced 19 December, which is the largest-ever FSA fine by a substantial margin. The number of fines assessed against firms, 25, was in line with last year. In contrast, the number of fines against individuals fell to its lowest level since 2009, and the aggregate fine amount imposed on individuals fell slightly compared to 2011.

According to the report, the dramatic increase in aggregate fines is the result of a few headline-grabbing penalties against banks, notably those against UBS and Barclays for manipulation of LIBOR and EURIBOR, and against UBS for failing to prevent unauthorized trading by a rogue trader, Kweku Adoboli. Those three fines alone totaled nearly £250 million. The NERA report also finds that, with £284 million in fines already imposed through the first three-quarters of the FSA's fiscal year (ending 31 March 2013), fines against firms have already exceeded the combined total from all previous fines against firms in the FSA's history.

Top 10 FSA Fines against Firms

Fine Rank (1)	Firm (2)	Fiscal Year (3)	Total Fine (4) (£ 000s)	Category of Misconduct (5)
1	UBS AG	2012/13	160,000	Market Manipulation
2	Barclays Bank plc	2012/13	59,500	Market Manipulation
3	J.P. Morgan Securities Ltd	2010/11	33,320	Mishandling Client Assets
4	UBS AG	2012/13	29,700	Failure to Prevent Misconduct
5	Goldman Sachs International	2010/11	17,500	Approved Person Regulation Failures
6	Royal Dutch Shell plc	2004/05	17,000	Misleading Disclosures
7	Citigroup Global Markets Limited	2005/06	13,961	Market Manipulation
8	HSBC Bank plc	2011/12	10,500	Unsuitable Investments & Mis-Selling
8	Card Protection Plan Limited	2012/13	10,500	Unsuitable Investments & Mis-Selling
10	BlackRock Investment Management Limited	2012/13	9,533	Mishandling Client Assets
Median Fine against Firms 2009/10 - 15/12/2012			**525**	
Median Fine against Firms 2012/13			**600**	

7

2012 GOODWILL IMPAIRMENT STUDY: CANADIAN EDITION

by Chris Jones/Andy Harington/James Harrington/Carla Nunes
Duff & Phelps

Introduction

Financial reporting in Canada has been undergoing remarkable changes during the transition from Pre-changeover Generally Accepted Accounting Principles ("Pre-changeover GAAP") to International Financial Reporting Standards (IFRS).[1] While the conceptual framework and many of the general principles are similar between IFRS and Pre-changeover GAAP, certain aspects of IFRS can differ significantly. Goodwill impairment rules are one of these differences.

This inaugural edition of the 2012 Goodwill Impairment study: Canadian Edition (the "2012 study", or simply the "study") attempts to answer questions relating to goodwill impairment that are top of mind for Canadian financial executives. The study, conducted by the Canadian Financial Executives Research Foundation (CFERF) and Duff & Phelps, examines goodwill impairment patterns, in aggregate and by industry, from 2007-2011. This period includes two significant events, the 2008 financial crisis and the transition to IFRS in 2011.[2]

The 2011 adoption of IFRS was of concern to Canadian companies, with many speculating that the transition to alternative goodwill impairment testing rules would trigger another wave of impairment events. The transition from Pre-changeover GAAP to IFRS and its effect on goodwill impairment is of special focus in the 2012 study, which includes a detailed analysis of Canadian company disclosures regarding the impact of IFRS adoption on their goodwill balances and recognized impairments.

The study also includes a "returns-based" analysis that examines the relative performance of companies that recorded goodwill impairment vis-à-vis (i) companies that did not record goodwill impairment; and (ii) the performance of the Canadian market as a whole.[3] In addition, we report the findings of our U.S. counterpart study as it relates to the relative performance of U.S. companies to the U.S. market over the 12-month periods before and after the recognition of a goodwill impairment charge.[4]

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1 Both Canadian publicly accountable enterprises and government business enterprises (GBEs) are mandated to adopt IFRS. In addition, private enterprises and private sector not-for-profit organizations (NPOs) have the option (but not the obligation) to adopt IFRS. For a more detailed definition of each type of entity and the available financial reporting options, refer to the Chartered Accountants of Canada (CICA) website at: http://www.cica.ca/applying-the-standards/index.aspx.

2 Duff & Phelps and the Financial Executives Research Foundation (the U.S. equivalent to the CFERF) have published the U.S. Goodwill Impairment study annually since 2009. For a free download of the U.S. study, visit http://www.duffandphelps.com/Pages/default.aspx and go to Expertise/Publications/View all Reports.

3 Performance is measured relative to the market. "Companies that recorded goodwill impairment" and "companies that did not record goodwill impairment" were identified based upon the goodwill impairments originally reported, across all years. The Canadian market is defined throughout the 2012 study as the S&P/TSX Composite Index. The S&P/TSX Composite Index is the broadest in the S&P/TSX index family, and is the headline index for the Canadian equity market.

4 In the U.S. Goodwill Impairment study, the market is defined as the S&P 500 Index.

Finally, we include a survey section, which goes beyond an accumulation of raw data. It integrates a survey of senior Canadian financial executives regarding impairments and the impairment process, with the views of Canadian financial executives who participated in a research forum examining the results of the 2012 study and survey.

Purpose of the 2012 Study

- Analyze the impact that the transition from Pre-changeover GAAP to IFRS (and the associated changes in goodwill impairment testing) had on goodwill impairments recorded by Canadian companies.
- Examine the general and specific industry trends of goodwill and goodwill impairments of Canadian publicly-traded companies and to assess whether new trends are developing.[5]
- Analyze the relative performance of companies that recorded goodwill impairment vis-à-vis (i) companies that did not record goodwill impairment; and (ii) the performance of the Canadian market as a whole. We also report the findings of our U.S. counterpart as it relates to the relative performance of U.S. companies to the U.S. market over the 12-month periods before and after a goodwill impairment charge occurred.
- Report the results of the survey and in-depth research forum of Canadian financial executives. Forum participants examined the survey results, discussed key factors driving impairments in 2011, and addressed the most significant issues facing the participating financial executives as revealed in the survey.

Study Highlights

- The aggregate amount of goodwill impaired in calendar year 2011 by Canadian publicly traded companies was $11.0 billion, $8.9 billion (or 81%) of which was recognized by three major companies.
- An aggregate $10.4 billion of goodwill was impaired in 2008 during the financial crisis.
- Over 90% of total impairments in 2011 were recognized in the Consumer Discretionary, Materials, and Financials industries.
- In general, companies that did not recognize a goodwill impairment over the 2012 study's 2007-2011 time horizon outperformed those that have recorded a goodwill impairment as well as the S&P/TSX Composite Index.
- Based on a study of U.S. companies, most of the underperformance of companies that recorded goodwill impairment occurs prior to the actual impairment charge, indicating that in general, investors are aware of the issues that may lead to a subsequent impairment long before the actual impairment is recognized.[6]

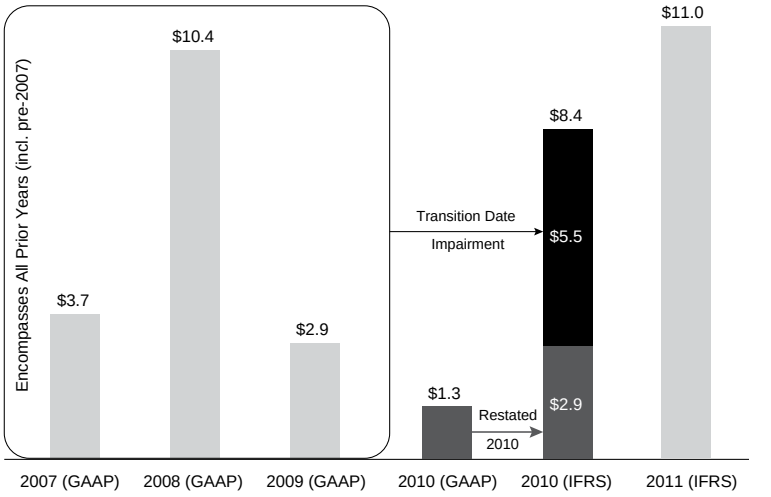
IFRS Adoption Highlights

- Canadian companies recognized an aggregate goodwill impairment of $8.4 billion in 2010 as a result of IFRS adoption.

5 The 2012 study examines goodwill impairment trends over the period 2007-2011.

6 This analysis is part of a shared-study between the Canadian and American offices of FEI and Duff & Phelps and is based on U.S. companies reporting under U.S. GAAP. There may be differences if a similar test were to be undertaken under IFRS, as the nature of the impairment test is different. In the future, as more impairment data under IFRS is accumulated within Canada we will consider updating this analysis solely for Canadian companies reporting under IFRS.

Graph 1: Goodwill Impairments, Canadian Companies (in CAD $billions)
2007-2011



- $5.5 billion of the total impairment amount reflects the initial impact of goodwill impairment testing under IFRS as of the transition date (January 1, 2010 for calendar year-end companies). This was not recognized as a direct impairment through the income statement, but rather as an equity adjustment at the transition date.
- Restating the 2010 goodwill impairments previously recognized under Pre-changeover GAAP into IFRS amplified the amount of write-downs from $1.3 billion to $2.9 billion, a net increase of $1.6 billion.
- These Transitional impairments were concentrated in 39 companies, and had an average and median value of $216 million and $14 million, respectively.
- Energy and Financials were industries where goodwill impairment was most impacted by the adoption of IFRS.

Survey and Forum Highlights

- A sizeable portion of survey respondents (17% of public company respondents and 12% of private company respondents) indicated that the transition from Pre-changeover GAAP to IFRS itself was the main cause of a goodwill write-down in 2011.
- Upon adoption of IFRS, the majority of those financial executives whose companies recognized goodwill impairments indicated the write-down was less than 20% of its total carrying amount.
- The most common reason for public companies recognizing goodwill impairment in their most recent test was the overall market downturn (22%), while 24% of private companies cited factors specific to the cash generating units (CGUs). These responses differed significantly from those of the U.S. respondents of a similar survey, where 51% of public and private companies indicated that goodwill impairments were primarily driven by factors specific to their reporting units rather than the continued overall market downturn.

- When asked if additional goodwill or other asset impairments during an upcoming interim or annual test were anticipated, the majority of Canadian respondents indicated they were not. Specifically 81% of public companies and 82% of private companies were not expecting impairments in the near future.

DESCRIPTION OF THE STUDY

This 2012 study includes five areas of analysis:

Contributed by Duff & Phelps

1. Goodwill Impairment and the Impact of IFRS Adoption
2. Summary Statistics by Industry
3. Market-to-Book Value Analysis
4. Returns-Based Analysis

Contributed by CFERF

5. 2012 CFERF Survey Results and Forum Insights

Company Base Set Selection and Methodology

In addition to company annual reports, the primary source of data for this study[7] was Standard & Poor's Capital IQ database ©2012.[8] This database was screened to isolate the companies that had characteristics consistent with the purpose of this study. First, exchange traded funds (ETFs) were excluded leaving 905 Canadian-based, Canadian-traded companies as of September 15, 2012. From this subset, companies that did not have a Global Industry Classification Standard (GICS) designation, and companies that did not have returns data and market capitalization data over the 2007-2011 study period, were excluded. This ensures that the companies included in the study had financial data for the entire period from 2007 to 2011.

These initial screens resulted in a universe of 673 Canadian-based, Canadian-traded companies. This universe included companies reporting under a mixture of different accounting standards. There were still a number of companies reporting under either U.S. GAAP or Pre-changeover GAAP in 2011.[9]

Because one of the objectives of the study is to examine the significance of the adoption of IFRS on goodwill impairments, the sample universe was further restricted to include only those companies that adopted IFRS as of the 2011 calendar year. This resulted in a base set of 621 companies ("All Canadian Companies"), which was then used to calculate all ratios, summary statistics, and portfolio returns throughout the study.

7 This does not apply to the survey or forum.
8 Standard & Poor's is a division of the McGraw-Hill Companies.
9 For purposes of this study, we refer to these companies collectively as "non-IFRS adopters". It is noted, however, that some of these companies may still transition to IFRS in a subsequent calendar year. See Table 1 for the distribution of companies allocated by accounting reporting standards over the 2012 study period.

OVERVIEW OF GOODWILL AND GOODWILL IMPAIRMENT

Contributed by Duff & Phelps

Financial reporting in Canada has been undergoing significant changes, as most publicly accountable enterprises (and other types of entities)[10] transition from Pre-changeover GAAP to IFRS.[11]

Until recently, Canadian standards for financial reporting by public companies were developed by the Canadian Accounting Standards Board (AcSB). In 2006, AcSB announced its intention to adopt IFRS for publicly accountable enterprises and in 2008 confirmed a January 1, 2011 mandatory adoption date for these entities. Since the adoption of IFRS, AcSB has been active in monitoring the timing of standards implementation by Canadian public companies that are required to report under IFRS.

In general, a publicly accountable enterprise is an entity that either:

- Has issued, or is in the process of issuing, debt or equity instruments that are, or will be, outstanding and traded in a public market (a domestic or foreign stock exchange or an over-the-counter market, including local and regional markets); 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 typically meet the second of these criteria.[12]

AcSB outlined a new framework in its 2006-2011 strategic plan whereupon different reporting strategies for each major category of reporting entity would be pursued.[13] As a result, the CICA Handbook — Accounting has been restructured to move away from a single financial reporting framework of Canadian GAAP to include various different financial reporting frameworks. These different financial reporting frameworks in Canadian GAAP are identified in the CICA Handbook — Accounting as follows:

- Part I — International Financial Reporting Standards (IFRSs)
- Part II — Accounting standards for private enterprises
- Part III — Accounting standards for not-for-profit organizations
- Part IV — Accounting standards for pension plans
- Part V — Canadian GAAP prior to the adoption of Parts I, II, III or IV (Pre-changeover accounting standards)

The CICA Handbook — Part I was effective for interim and annual financial statements relating to fiscal years beginning on or after January 1, 2011,[14] with the exceptions noted below. Parts II and IV were also effective for annual financial statements relating to fiscal years beginning on or after January 1, 2011. Part III was effective for annual financial statements relating to fiscal years

10 Both Canadian publicly accountable enterprises and government business enterprises (GBEs) are mandated to adopt IFRS. In addition, private enterprises and private sector not-for-profit organizations (NPOs) have the option (but not the obligation) to adopt IFRS. For a more detailed definition of each type of entity and the available financial reporting options, refer to the CICA website at: http://www.cica.ca/applying-the-standards/index.aspx.

11 There a number of sources that can be used to get more familiar with this background. The following websites are some the examples where information is available to help gaining a better understanding of the current financial reporting framework in Canada: Chartered Accountants of Canada (CICA): http://www.cica.ca/index.aspx; and Financial Reporting and Assurance Standards Canada: http://www.frascanada.ca/.

12 Source: The CICA's Guide to IFRS in Canada 2009 Edition.

13 The 2006-2011 strategic plan can be found here: http://www.frascanada.ca/accounting-standards-board/what-we-do/strategic-plan/item62118.pdf.

14 CICA Handbook, Part 1, Introduction, paragraph 1.7.

beginning on or after January 1, 2012. Certain entities were granted optional deferral periods, allowing them to adopt IFRS at a later date. Specifically:

> *Entities With Rate-regulated Activities* — In September 2012, AcSB extended the existing deferral of the mandatory IFRS changeover date for entities with qualifying rate-regulated activities for an additional year. Such entities now have the option to defer their changeover to IFRS to January 1, 2014.[15]
>
> *Investment Companies* — The option to defer the IFRS changeover date for investment companies and segregated accounts of life insurance enterprises was extended to January 1, 2014 to correlate with the timing of the joint FASB-IASB Investment Companies project.

Of note, private enterprises can elect to apply IFRS. While private companies may generally prefer to adopt the less complex rules under CICA Handbook — Part II, some of the Canadian private company survey participants have indeed adopted IFRS.

Finally, it is noted that in 2008, the Canadian Securities Administrators (CSA) issued a notice allowing Canadian issuers, who are also U.S. Securities and Exchange Commission (SEC) issuers, to continue to use the option to report under U.S. GAAP as permitted under National Instrument 52-107.[16]

The study's base set of All Canadian Companies includes 621 companies now reporting under IFRS for calendar year 2011. While the CICA Handbook allows adoption deferral and/or U.S. GAAP reporting for certain entity types, the reality is that there are relatively few Canadian-traded companies who are non-IFRS adopters (see Table 1).

Notwithstanding the focus of this study on IFRS adopters, goodwill impairment amounts reported by all 673 companies, including the non-IFRS adopters, were also examined in aggregate. The magnitude of goodwill impairments recognized by non-IFRS adopters is summarized in Table 2.[17]

The amount of goodwill impairments recorded by non-IFRS adopters was minor relative to the aggregate goodwill impairment, as originally reported. As such, excluding them from the analysis likely had little impact on the overall outcome of the study.

First Time Adoption of IFRS — Overview

Mandatory IFRS adoption was required for fiscal years commencing on or after January 1, 2011 for most Canadian publicly accountable enterprises. Early adoption was allowed for some of these entities. Nevertheless, most of them converted from Pre-changeover GAAP to IFRS at the mandatory date.

The special transitional rules that apply in the period that an entity changes from Pre-changeover GAAP to IFRS are provided in IFRS 1 *First-time adoption of International Financial Reporting Standards* (IFRS 1).

IFRS 1 requires the first-time adopter to establish its date of transition to IFRS, which it defines as the beginning of the earliest period for which an entity presents full comparative information under IFRSs in its first IFRS financial statements [IFRS 1 — Appendix A]. For calendar year companies adopting IFRS on January 1, 2011, the transition date was January 1, 2010.

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15 For additional details on the decision refer to: http://www.frascanada.ca/accounting-standards-board/meetings/decision-summaries/2012/item67809.aspx.

16 Source: The CICA's Guide to IFRS in Canada 2009 Edition.

17 Table 2 does not include 2010 data restated under IFRS. Rather, 2010 reflects information as originally reported under Pre-changeover GAAP.

As of the transition date the first-time adopter prepares an opening balance using IFRS accounting rules. If appropriate, the entity also reclassifies items recognized under previous GAAP.

In general, IFRS 1 calls for full retrospective application of IFRS standards. However, acknowledging the challenges of retrospective application (e.g. historical data availability), IFRS 1 includes several optional exemptions and mandatory exceptions to retrospective application.

Appendix C of IFRS 1 deals with exemptions for business combinations. In essence, first-time adopters may elect not to apply IFRS 3 *Business Combinations* (IFRS 3) retrospectively to all past business combinations (business combinations that occurred before the date of transition to IFRSs).

If a first-time adopter does not apply IFRS 3 retrospectively to past business combinations, this has a number of consequences. Importantly, regardless of whether there is any indication that goodwill may be impaired, the first-time adopter must apply International Accounting Standard 36 *Impairment of Assets* (IAS 36) at the transition date. In addition, the entity must recognize any resulting impairment loss in retained earnings (or, if so required by IAS 36, in revaluation surplus). The impairment test must be based on conditions at the date of transition to IFRS [IAS 36.C4(g)].

Table 1: Accounting standards of Canadian Companies Over Time
2007-2011

	2007	2008	2009	2010	2011
U.S. GAAP	16	16	19▲	22▲	36▲
IFRS	0	0	4▲	15▲	621▲
Canada GAAP	657	657	650▼	636▼	16▼
Total	673	673	673	673	673

Table 2: Non-IFRS Adopters' Goodwill Impairment (GWI) as a Percentage of Total Goodwill Impairment (as originally reported)
2007-2011

	2007	2008	2009	2010	2011
(Non-IFRS Adopters' GWI) / (IFRS Adopters' GWI + IFRS Adopters GWI) × 100%	4.0%	7.2%	7.4%	0.3%	3.2%

Goodwill Impairment — Accounting Overview

As previously noted, the general conceptual framework and many of the general principles may be similar between IFRS and Pre-changeover GAAP, but certain aspects of IFRS can differ significantly. Goodwill impairment rules are one of those areas.

According to IAS 36, goodwill recognized in a business combination is "an asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognized" [IAS 36.81].

The amount of goodwill recognized is measured as the excess of the consideration transferred (including the amount of any non-controlling interest and the fair value of any acquirer's previously held equity interest) over the net acquisition-date amounts of identifiable assets acquired and liabilities assumed [IAS 36.C1].

This study examines goodwill impairment over the past five years spanning Pre-changeover GAAP 3062 and IAS 36. From a technical point of view, IAS 36 is significantly different than Pre-changeover GAAP. Some of the more material differences are presented in Table 3. Further guidance is provided in Appendix C, Goodwill Impairment Frequently Asked Questions, and Appendix D, Overview of Goodwill Impairment Testing under IAS 36.

Table 3: Testing for Impairment Under Pre-changeover GAAP vs. IFRS

	Pre-Changeover GAAP	IFRS (IAS 36)
Method of determining a goodwill impairment	Two-step approach which requires an impairment test to be performed at the reporting unit, where the carrying amount of the reporting unit is compared to the calculated fair value (a.k.a. Step 1). If carrying value exceeds fair value of the reporting unit, an impairment loss calculation is triggered (a.k.a. Step 2).	One-step approach now demands calculating the impairment loss for each cash-generating unit or CGU by comparing the CGU's carrying amount to its recoverable amount. Recoverable amount is the highest of fair value less costs to sell or value in use.
Allocation of goodwill	Allocated to a reporting unit	Allocated to a CGU or group of CGUs, defined as the lowest level at which the goodwill is reviewed internally.
Calculation of an impairment loss	Loss calculated as the amount that the carrying value of goodwill exceeds the implied fair value of the goodwill. The implied fair value of goodwill is derived by performing Step 2 of the impairment test.	Loss calculated as the amount by which the carrying value of the CGU exceeds its recoverable amount. The calculated loss is allocated to goodwill first and then to other assets pro rata.
Reversal of loss	Not allowed	Not allowed for goodwill

GOODWILL IMPAIRMENT STUDY

Goodwill Impairment Study

Goodwill impairment information was compiled for Canadian companies for the years 2007-2011 and is summarized in Graph 2. The analysis included 621 Canadian-based, Canadian-traded companies, as previously described.[18]

In 2007 Canadian companies recorded aggregate goodwill impairments of $3.7 billion. During the onset of the global financial crisis in 2008, this rose to $10.4 billion, an increase of over 180%. 2009 saw the aggregate amount of goodwill impairment decline significantly to $2.9 billion.

Since 2010 marked the transition date to IFRS for most publicly traded entities, goodwill impairment is presented in two alternative ways: as originally reported under Pre-changeover GAAP, and as restated under IFRS.

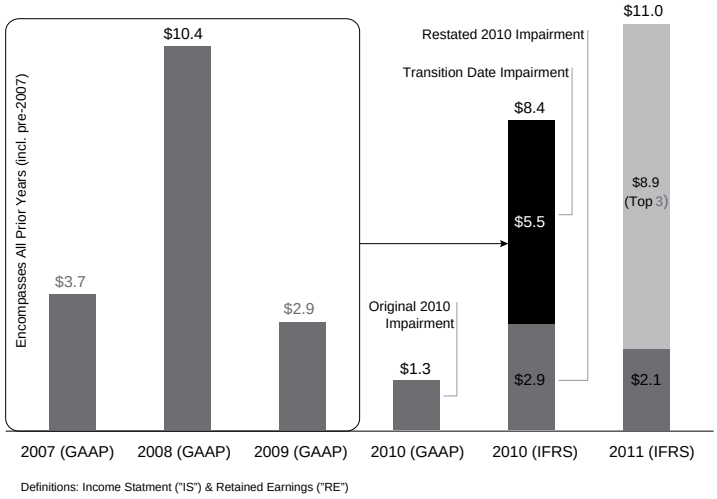
18 See description of the study on page 134.

The aggregate amount of goodwill originally impaired during 2010 under Pre-changeover GAAP ("Original 2010 Impairment") was $1.3 billion. It was subsequently restated under IFRS ("Restated 2010 Impairment") to $2.9 billion. This excludes amounts due to transitional goodwill impairment testing that occurred as of January 1, 2010.

As mentioned earlier, upon adoption companies can elect to restate all prior business combinations; otherwise goodwill must be tested for impairment on the transition date (January 1, 2010 in this study). The aggregate amount of goodwill impairment recorded as a result of testing goodwill for impairment under IFRS on the transition date ("Transition Date Impairment") was $5.5 billion. While it does not reflect the exact impact of restating all prior business combinations, the IASB's optional exemption intended the $5.5 billion to be a reasonable approximation of the incremental cumulative impairment that would have been recognized under IFRS. This analysis indicates that Canadian companies' transition from Pre-changeover GAAP to IFRS did have a significant impact on the aggregate carrying amount of goodwill.

2011 was the first year that Canadian companies that adopted IFRS in 2011 reported solely under IFRS.[19] Aggregate goodwill impairment for these companies was $11.0 billion, with three large-cap companies recognizing $8.9 billion (or 81%) of the total. These companies (Thomson Reuters, Kinross Gold Corporation, and Yellow Media Inc.), were all impacted by either organizational and/or external industry challenges.

Graph 2: Goodwill Impairments, Canadian Companies (in CAD $billions)
2007-2011



Definitions: Income Statment ("IS") & Retained Earnings ("RE")

The concentration in goodwill impairment was not an aberration in 2011. Table 4 summarizes the percentage of aggregate goodwill impairments represented by the three largest goodwill impairments in each year.

The number of goodwill impairment events, and the average and median dollar amounts are provided in Table 5. In 2010, under Pre-changeover GAAP, there were 22 goodwill impairment events with average and median dollar amounts of $61.2 million and $6.1 million, respectively. Under IFRS, there were 39 goodwill impairment events in 2010 with the average and median goodwill impairment dollar amounts increasing to $215.8 million and $14.3 million, respectively.

19 As noted on Table 1, there were still 16 public companies reporting under Pre-changeover GAAP. Possible explanations for the delay in adopting IFRS may include the use of optional exemptions described earlier for entities with rate-regulated activities and investment companies.

On its face this analysis suggests that goodwill impairments under IFRS are greater than under Pre-changeover GAAP. However, as alluded to before, a majority of the goodwill impairment adjustment in 2010 was the result of transition date requirements. This is examined in greater detail in the following section.

Table 4: Three Largest Goodwill Impairments (GWI), by Dollar Value, as a Percentage of Total Goodwill Impairments
2007-2011

	Pre-changeover GAAP				IFRS	
	2007	2008	2009	2010	2010	2011
(Largest 3 GWI Amounts) / (Aggregate GWI Amount) × 100%	74%	32%	59%	88%	73%	81%

Table 5: Goodwill Impairment Events; Counts, Averages, and Medians Over Time
2007-2011

	Pre-changeover GAAP				IFRS	
	2007	2008	2009	2010	2010	2011
Number of Goodwill Impairment Events	28	78	32	22	39	36
Average Impairment	$131.5	$133.7	$91.7	$61.2	$215.8	$306.7
Median Impairment	$15.2	$26.8	$21.3	$6.1	$14.3	$22.8

Further quantifying the impact of IFRS adoption

Calendar year 2010 provides a unique opportunity to assess the incremental amount of goodwill impairment due specifically to the adoption of IFRS. Upon adoption of IFRS companies are required to prepare comparable prior-year financial statements that reflect adjustments to goodwill impairments and the carrying amount of goodwill (see earlier discussion under *First Time Adoption of IFRS — Overview*).

There are two potential sources of goodwill impairment (or adjustment) resulting from the adoption of IFRS. For purposes of the 2012 study, we refer to these two potential sources as:

- Transition Date Impairment
- Restated 2010 Impairment

We employed the following steps to identify the magnitude of these impacts:

Step 1: The original amount of goodwill reported in the year-end 2010 balance sheet by each of the 2012 study's 621 Canadian publicly-traded companies under Pre-changeover GAAP was compared to their IFRS restated carrying amount of goodwill.[20] The reported carrying amounts differed for 153 companies.

Step 2: The footnote disclosures for each of the 153 companies were examined to isolate the cause of this difference. There were 31 companies identified for which the change in goodwill balance was at least partly due to goodwill impairment testing (either due to "Transition Date Impairment" and/or "Restated 2010 Impairment"). This was done by comparing the balance as originally reported under Pre-Changeover GAAP relative to the amounts reported under IFRS. Goodwill impairment amounts for the following three categories were documented for each of the 31 companies:

20 This comparison was made as of the end of their fiscal years, during calendar year 2010.

Original 2010 Impairment — Aggregate amount of goodwill impairment originally reported in 2010 under Pre-changeover GAAP.

Transition Date Impairment — Aggregate amount of goodwill impairment reported as a result of the 2010 transition date testing (January 1, 2010 for most companies).

Restated 2010 Impairment — Aggregate amount of goodwill impairment reported during 2010 as a result of the restatement of 2010 financials under IFRS.

The overall initial impact that the transition from Pre-changeover GAAP to IFRS had on aggregate goodwill impairments is therefore:

Overall initial impact = Transition Date Impairment + Restated 2010 Impairment — Original 2010 Impairment

Table 6 summarizes the number of companies that recorded Transition Date Impairment, Restated 2010 Impairment, or both.

Step 3: In addition to the 153 companies that passed the initial Step 1 screen, we identified 8 additional companies whose goodwill balance did not change, although a goodwill impairment was recognized. These 8 companies recorded $126 million of goodwill impairment, which is reflected in the $8.4 billion of total impairment under IFRS in 2010.

It is noted that of the 153 companies identified in Step 1, there were 122 that did not report goodwill impairment under IFRS as a result of adoption (153 companies − 31 goodwill impairments = 122). There are other standards besides IAS 36 that can cause the goodwill carrying amount to change from Pre-changeover GAAP to IFRS. Some of the most common standards cited in the footnotes include:[21]

- IFRS 3 *Business Combinations*
- IAS 21 *The Effects of Changes in Foreign Exchange Rates*
- IAS 37 *Provisions, Contingent Liabilities, and Contingent Assets*
- IAS 38 *Intangible Assets*

The 2012 study does not examine the impact of goodwill adjustments due to any standards other than IAS 36.

Finally, the study uses calendar years (rather than “most recent fiscal year”) in all cases in order to examine impairment values during a specific period of time, regardless of company specific choices of fiscal years.

Table 6: 2010 Transition Date Impairment and Restated 2010 Impairment Events

	Transition-Date Impairment	Restated 2010 Impairment	Both	Total
2010 Transition Date Impairment and Restated Impairment: Company Counts	19	12	8	39
	49%	31%	20%	100%

21 For more information, please refer to the section “Overview of Goodwill and Goodwill Impairment – Goodwill Impairment — Accounting Overview” on page 137.

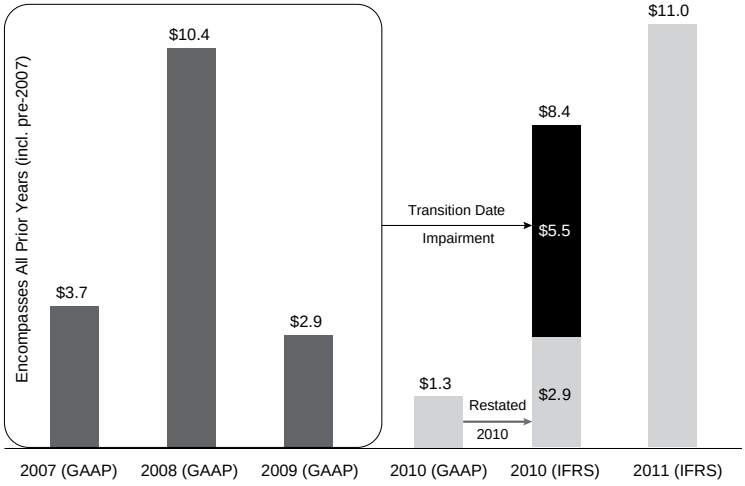
Transition Date Impairment

Companies have the option of restating all prior business combinations and subsequent impairment tests under IFRS or testing goodwill for impairment on the transition date (the beginning of the year prior to the adoption year, January 1, 2010 in most cases). Canadian companies generally opted to perform a Transition Date Impairment test rather than perform a historical restatement of prior business combinations.

Any changes arising from difference between Pre-changeover GAAP and IFRS, which relate to events and transactions occurring before the transition date, are recorded directly in retained earnings at the transition date.[22] Transition date impairments did not impact a company's IFRS restated income statement.

Transition Date Impairments accounted for $5.5 billion of the aggregate $8.4 billion in goodwill impairments in 2010, as recorded under IFRS (see Graph 3).

Graph 3: Transition Date Impairment (in CAD $billions)
2007-2011



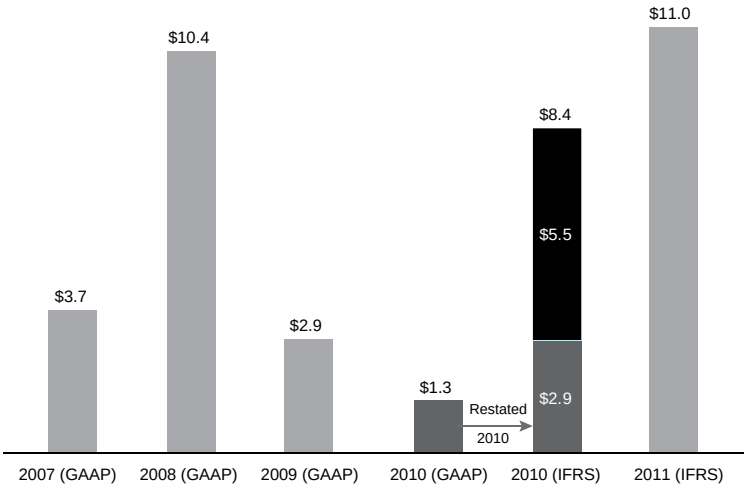
Restated 2010 Impairment

Under IFRS, companies conducted goodwill impairment tests following IAS 36 guidance, which may have resulted in a restatement of impairment charges originally recorded during 2010 under Pre-changeover GAAP. These Restated 2010 Impairment charges have been examined separately and are highlighted in Graph 4.

Original 2010 Impairment under Pre-changeover GAAP was $1.3 billion. This was restated to $2.9 billion, a net increase of $1.6 billion. While there were a small number of entities with a decline in 2010 goodwill impairment as a result of IFRS adoption, a majority saw a rise in the amount of impairment recognized.

22 For more information, please refer to the section "Overview of Goodwill and Goodwill Impairment — First Time Adoption of IFRS — Overview" on page 136.

Graph 4: Restated 2010 Impairment (in CAD $billions)
2007-2011



Overall Initial Impact of IFRS Adoption

A measure of the overall initial impact that the adoption of IFRS had on goodwill impairments in 2010 thus includes both restatements (under IFRS) of 2010 impairments originally recorded under Pre-changeover GAAP and goodwill impairments that were recorded as an equity adjustment (rather than an impairment expense) as of the transition date. The overall initial impact can be expressed as:

Impairment	CAD $billions
Transition Date	5.5
+ Restated 2010	2.9
− Original 2010	(1.3)
Overall Initial Impact	$7.1

SUMMARY STATISTICS BY INDUSTRY

Contributed by Duff & Phelps

In order to assess the relative performance of a subject company and evaluate the impact of industry trends, it is beneficial to understand how Canadian companies recorded impairments of goodwill within specific industries.[23] This information can facilitate the comparability of financial statements and provide a useful benchmark during the goodwill impairment testing process.

In order to better understand which industries were most affected by goodwill impairments over time, Table 7 provides the rank order (from 1 to 10) of total dollar value of goodwill impairment by industry during the period 2007-2011.

23 Industries are defined throughout the 2012 study in accordance with Global Industry Classification Standard (GICS) codes.

We note that for purposes of this industry analysis, 2010 under IFRS includes both Restated and Transition Date Impairments.

Industries were ranked annually from the highest dollar value of goodwill impairment (ranked first) to the lowest dollar value of goodwill impairment (ranked tenth).

Looking to Table 7, in 2007 Information Technology impaired the 5th largest amount of goodwill, but in 2011 Information Technology recorded the 10th largest amount of goodwill impairment. Another example is Financials, which ranked fourth in overall goodwill impairment charges in 2008, but ranked first in both 2010 for both Pre-changeover GAAP and IFRS.

Table 7: Rank Order of Goodwill Impairments, Canadian Companies, by Dollar Value, by Industry (1 = Highest, 10 = Lowest)
2007-2011

	Pre-changeover GAAP				IFRS	
Rank Order	2007	2008	2009	2010	2010	2011
1	Consumer Discretionary	Materials	Consumer Discretionary	Financials	Financials	Consumer Discretionary
2	Energy	Consumer Discretionary	Financials	Energy	Energy	Materials
3	Materials	Information Technology	Industrials	Industrials	Consumer Staples	Financials
4	Industrials	Financials	Energy	Consumer Discretionary	Industrials	Industrials
5	Information Technology	Industrials	Consumer Staples	Healthcare	Utilities	Energy
6	—	Energy	Healthcare	Tele-communica-tion Services	Healthcare	Healthcare
7	—	Tele-communica-tion Services	Materials	Consumer Staples	Consumer Discretionary	Tele-communica-tion Services
8	—	Utilities	Information Technology	Materials	Tele-communica-tion Services	Consumer Staples
9	—	Consumer Staples	—	Information Technology	Materials	Utilities
10	—	Healthcare	—	—	Information Technology	Information Technology

In Table 8, the percentage of Canadian companies that carried goodwill on their balance sheets in each of the 10 industries is shown over time (the largest percentage in each year is indicated in gray, and the smallest percentage in each year is indicated in blue).

Overall, approximately 60%-70% of Canadian companies carry goodwill on their balance sheets. All seven of the companies in Telecommunications services carried goodwill over the 2007-2011 period, followed by Consumer Staples at around 80%-85%. Materials had the lowest percentage of companies with goodwill in each year at approximately 14%. The 2010 transition to IFRS did not have a significant impact as roughly the same number of companies carried goodwill.

Table 8: Percentage of Canadian Companies with Goodwill, by Industry
2007-2011

	Pre-changeover GAAP				IFRS	
	2007	2008	2009	2010	2010	2011
Energy	47%	42%	39%	42%	39%	41%
Materials	15	14	13	13	13	14
Industrials	74	69	70	69	70	71
Consumer Discretionary	65	65	65	68	68	65
Consumer Staples	79	86	86	83	83	86
Healthcare	29	29	26	29	29	26
Financials	57	55	55	55	55	57
Information Technology	79	74	76	79	74	79
Telecommunication Services	100	100	100	100	100	100
Utilities	50	40	60	70	70	80
Average	**60%**	**57%**	**59%**	**61%**	**62%**	**62%**
Median	**61%**	**60%**	**63%**	**68%**	**69%**	**68%**

In Table 9, the percentage of Canadian companies *with* goodwill that recorded goodwill impairment in each of the 10 industries is shown over time (the largest percentage in each year is indicated in gray).

Of the Canadian companies *with* goodwill in 2011, Healthcare was the industry with the highest percentage of firms recognizing a goodwill impairment (33%). Conversely, only 3% of Information Technology companies *with* goodwill recognized an impairment in 2011, the lowest level of all industries.

The 2010 transition to IFRS resulted in some meaningful changes: the percentage of companies with goodwill that recorded goodwill impairment in the Utilities, Energy, Financials, Consumer Staples, Industrials, and Information Technology increased, while Consumer Discretionary declined. Materials, Healthcare and Telecommunication Services were unchanged.

Energy and Utilities were the industries registering the biggest changes, as a result of the 2010 transition to IFRS. Under Pre-changeover GAAP, only 10% of Energy companies with goodwill had recorded a goodwill impairment in 2010. However, that proportion increased to 35% for the Energy industry under IFRS.

The impact was even greater for Utilites in that none of the companies with goodwill had reported an impairment under Pre-changeover GAAP, but 29% did so under IFRS.

Table 9: Percentage of Canadian Companies with Goodwill that Recorded Goodwill Impairment, by Industry
2007-2011

	Pre-changeover GAAP				IFRS	
	2007	2008	2009	2010	2010	2011
Energy	23%	40%	11%	10%	35%	15%
Materials	17	52	12	4	4	11
Industrials	8	38	14	6	10	12
Consumer Discretionary	12	28	16	9	7	21
Consumer Staples	—	4	16	8	13	8
Healthcare	—	20	22	20	20	33
Financials	—	7	7	11	18	7
Information Technology	3	25	7	3	4	3
Telecommunication Services	—	14	—	14	14	29
Utilities	—	25	—	—	29	13
Average	**6%**	**25%**	**11%**	**9%**	**15%**	**15%**
Median	**2%**	**25%**	**11%**	**9%**	**13%**	**12%**

The total dollar value of goodwill impairments by industry over the time period 2007-2011 is shown in Table 10.[24] For example, in 2008 during the height of the financial crisis, Materials and Consumer Discretionary impaired the largest aggregate amount of goodwill, at $3.3 billion and $2.6 billion, respectively. Consumer Discretionary and Materials again topped the list in 2011 at $3.0 and $6.3 billion, respectively. Nearly 81% of aggregate goodwill impairment in 2011 was recognized by three companies in these industries, two in Consumer Discretionary (Thomson Reuters at $3.1 billion and Yellow Media at $2.9 billion) and one in Materials (Kinross Gold Corporation at $3.0 billion).

2010 also captures the impact of IFRS adoption for each of the industries. Table 10a breaks out aggregate 2010 IFRS goodwill impairments for each industry into Transition Date Impairment and Restated 2010 Impairment.

Energy and Financials had the largest amount of goodwill impairment in 2010 as originally reported under GAAP ($102.8 million and $1,051.2 million, respectively), and also had the largest amounts as restated under IFRS ($1,870.0 million and $6,187.0 million, respectively).

24 Source: Standard & Poor's Research Insight and Capital IQ databases. For a complete listing of goodwill impairments for 2011 at GICS sub-industry level, see Appendix E.

Table 10 and 10a: Goodwill Impairments, Canadian Companies, by Industry (in CAD $millions)
Table 2007-2011

	Pre-changeover GAAP				IFRS	
	2007	2008	2009	2010	2010	2011
Energy	$768.4	$973.8	$95.1	$102.8	$1,870.0	$121.8
Materials	464.8	3,343.0	52.6	0.3	3.4	3,022.7
Industrials	61.0	1,048.6	311.0	93.9	85.1	554.0
Consumer Discretionary	2,386.8	2,582.4	1,232.8	35.4	27.4	6,257.8
Consumer Staples	—	20.3	85.1	14.0	135.8	8.6
Healthcare	—	9.9	53.6	34.5	34.1	55.6
Financials	—	1,118.1	1,077.3	1,051.2	6,187.0	972.0
Information Technology	1.9	1,135.5	25.5	0.1	1.6	4.6
Telecommunication Services	—	154.0	—	14.1	14.1	36.0
Utilities	—	43.3	—	—	58.3	7.7
Total	**$3,682.9**	**$10,428.9**	**$2,933.0**	**$1,346.3**	**$8,416.7**	**$11,040.8**

	Transition Date Impairment January 1, 2010 (IFRS)	Restated 2010 Impairment (IFRS)	2010 (IFRS)
Energy	$1,370.4	$499.6	$1,870.0
Materials	3.4	—	3.4
Industrials	79.6	5.5	85.1
Consumer Discretionary	13.0	14.4	27.4
Consumer Staples	121.5	14.3	135.8
Healthcare	34.1	—	34.1
Financials	3,843.0	2,344.0	6,187.0
Information Technology	1.6	—	1.6
Telecommunication Services	14.1	—	14.1
Utilities	35.1	23.2	58.3
Total	**$5,515.8**	**$2,900.9**	**$8,416.7**

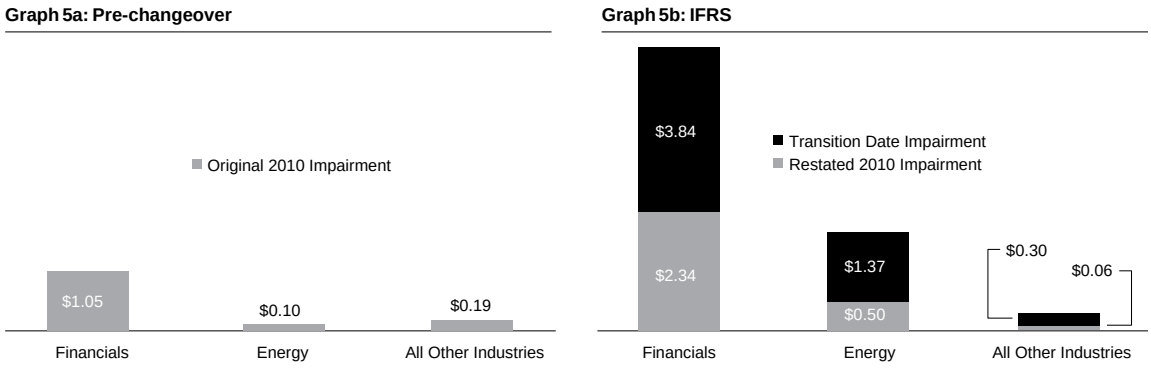
Under both Pre-changeover GAAP and IFRS, the Financial and Energy sectors impaired the largest amount of aggregate goodwill in 2010. Financials and Energy accounted for $1.15 billion ($1.05 billion + $0.10 billion) or 86% of the $1.35 billion goodwill impairment originally recorded in 2010 under Pre-changeover GAAP (Graph 5a).

Graph 5b displays Restated 2010 Impairment and Transition Date Impairment under IFRS. Unsurprisingly, Financials and Energy accounted for the majority of Restated 2010 Impairment as

well, (shown in the lower half of each bar, in blue), at $2.84 billion ($2.34 billion + $0.50 billion) or 98% of the total $2.9 billion Restated 2010 Impairment.

The Financials and Energy sectors also accounted for the majority of Transition Date Impairment (shown in the upper half of each bar, in red). In Graph 5b, Financials and Energy accounted for $5.21 billion ($3.84 billion + $1.37 billion) or 95% of the total $5.5 billion of Transition Date Impairment recorded by Canadian companies in 2010.

Graph 5a and 5b: 2010 Goodwill Impairments (Pre-changeover GAAP, and then IFRS), Canadian Companies (in CAD $billions).



GOODWILL IMPAIRMENT AND MARKET-TO-BOOK VALUE

Contributed by Duff & Phelps

Market-to-Book Value Overview

A company's market capitalization, while certainly not the definitive indicator of impairment, should not be ignored in the assessment of goodwill impairment. IAS 36 incorporates this sentiment by stating that external sources of information should be considered when determining whether there is any indication that an asset may be impaired.[25] In the list of potential impairment indicators is precisely the carrying amount of the entity's net assets exceeding its market capitalization. Companies that record goodwill impairment charges ostensibly do so as a result of more-than-temporary changes in the financial and operating conditions of their CGUs, often corroborated by aggregate market capitalization declines. It seems reasonable that companies, which have historically relied upon their stock prices during up markets to justify that there are no impairments in their businesses, should consider the implication of stock price declines as well.[26]

Graph 6 plots the median market-to-book ratio for the following three portfolios of companies:

1. All Canadian Companies: 621 Canadian publicly-traded companies in the dataset,
2. Large Canadian Companies: 50 largest Canadian publicly-traded companies,[27]

25 Subject to limitations and guidance provided for in IAS 36, paragraph 12.
26 Mark M. Donahue, MBA. "Impairment Revisited: Beware of goodwill impairment analyses during extreme market conditions", The Value Examiner, September/October 2010, pages 13-16.
27 As determined by market capitalization in the year measured.

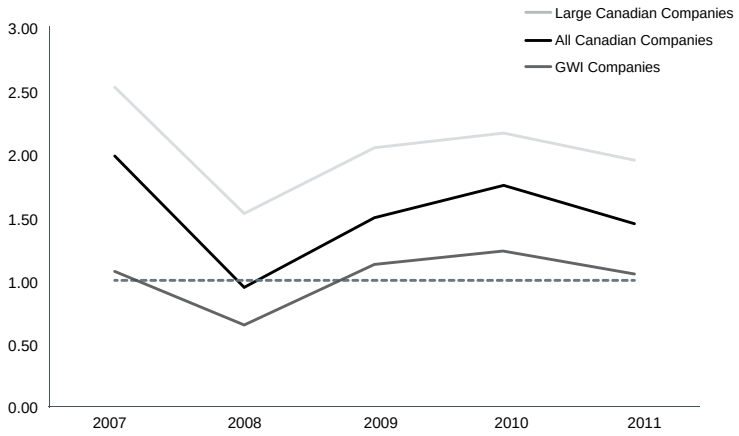
3. GWI Companies: Canadian publicly-traded companies that recorded a goodwill impairment charge at any time over the 2007-2011 time horizon.[28, 29]

All three of these portfolios experienced relatively low market-to-book ratios at the height of the financial crisis in 2008, with GWI Companies and All Canadian Companies trading below the reported book value of equity. This implied, at least temporarily, the market perceived that the reported book values were too high relative to the underlying value of these companies.

Rather unsurprisingly, the GWI Companies portfolio had the lowest median market-to-book value ratio over the entire 2007-2011 period.

Graph 6: Median Market-to-Book Ratio for *All Canadian Companies, Large Canadian Companies,and GWI Companies*

2007-2011



While it is instructive to analyze the market-to-book ratios over time, it is also informative to measure the percentage of companies with market-to-book ratios less than 1.0 over similar periods. As illustrated in Graph 7 the percentage of such companies, in each of the three portfolios, peaked towards the end of 2008.

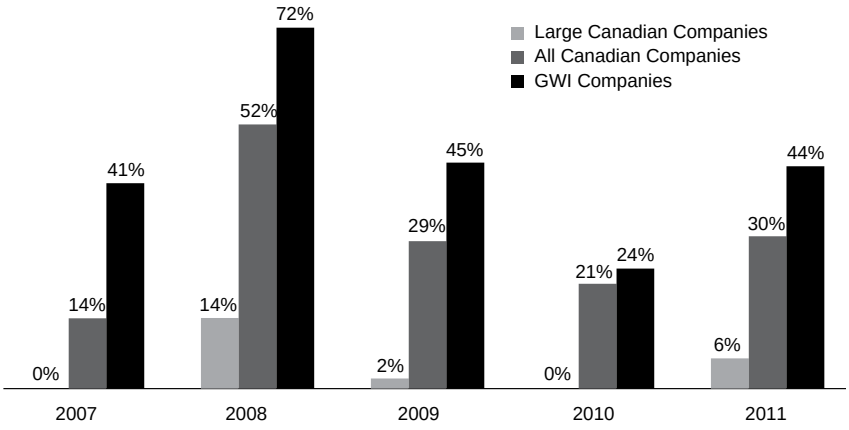
Understanding the dynamics of the market-to-book ratios is informative, but the fact that an individual company has a ratio below 1.0 does not, by default, result in an impairment of goodwill. CGU structures, their respective performance, and where the goodwill resides are all critical factors that must be considered during the impairment testing process. A low market-to-book ratio, however, is an indicator for possible impairment and may require further analysis to conclude that there is no impairment.

It is also important to differentiate between a goodwill impairment event that may be corroborated by market capitalization declines, and a goodwill impairment event purely due to an "accounting" event. Changes in goodwill impairment amounts that result from the adoption of a new accounting standard (e.g., Pre-changeover GAAP to IFRS) are more likely a function of the change in accounting standards, and may not be accompanied by aggregate market capitalization declines.

28 Source: Standard & Poor's Research Insight and Capital IQ databases. Market-to-book is defined as monthly market value divided by the common shareholder's interest in the company, including common stock, capital surplus, retained earnings.

29 Companies that recorded goodwill impairment were identified based upon the goodwill impairments originally reported, across all years. As such, the effect of restating 2010 under IFRS is not captured here.

Graph 7: Percentage of All Canadian Companies, Large Canadian Companies, and GWI Companies with Market-to-Book Value Ratios Less than 1.0 2007-2011



RETURNS-BASED ANALYSIS

Financial and academic studies have analyzed the effect, if any, that goodwill impairment has on stock prices, both before and after goodwill is impaired.

One study (among others) found that "Impairments are associated with low market returns before the impairment, indicating that market investors anticipate goodwill impairments"[30] (emphasis added).

Another study found that "impairments are negatively associated with corporate performance after the impairment"[31] (emphasis added). The authors of this study also find evidence that investors and financial analysts revise their expectations downwards following a goodwill impairment announcement and those revisions are related to the size of the impairment.

Others remark on the amount of time between probable goodwill impairment and the actual accounting entry. As one study stated, "…we find that goodwill impairments lag deteriorating operating performance and stock returns by at least two years. Furthermore, the announcements of goodwill impairments elicit little market response. The evidence suggests that goodwill impairment decisions by management are not a timely reflection of the changes in estimated future underlying cash flows but rather a delayed response to the almost complete exhaustion of the goodwill."[32]

A recent study has constructed alternative measures to accounting goodwill that the authors believe to be better predictors of future impairment charges and post acquisition operating perfor-

30 Alciatore, M., P. Easton, and N. Spear. 2000. "Accounting for the Impairment of Long-Lived Assets: Evidence from the Petroleum Industry," Journal of Accounting and Economics 29: 151-172. Henning, S., B. Lewis, and W. Shaw. 2000. "Valuation of the Components of Purchased Goodwill," Journal of Accounting Research 38: 375-386. Herschey, M., and V. Richardson. 2003. "Investor Underreaction to Goodwill Write-Offs," Financial Analysts Journal, November/December: 75-84.

31 Li, Z., Shroff, P.K., Venkataraman, R., and Zhang, I. (2010) "Causes and Consequences of Goodwill Impairment Losses." Working paper.

32 Li, K.K. and Sloan, R.G. (2011) "Has Goodwill Accounting Gone Bad?" Working paper.

mance. For instance, the authors measure a construct they call *fair value goodwill* [33] and find that it significantly improves the prediction of operating returns.[34]

Relative performance by goodwill impairment characteristic

To study the performance of companies that have impaired goodwill relative to the market in general, portfolios of Canadian companies were created with certain characteristics and then the relative performance of each was calculated over time.

Market-capitalization-weighted returns for each of the portfolios were calculated, and indices representing the growth of $1 invested at year-end 2006 were constructed for each portfolio and compared to an index representing an investment of $1 in the S&P/TSX Composite Index (the market) over the same period.[35]

Impairments before 2011 are reported and calculated under Pre-changeover Canadian GAAP, with impairments in 2011 calculated under IFRS. This returns-based analysis is limited to the extent there are differences in calculating and quantifying impairments under both methods. We note, however, the results of our analysis are similar to the U.S. study, which has not undergone a significant accounting standard shift.

YES/NO Portfolios:

Companies that had impaired goodwill vs. companies that did not.

In an attempt to broadly gauge the performance differences between companies that had recognized goodwill impairment and those that had not, two separate portfolios were constructed:

1. “Goodwill Impairment (YES)” portfolios: Comprised of companies that impaired goodwill in any quarter over the quarters ending March 2007 through December 2011.
2. “Goodwill Impairment (NO)” portfolios: Comprised of companies that did not impair goodwill in any quarter over the period March 2007 through December 2011.

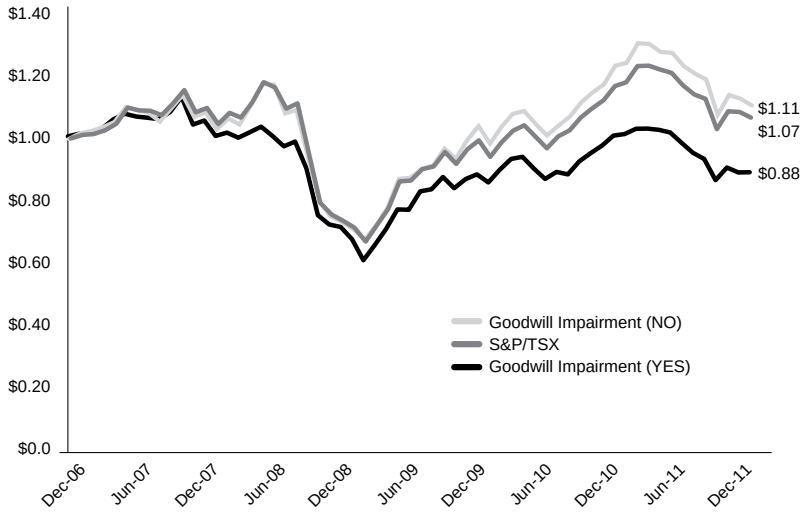
The returns of these two portfolios and the S&P/TSX Composite Index are then compared, as presented in Graph 8. Over the time horizon 2007-2011, companies that had not recorded goodwill impairment outperformed both companies that had recorded goodwill impairment and the S&P/TSX Index. An investment of $1 at the end of December 2006 in the S&P/TSX Composite Index would have grown to $1.07 by the end of December 2011, while a similar investment in the “Goodwill Impairment (NO)” portfolio would have grown to $1.11. The “Goodwill Impairment (YES)” portfolio, however, would have decreased to $0.88.

33 The authors define market value of goodwill as the goodwill that would have been recognized had the acquisition been carried out at fair market value (i.e., with a zero future economic profit for the acquirer), which according to them includes both synergies that were paid for (i.e., benefiting the target shareholders) and synergies that were not paid for (i.e., benefiting the acquirer shareholders).

34 Lys, T.Z., Vincent, L., and Yehuda, N. (2012). “The Nature and Implications of Acquisition Goodwill.” Working paper.

35 Market-capitalization-weighted returns were calculated at the company level for each of the 60 months in the time horizon studied for each portfolio; the sum of these represents the portfolio return.

Graph 8: Goodwill Impairment (YES) and Impairment (NO) Portfolios vs. the S&P/TSX Composite Index
Index (Year-End 2006 = $1.00)
January 2007-December 2011



Relative performance before and after goodwill is impaired

"Impairments are associated with low market returns before the impairment, indicating that market investors anticipate goodwill impairments.[36] *Impairments are negatively associated with corporate performance after the impairment, indicating that goodwill, once written off, does not continue to produce income."*[37]

The performance of U.S. companies relative to the market before and after goodwill is impaired was examined in a shared study between the Canadian and American offices of FEI and Duff & Phelps.[38] To complete this analysis, all (quarterly) occurrences of U.S. goodwill impairment over the 2006-2010 period were first mapped to the month that they were made public (i.e. the "reveal" month), using the filing date and the financial statement in which the impairment was originally announced as a proxy for the reveal month.[39]

Then, for all companies revealing impairments in each month from January 2006 to December 2010, market capitalization weighted portfolio returns were calculated for the 12 months before the impairment reveal month, and for the 12 months after the impairment reveal month, as shown on Figure 1.

36 Alciatore, M., P. Easton, and N. Spear, 2000. "Accounting for the Impairment of Long-Lived Assets: Evidence from the Petroleum Industry," Journal of Accounting and Economics 29: 151-172. Henning, S., B. Lewis, and W. Shaw. 2000 "Valuation of the Components of Purchased Goodwill", Journal of Accounting Research 38: 375-386. Herschey, M., and V. Richardson. 2003 "Investor Underreaction to Goodwill Write-Offs," Financial Analysis Journal, November / December: 75-84.

37 Li, Z. P. Shroff, R, Venkataraman. 2006. "Goodwill impairment Loss: Causes and Consequences." University of Minnesota Working Paper."

38 In the U.S. Goodwill Impairment study, the market is defined as the S&P 500 Index. To learn more and for a free download of the U.S, study, visit http://www.duffandphelps.com/Pages/default.aspx and go to Expertise/Publications/View all Reports.

39 This was a simplification in the sense that some companies may announce the magnitude of goodwill impairment prior to filing their financial statements with the SEC.

Figure 1

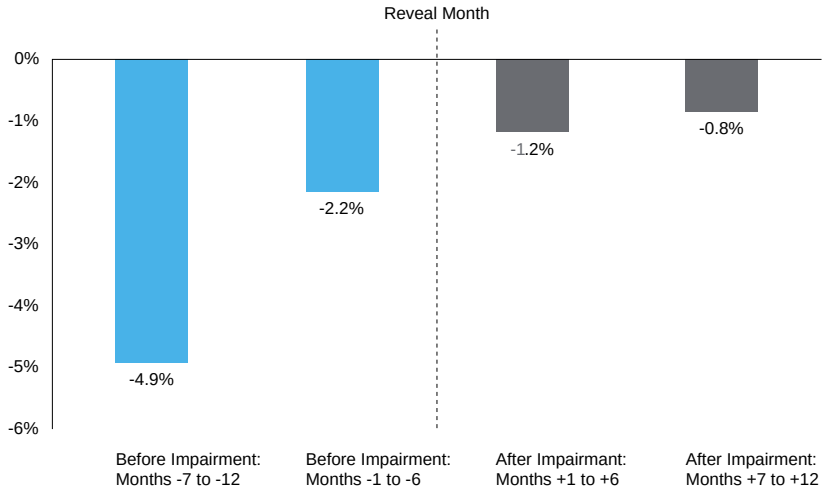
The results of this study are summarized in Graph 9. For example, the average relative performance in the first six months after impairment (for all 60 reveal months) was -1.2 percent.

The overall results are as follows:

- Companies with goodwill impairments underperform the market both before and after the impairment of goodwill
- Most of the underperformance occurs prior to the impairment date, indicating that in general, investors are aware of the issues that may lead to a subsequent impairment long before the actual impairment is recognized.
- The underperformance relative to the market tends to diminish over time.

Again, this analysis is based on U.S. companies under U.S. GAAP, and results could be different if this same analysis were to be completed under IFRS as the nature of the impairment test is different. In the future, as more impairment data under IFRS is accumulated in Canada we will consider updating this analysis using Canadian companies.

Graph 9: Performance Relative to the S&P 500 Before and After Goodwill is Impaired (in%)
Goodwill Impairment "Reveal" Months January 2005–December 2009



CFERF SURVEY RESULTS AND FORUM COMMENTARY

Contributed by CFERF

Methodology

As part of this study, an online survey of Canadian financial executives was conducted in the spring of 2012. Respondents included CFOs (43%), controllers (20%), finance directors (13%), VP finance (11%), chief accountants (4%), as well as other titles (9%). The largest industry group (26%) was from the energy industry, 13% were from financial services, 8% from manufacturing and the remainder from more than a dozen other industries. 68% were from public companies and 32% from private companies. Responding public companies were dimensioned as follows: $1 billion in revenues or higher (33%), revenues between $100 million and $1 billion and revenues less than $100 million (34%). Private companies, however, were more likely to be concentrated in either the range of $100-499 million of revenues (47%) or $500 million to $1 billion (24%). More demographic information can be found in Appendix A.

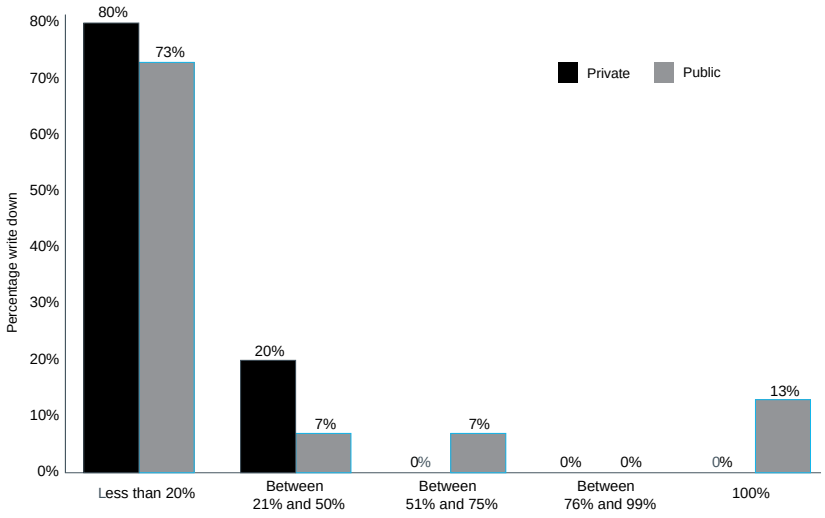
The survey was followed by an executive research forum held on September 18, 2012 in which the views and insights of financial executives from a variety of industries were sought.

Cause and Effect

Of the respondents that had adopted IFRS, the majority tested goodwill for impairment upon adoption (81% of public companies and 76% of private). The majority of those who tested for impairment upon adoption and who did find that the goodwill was impaired indicated that the necessary write-down was less than 20 percent. Only 20% of public companies wrote off more than 50% of their goodwill. No private companies wrote off more than 50%. See graph 10 below.

> "Prior to IFRS, even though it didn't impact us at the time, you could have one part of the business doing extremely well that would shield the potential goodwill impairment of another part of the business. Now you can't do that ... And in any given year, if one part of the business underperforms, you could have a goodwill impairment when every other part of the business is strikingly handsome.
>
> **Michael Staresinic — Vice President, Sprott Inc.**

Graph 10: Upon IFRS adoption, if goodwill was impaired, what was the percentage of write down?

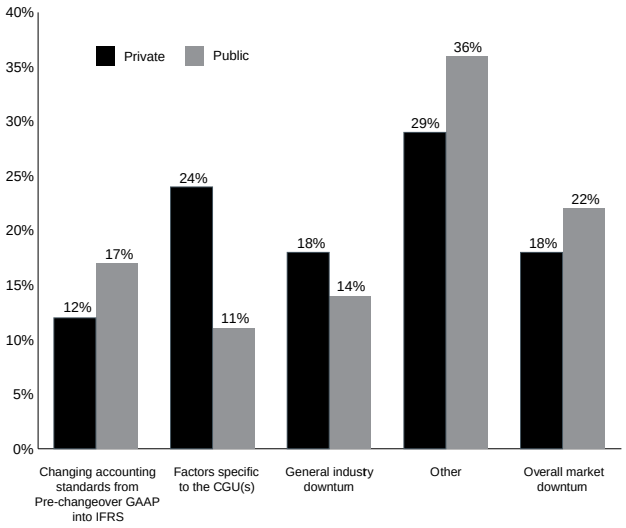


Interestingly, when asked for the main driver(s) causing their most *recent* goodwill impairment, a sizeable portion of respondents (17% of public company respondents and 12% of private company respondents) indicated that the transition from pre-changeover GAAP to IFRS itself was the main cause. However in the research forum, Vic Wells, a corporate director and retired CFO who serves on several audit committees, said he suspected that there are a few companies which did not hesitate to use the IFRS conversion as a good reason for justifying impairments that may have already been in the works. “It was good timing,” Wells said.

The most common reason for public companies was the overall market downturn (22%), and factors specific to the cash generating units (CGUs) were most common for private companies (24%). These responses differed significantly from those of the American respondents, of whom 51% indicated that the main driver of the goodwill impairment were factors specific to the reporting units (which are similar to CGU’s but typically aggregated at a higher level). General industry downturn was cited by 18% of private companies and 14% of public companies.

Participants at the research forum were asked if they thought the requirement under IFRS to drill into the CGU(s) at a lower level than previously could be one of the contributing factors to greater impairments, rather than the more consolidated look previously seen under Pre-changeover GAAP. “You’re not able to consolidate and essentially borrow off the surplus of other assets. So I think that that’s definitely a factor,” said Rob Jacobucci, Director of Financial Reporting of TransCanada.

Graph 11: In your professional opinion, what was the main driver/s that caused your most recent impairment?



Trials and Tribulations

The most significant challenge noted by public company respondents with respect to goodwill impairment upon the initial adoption of IFRS was the identification of cash generating units (25% of public companies). The challenges for the private company respondents were evenly spread between the identification of CGUs, determining the carrying amount of the CGUs, and developing projections for the value in use estimate.

> "In our business we mostly we offer services, so as soon as you've made an acquisition, the objective is to integrate the service within your overall portfolio. Now, try to track that service back to the original acquisition. Good luck. I'd say that's our biggest challenge. We kind of start sweating towards close to the end of the year in terms of how do we track these services that were acquired, once they're integrated. Very challenging."
>
> **Raymond Castonguay — Senior Vice President, Finance, Morneau Shepell Inc.**

33% of public company respondents and 41% of private company respondents indicated that there were no issues worth mentioning related to goodwill impairment upon the initial adoption of IFRS.

Table 11: What was your most significant challenge related to goodwill impairment upon initial adoption of IFRS?

	Public	Private
Determining the carrying amount of the CGUs	11%	18%
Developing market-participant based projections for the Fair Value Less Costs to Sell (FVLCS) estimate	8%	6%
Developing projections for the Value in Use (VIU) estimate	14%	18%
Grouping the CGUs to test goodwill and other higher level assets	8%	0%
Identification of Cash Generating Units (CGUs)	25%	18%
No issues worth mentioning	33%	41%

Restating business combinations

For the prior transactions that qualified as business combinations, companies were entitled to select whether they wanted to restate the past business combinations in accordance with IFRS. The private companies, excluding the 18% which did not have any prior transactions, generally did not restate (53%). The public companies also, excluding the 14% that did not have prior transactions, were even less likely to restate (64%). Some 14% of public companies restated all prior transactions and some 8% of public companies restated from a point in time onwards. Private companies restated 30% of past business combinations.

CGUs

Most survey respondents had between two to five CGUs in the most recent reporting period. Interestingly, one in four private companies had more than 10 CGUs. Adam Barnard of Canadian Tire speculated that certain private companies may be run by owner/founders who are analyzing their organizations at a more microscopic level because they have "much more skin in the game". Raymond Castonguay of Morneau Sheppell suggested private companies are using CGUs for

operational monitoring, whereas public companies have a dual purpose, both operational monitoring and for reporting purposes. “These are very different objectives in my mind,” he said. “It is counter-intuitive because you would think that private companies would try to simplify their life. You know, why shoot yourself in the foot? Say that you don’t need it, and just aggregate as much as possible and monitor differently.”

It makes sense for public companies to amalgamate their CGUs if there is the opportunity to do so, given the fact that having more CGUs can make it harder to shield impairments, said Adam Bernard of Canadian Tire. “If it’s not appropriate to amalgamate then you wouldn’t do it. But I think given an opportunity, absolutely, you would do it. But you wouldn’t do it to the detriment of staying true to the standard.” Rob Jacobucci from TransCanada agreed, noting “to the extent that it makes sense and it’s still within the guidelines, I think that companies would aggregate.”

Similarly, Marc-Antoine Daoust from Bombardier noted: “It’s simple when you have the opportunity to amalgamate certain things together. I think senior management prefer that route. It gives a bit more flexibility in that sense. But if by doing so you go against the IFRS principles, you could be challenged by your auditors. But given the opportunities and when you can justify it, I think it would be preferable to combine CGUs, as opposed to having more CGUs.” On the other hand, Raymond Castonguay of Morneau Shepell suggested that small impairments in individual CGUs might not be considered material enough to report, whereas when combined into a larger, single CGU, the combined impact could be considered material.

> “At a previous entrepreneurial company I worked for, we had 13 business units and each of them was run by a business unit manager. The performance that their incentive pay was based on was the bottom line, and very close scrutiny over the transactions, the profitability of the business. So I can understand why there would be more CGUs in a smaller company.”
>
> **Rose Papastamos — Vice President and Corporate Controller, Prism Medical Ltd.**

Prism Medical Ltd., a company which makes medical devices such as lifts for hospital patients, has grown through acquisition primarily, with about 12 acquisitions in the last ten years, according to Rose Papastamos, the company’s Vice President and Corporate Controller. Defining the company’s CGUs has been a challenge under IFRS, and will be so going forward. This is particularly challenging when a company has put great effort into integrating an acquisition, only to have to go back and isolate it for the purpose of identifying a CGU, she said. “Our challenge is going back to the acquisition, the assets that we acquired and substantiating that that asset is still there in a similar form with growth and value to it,” she said.

According to one survey respondent, the impairment process provides some ability to understand what expectations are for the future CGU. “If the CGU is developed and defined well, it can provide a great deal of value on the actual expectations of the business,” the survey respondent wrote. According to another respondent, impairment testing is not an exact science, with many valuation techniques and assumptions to derive a “fair value” for the CGU. It is a valuation exercise that most analysts find difficult to understand and therefore somewhat ignore, and instead focus on EBITDA,” the respondent wrote.

"We didn't have any significant impairments. When you look at a business unit, and having a few hundred thousand dollars in a particular market — the way we define CGU is based on retail markets. So we could have a Canadian Tire store and a gas bar together, and the gas bar could in fact have an impairment but because it's shielded by another Canadian Tire store or whether it's a Mark's Work Wearhouse retail market, by the way we've defined our CGUs, we have in fact shielded ourselves from that impairment. And rightly so."

Adam Barnard — Manager, Retail Accounting, Canadian Tire Corp.

Is There More to Come?

In what may be a reflection of an improving economic climate and a "return to normalcy" after the initial adoption of IFRS, when asked if additional goodwill or other asset impairments during an upcoming interim or annual test were anticipated, the majority of Canadian respondents indicated that they were not.

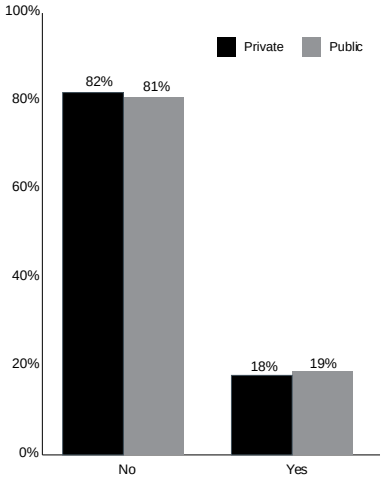
"The history of Morneau Shepell has always been 5 to 7% organic growth. We're in an industry where there's not a lot of fluctuation. Our business is built on 12 or 24 month and five-year contracts. So when the market downturn hit, we didn't see any impact until early in the recovery as we were renewing our contracts. Then we started seeing revenue fall a bit. I think it was somewhat foreign in concept to the overall company because we had been used to growing or through acquisition organic growth. I think the management looked at it as really temporary and due to the market downturn, but really felt confident that the business would be coming back, so based on that they decided there was no need to take any impairment. And there was no impairment also in regards to the transition to IFRS. In fact, management was absolutely bang on, because in 2011 we started growing again, and 2012 has been a stellar year for us."

Raymond Castonguay — Senior Vice President, Finance, Morneau Shepell Inc.

"Upon conversion to IFRS, the decision was made not to impair any of the goodwill we have. The goodwill that we had resulted from a transaction a couple of years ago in Europe. Subsequently, the value of the business remained pretty much constant, despite the fact that the European economy is not too strong. But the public sectors still continue to invest into the rail infrastructure. So we still have good contracts in Europe, which is our main market. So in a nut shell, I think the situation before IFRS and post-IFRS is pretty much identical."

Marc-Antoine Daoust — Director of Financial Reporting, Bombardier

Graph 12: Do you anticipate additional goodwill or other asset impairments during an upcoming interim or annual test?



Goodwill

When asked about the lessons learned from the goodwill impairment-testing process, most of the respondents noted the complex, time-consuming, costly, and subjective nature of the process.

- "Impairment tests need to be made regularly and be very detailed." **— Survey respondent**
- "Start as early as possible and engage your auditors as soon as possible." **— Survey respondent**
- "There is still a lot of judgement required. Impairment analysis is not an exact science." **— Survey respondent**

There is a lack of adequate guidance to lean on when conducting goodwill impairment testing, observed Michael Staresinic, Vice President Finance for Sprott Inc. "It is quite complex," he said, noting testing with Value in Use (VIU) is more complex than using Fair Value Less Cost to Sell (FVLCTS). "If FVLCTS produces an impairment, you can go on to a second methodology which is Value In Use. If this fails, you then have an impairment that must be recorded."

Despite the complexity of goodwill impairment testing, interestingly, only 33% of Canadian public company respondents and 18% of Canadian private company respondents indicated that a valuation consultant was used for their goodwill impairment testing compared to 56% of American public company respondents and 43% of American private company respondents.

Three differing views of the impairment testing process from CFERF survey respondents:

1. "Very theoretical and not very useful to users of financial statements."
2. "Goodwill should be amortized, like it was prior to 2003."
3. "Highly judgemental, but the best we have."

“The challenge is that once you’ve done the impairment charge, there’s no going back. So it’s a confirmation of the loss of value and the CEO that did the acquisition will need to swallow the pill and I’m sure it would take a few iterations and discussions. Before getting to an impairment, depending on the level of impairment, but if it’s material, there would be a lot of discussion. The pill wouldn’t be swallowed in a quarter, there would be a lot of discussion, including with the audit committee.”

Raymond Castonguay — Senior Vice President, Finance, Morneau Shepell Inc.

“Goodwill impairment is a lagging indicator, because it would be very unlikely to look out so far into the future that you’re going to forecast an impairment. I think that you’re more likely to look at things that have already happened, either in your own company, in the industry, look at trends of lower revenues and then acknowledge that you do indeed have an impairment on your hands, but to forecast out years into the future to say there could be an impairment test, I think would be surprising.”

Rob Jacobucci — Director of Financial Reporting, TransCanada

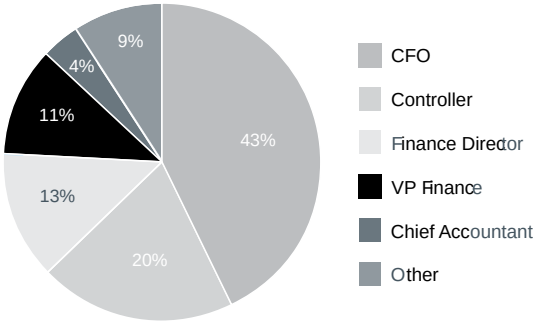
Food for thought when doing M&A

“Because IFRS has a different way of testing for impairment, your volatility — where impairment wouldn’t have happened under Canadian GAAP — it will happen under IFRS. You have to write down the part that is impaired. I don’t think it’s ever going to slow down an acquisition because you don’t make a business decision based on the accounting. But I think it should be an input. And I think the input on how IFRS and goodwill interact has not been considered nearly as much as it would have been under Canadian GAAP because it’s just too new. People are still learning the impacts of it.”

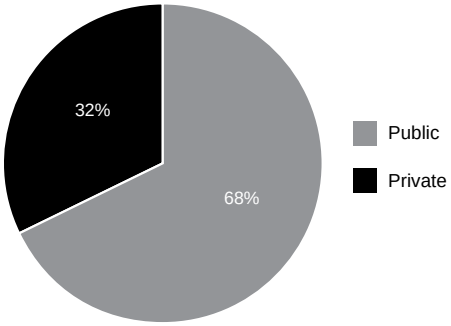
Michael Staresinic — Vice President, Finance, Sprott Inc.

APPENDIX A:
CFERF SURVEY DEMOGRAPHICS

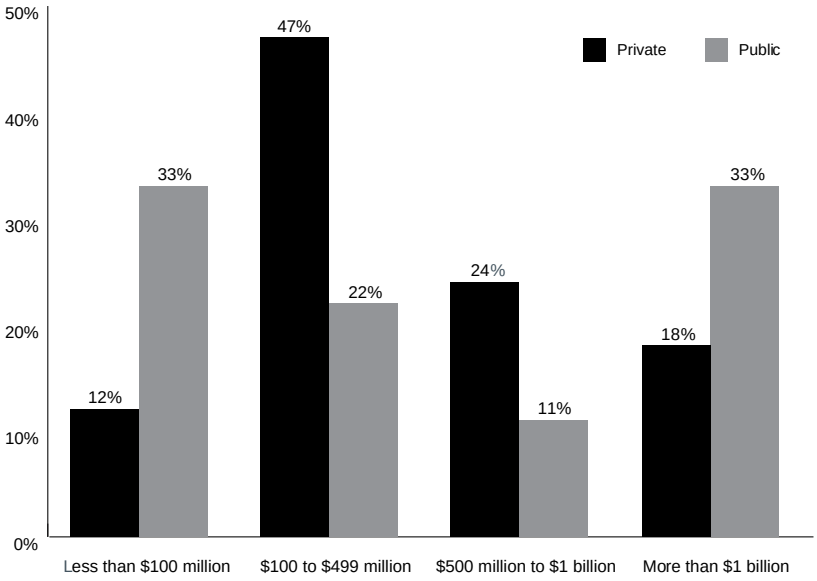
Position title



Corporate structure

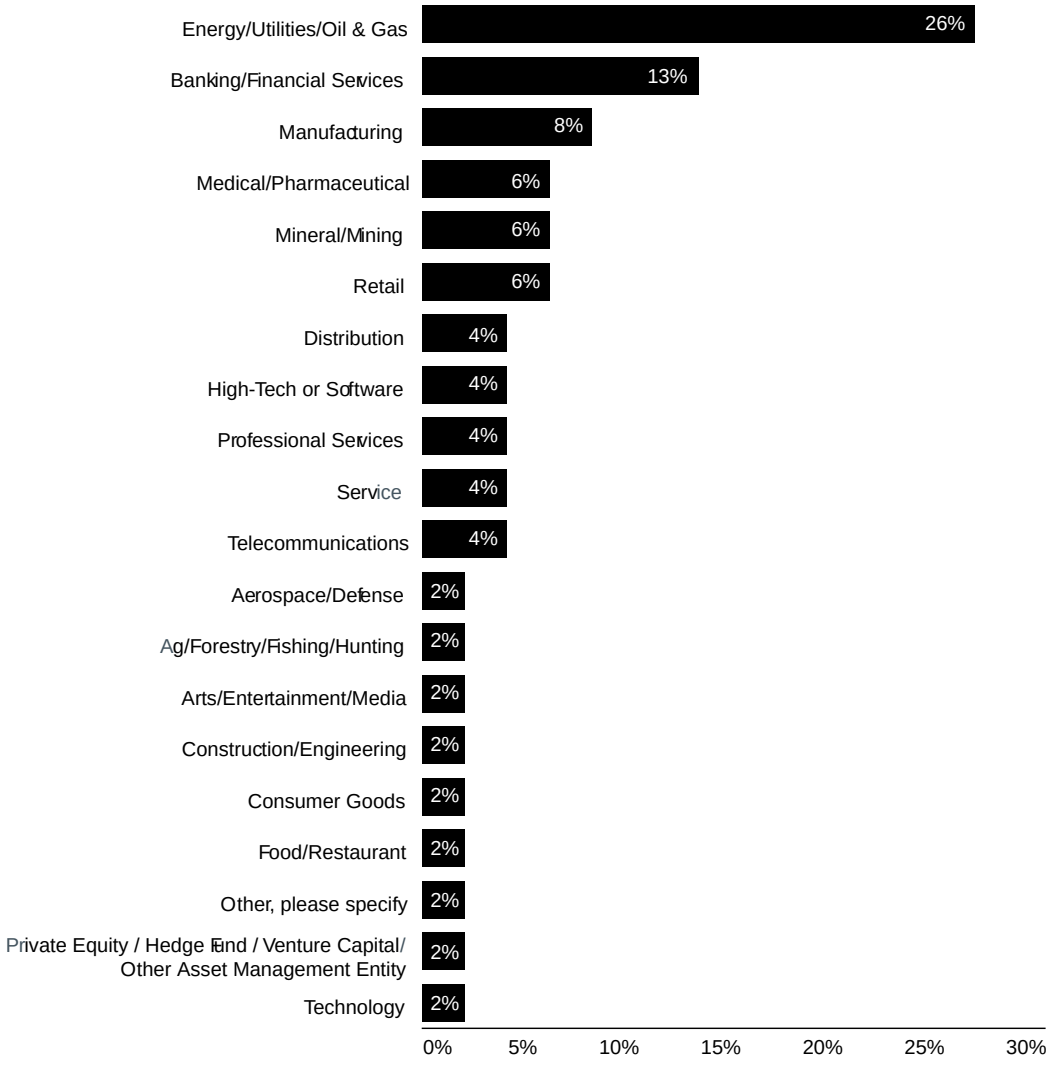


Annual revenue



* Due to rounding graph will not add up to 100%

Annual revenue



APPENDIX B:
CFERF FORUM PARTICIPANTS

Forum Chair:	Vic Wells — Chair, CFERF
Moderators:	Christian Bellavance — VP, Research & Communications, FEI Canada
	Andrew Harington — Managing Director, Duff & Phelps
Toronto Participants:	Adam Barnard — Manager, Retail Accounting, Canadian Tire Corporation
	Rose Papastamos — VP Corporate Controller, Prism Medical Ltd.
	Raymond Castonguay — Senior Vice-President, Finance, Morneau Shepell Inc.
Phone Participants:	Michael Conway — Chief Executive & National President, FEI Canada
	Marc-Antoine Daoust — Director of Financial Reporting, Bombardier
	Yvonne Frame-Zawalykut — Manager, Financial Accounting & Projects, TransCanada
	Rob Jacobucci, Director of Financial Reporting, TransCanada
Interview:	Michael Staresinic — VP Finance, Sprott Inc.
Observers:	Laura Bobak — Senior Writer, FEI Canada
	Scott Davidson — Managing Director, Duff & Phelps
	Chris Jones — Vice President, Duff & Phelps

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APPENDIX C:
COMMON GOODWILL IMPAIRMENT QUESTIONS*

Can I use a projection period longer than a five year period?

When estimating Value in Use (VIU), management may use cash flow projections based on financial budgets/forecasts over a period longer than five years if it is confident that these projections are reliable and it can demonstrate its ability, based on past experience, to forecast cash flows accurately over that longer period [IAS 36.35]. In addition, demonstration of a business cycle being longer than five years can also provide additional support. Consistency with a prior valuation with longer projection period may also provide support. In short, the use of a longer period is possible as long as it is justified [IAS 36.33(b)]. If a longer period is used, management must disclose that fact, along with a justification for the use of such period [IAS 36.134(d)(iii)]. On the other hand, if management is measuring FVLCS using discounted cash flow (DCF) projections, it must simply disclose the period over which management has projected cash flows [IAS 36.134(e)(iii)].

How do I distinguish between maintenance costs and costs to enhance the asset's performance?

As the name suggest, maintenance costs are the costs that need to be incurred to ensure the normal operation of the business or the day-to-day servicing of the asset [IAS 36.41]. Conversely, costs to enhance the asset's performance would likely increase the efficiency and/or capacity of the operations and hence the associated profitability. Only committed costs should be included in the calculation of VIU, whereas uncommitted estimated costs and capital expenditures to enhance the asset's performance should be excluded from projections [IAS 36.33(b) and 44]. Accordingly, all associated projected cash flow benefits (e.g., sales or net working capital impact of excluding these costs) should also be removed [IAS 36.46]. However, when an entity becomes committed to a restructuring initiative, some assets are likely to be affected by this restructuring. In that case, management's estimates of future cash flows for the purpose of determining VIU would reflect the cost savings and other benefits from the restructuring (based on the most recent financial budgets/forecasts approved by management) [IAS 36.47]. As a reminder, when estimating FVLCS, any restructuring initiatives or measures to enhance an asset's performance are included in the projections, if market participants would also consider them when pricing the asset or CGU [IAS 36.BC 69(c)].

Should I use a pre-tax WACC? What is a pre-tax WACC?

Strictly speaking, paragraph 55 of IAS 36.requires the use of a pre-tax discount rate when estimating VIU. This is a result of the requirement in paragraph 50 for projected cash flow to exclude income tax receipts or payments. The basis for such requirement stems from the fact that deferred tax assets and liabilities are NOT measured on a discounted basis and the Board perceived some complexity in trying to reconcile that with measuring the tax effects of temporary differences on a discounted basis. Therefore, the Board decided that the discount rate should be estimated on a pre-tax basis and, for consistency reasons, future cash flows should also be derived on a pre-tax cash basis. From a valuation perspective, using a pre-tax WACC to discount pre-tax cash flows should arrive at the same result as using a post-tax WACC to discount post-tax cash flows. However, as paragraph BCZ 85 points out, estimating a pre-tax discount rate is not as straightforward as dividing the post-tax discount rate by (1 – tax rate). The 'real' pre-tax discount rate differs

* These questions and answers are intended to be considered only as general guidance. Readers should consult with their own expert advisors for assistance on any specific matter.

from the post-tax discount rate grossed-up by the standard rate of tax depending on the tax rate, the post-tax discount rate, the timing of the future tax cash flows and the useful life of the asset. The 'real' pre-tax discount rate can be determined by an iterative computation as illustrated in BCZ 85.

Is the goodwill impairment test of a CGU performed at the equity or enterprise value level?

In general, the focus of IAS 36 is to evaluate the impairment of assets within the scope of the standard. A CGU (and its goodwill) is tested for impairment at the enterprise value level, by comparing the recoverable amount of the CGU (or group of CGUs) to its carrying amount. By testing at the enterprise value level, a potential difference between the fair value and book value of debt does not influence the impairment test, except when reconciling the aggregate recoverable amount of all CGUs to the market cap of a publicly-traded company. Nevertheless, consistency in the comparison between recoverable amount and carrying amount is key. In other words, a CGU's carrying amount must be determined on a consistent basis with the way the CGU recoverable amount is estimated [IAS 36.75]. An entity should ensure that the carrying amount of the CGU includes only the assets directly attributable (or reasonably allocated) to the CGU and which will be used by the CGU to generate the relevant stream of future cash flows [IAS 36.76]. From a practical standpoint, the recoverable amount of a CGU is sometimes determined after consideration of assets that are not part of such CGU (e.g., receivables) or liabilities that have been recognized (e.g., payables, pensions, and other provisions). In such cases, the carrying amount of the CGU used for testing purposes is increased by the carrying amount of those assets and decreased by the carrying amount of those liabilities [IAS 36.79].

How do I allocate corporate assets for impairment testing purposes?

Corporate assets, by definition, do not generate cash inflows independently of other assets or groups of assets and their carrying amount cannot be fully attributed to a single CGU. When testing good CGUs for impairment, if a portion of the carrying amount of a corporate asset [IAS 36.102]:

a) Can be allocated on a reasonable and consistent basis to that CGU, the entity shall compare the recoverable amount of the CGU with its carrying amount, including the portion of the carrying amount of the corporate asset allocated to the CGU.

b) Cannot be allocated on a reasonable and consistent basis to that CGU, the entity shall:

   i) Compare the carrying amount of the CGU, excluding the corporate asset, with its recoverable amount;

   ii) Identify the smallest group of CGUs that includes the CGU under review and to which a portion of the carrying amount of the corporate asset can be allocated on a reasonable and consistent basis; and

   iii) Compare the carrying amount of that group of CGUs, including the portion of the carrying amount of the corporate asset allocated to that group of units, with the recoverable amount of the group of CGU.

The smallest group of CGUs in (ii) or group of CGUs in (iii) may coincide with a company's division or the group company as a whole.

Can I use a discounted cash flow (DCF) model to determine FVLCS?

Yes, the DCF method, a form of the Income Approach, can be used to determine FVLCS. It does not necessarily have to be based on transactions or guideline company multiples. This is obvious, for example, in paragraph 134 of IAS 36, which requires management to disclose the period over which projected cash flows are estimated, in circumstances where discounted cash flow (DCF) projections are used to measure FVLCS.

APPENDIX D:
QUICK ACCOUNTING REFERENCE GUIDE — IAS 36*

Goodwill acquired in a business combination is allocated to each of the acquirer's cash generating units (CGUs), or group of CGUs that are expected to benefit from the synergies of the combination.[40] Each unit or group of units to which goodwill is so allocated represents the lowest level within the entity at which goodwill is monitored for internal management purposes and shall not be larger than an operating segment as defined by IFRS 8 *Operating Segments.* Allocation of goodwill is performed at the acquisition date.

CGUs that have been allocated goodwill shall be assessed for impairment at the end of each reporting period where there is an indication that an asset may be impaired (i.e., a triggering event). Further, irrespective of whether there is an indication of impairment, a company shall also measure recoverability annually.

Goodwill is considered impaired when the carrying amount of the CGU in question exceeds the recoverable amount of the unit. The recoverable amount of a CGU is the higher of: 1) its fair value less costs to sell, and 2) its value in use.[41] Any impairment loss shall be allocated to reduce the carrying amount of goodwill to zero, and then to the other assets of the CGU on a pro-rata basis.[42]

When calculating the recoverable amount of a CGU to which goodwill has been allocated, it is important to note that the most recent detailed calculation performed in a preceding period may be used in the impairment test as long as the following criteria are met [IAS 36. 99]:

- The assets and liabilities making up the unit have not changed significantly since the most recent recoverable amount calculation;
- The most recent recoverable amount calculation resulted in an amount that exceeded the carrying amount of the unit by a substantial margin; and
- Based on analysis of events that have occurred and circumstances that have changed since the most recent recoverable amount calculation, the likelihood that a current recoverable amount determination would be less than the current carrying amount of the unit is remote.

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

Appendix C addresses common questions and concerns with regard to the application of this standard.

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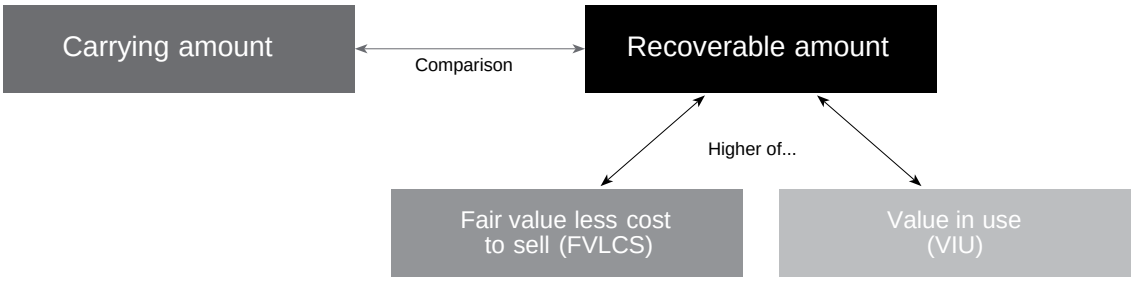
40 Goodwill acquired in a business combination should be allocated to CGUs that are expected to benefit from the synergies of the combination irrespective of whether other assets or liabilities of the acquiree are assigned to those units or groups of units.

41 It is not always necessary to determine both an asset's FVLCS and its VIU. If either of these amounts exceeds the carrying amount, the asset is not impaired and it is not necessary to estimate the other amount [IAS 36.19]

42 Subject to limitations and guidance provided for paragraphs 104-106 in IAS 36.

Figure 2: Determination of Goodwill Impairment under IFRS



* This section is intended to be considered only as general guidance. Readers should consult with their own expert advisors for assistance on any specific matter.

APPENDIX E:
GOODWILL IMPAIRMENTS BY INDUSTRY GROUP

GICS Code	GICS Industry Group Name	Original GWI (2010,GAAP) (in $millions)	Transition-Date GWI (2010, IFRS) (in $millions)	Restated GWI (2010, IFRS) (in $millions)	Aggregate GWI (2010, IFRS) (in $millions)	GWI (2011, IFRS) (in $millions)	Number Co's (2011)
	Energy (Industry group total)	**$103**	**$1,370**	**$500**	**$1,870**	**$122**	
1010	Energy	$103	$1,370	$500	$1,870	$122	118
	Material (Industry group total)	**$0.3**	**$3**	—	**$3**	**$3,023**	
1510	Materials	$0.3	$3	—	$3	$3,023	197
	Industrials (Industry group total)	**$94**	**$80**	**$6**	**$85**	**$554**	
2010	Capital Goods	$89	—	$6	$6	$432	41
2020	Commercial and Professional Services	$5	$5	—	$5	$121	16
2030	Transportation	—	$74	—	$74	$1	13
	Consumer Discretionary (Industry group total)	**$35**	**$13**	**$14**	**$27**	**$6,258**	
2510	Automobiles and Components	—	$13	$3	$16	$84	10
2520	Consumer Durables and Apparel	—	—	$11	$11	—	5
2530	Consumer Services	$32	—	—	—	$1	17
2540	Media	$3	—	—	—	$5,994	17
2550	Retailing	—	—	—	—	$179	17
	Consumer Staples (Industry group total)	**$14**	**$122**	**$14**	**$136**	**$9**	
3010	Food and Staples Retailing	—	$119	$14	$133	$1	11
3020	Food, Beverage and Tobacco	$14	$2	—	$2	$8	16
3030	Household and Personal Products	—	—	—	—	—	2
	Healthcare (Industry group total)	**$34**	**$34**	—	**$34**	**$56**	
3510	Healthcare Equipment and Services	$34	$7	—	$7	$53	12
3520	Pharmaceuticals, Biotechnology and Life Sciences	—	$27	—	$27	$2	23
	Financials (Industry group total)	**$1,051**	**$3,843**	**$2,344**	**$6,187**	**$972**	
4010	Banks	$7	$1,261	—	$1,261	—	16

GICS Code	GICS Industry Group Name	Original GWI (2010,GAAP) (in $millions)	Transition-Date GWI (2010, IFRS) (in $millions)	Restated GWI (2010, IFRS) (in $millions)	Aggregate GWI (2010, IFRS) (in $millions)	GWI (2011, IFRS) (in $millions)	Number Co's (2011)
4020	Diversified Financials	$5	$2,580	$2,330	$4,910	—	13
4030	Insurance	$1,039	—	—	—	$972	11
4040	Real Estate	—	$2	$14	$16	—	11
	Information Technology (Industry group total)	**$0.1**	**$2**	—	**$2**	**$4.6**	
4510	Software and Services	—	—	—	—	$5	22
4520	Technology Hardware and Equipment	$0.1	$2	—	$2	—	16
4530	Semiconductors and Semiconductor Equipment	—	—	—	—	—	—
	Telecommunications Services (Industry group total)	**$14**	**$14**	—	**$14**	**$36**	
5010	Telecommunication Services	$14	$14	—	$14	$36	7
	Utilities (Industry group total)	**$0**	**$35**	**$23**	**$58**	**$8**	
5510	Utilities	—	$35	$23	$58	$8	10

8

MODIFIED CAPM: ROBUST OR THE BED OF PROCRUSTES?[1]

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In Greek mythology, Procrustes had an odd sense of hospitality: He abducted travelers, provided them with a generous dinner, and then invited them to spend the night in a rather special bed. He insisted the bed fit his guest to perfection. Those too tall had their legs chopped off with a sharp hatchet; those too short were stretched. In his latest book, The Bed of Procrustes, Nassim Taleb argues that those who use economic and financial models unwittingly play the part of Procrustes. Instead of changing models to fit reality, reality is distorted or ignored to fit our models. This study examines the Capital Asset Pricing Model (CAPM), Modified CAPM, Total Beta, the new Duff & Phelps risk model, and Fama French's Three Factor Model in this spirit and presents findings that may surprise many readers.

Introduction

In June 1992, Fama and French's paper *The Cross-Section of Expected Stock Returns* was published in the *Journal of Finance*. The award-winning paper highlights valuation "anomalies," casting doubt on the validity of the Capital Asset Pricing Model (CAPM). Inspired by these anomalies, Fama and French developed the Fama French Three Factor Model (FF3FM). Of the two anomalies formalized in the model, the small stock premium and the value premium, the long-run value premium phenomenon is presently about 50% greater than the small stock premium phenomenon.[3] While these pages frequently cover CAPM and the small stock premium, few have discussed the value premium. Little attention has been paid to Fama French's Three Factor Model (FF3FM), which, in addition to market risk, prices both "small stock risk" and "value stock risk." In this paper, we:

- review the data and assumptions that cast doubt on the validity of CAPM;
- review the background and evidence related to CAPM flaws and the value and small stock premia, and provide examples to enhance conceptual understanding of these phenomena;

1 Reprinted with permission from the American Society of Appaisers, *Business Valuation Review*, Fall 2011 Vol. 30, No. 1, pp. 20-30.

2 Bob Dohmeyer operates his business appraisal firm in Frisco, Texas. He earned his degree in Business/ Corporate Finance from California State University at Fullerton, where he was president of the Financial Management Honor Society. Scott Lampe advises clients on M&A matters in Seattle, Washington. He earned his MBA in Finance from the University of Texas, Austin, Texas.

3 See Fama and French, *Current Benchmarks Returns* (can be accessed at http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html) Dartmouth Tuck School of Business. HML (high minus low) vs. SMB (small minus big) since 1963.

- provide anecdotal evidence of analysts improving their cost of equity models by using improved risk proxies;
- test the Total Beta model and recommend improvements; and
- provide a rationale demonstrating that the improvements of FF3FM and the new Duff & Phelps model are uniquely applicable to small business valuation.

Theoretical vs. Empirical Models

Perhaps the most fundamental distinction between CAPM and FF3FM is the fact that the former relies on deductive reasoning and the latter on inductive reasoning. Inductive reasoning, or induction, is the process by which a general conclusion is reached by evaluating specific observations or situations. If a child withdraws from a bag three pieces of red candy, she may conclude all the remaining candy is red (inductive reasoning). Conversely, arguments based on laws, rules, or other widely accepted principles (i.e., CAPM), are best expressed deductively. Given the relative oversupply of anecdotal pricing models in finance prior to CAPM, and due to its virtually a priori reasoning, CAPM was perhaps overly seductive. Optimally, any pricing model would satisfy both the John Locke and René Descartes epistemological schools of thought. Thankfully for Descartes' deductive rationalists, the *assumptions* required to prove CAPM tautologically likely oversimplify risk and, consequently, offer a pass, of sorts, to the logicians.

Nassim Taleb offers wise advice:[4] Be cautious of deductive and empirical models. To illustrate, he recounted the time he was fitted for a suit. He thought, "If this tailor was an economist, he'd perform surgery on my body to make the suit fit." His example demonstrates the similarity between many economic models and the bed of Procrustes. Further, he points out the common major flaw of theoretical financial models: a random normal distribution assumption. He famously points out that "Black Swan" (non-normal), "fat-tail" events occur more frequently than financial models, including CAPM, assume. On the other hand, Taleb's *Fooled by Randomness* highlights the risk of inductive processes, demonstrating people's innate desire to see causal patterns ("agency"), even when none exists.

As a result of the foregoing, we must first ask if CAPM is an oversimplification, and if so, is FF3FM just the next shiny object in the room. Let's begin by considering the evidence.

Testing Methodology

Here, we test the cost of equity models noted previously using the time period 1963–2009. This period simply extends the Fama and French time period used in their influential 1992 work. Academic researchers frequently choose 1963 as a starting point because it corresponds to the date data markedly improved. Duff & Phelps also uses 1963 as the starting point to test its new cost of equity model.

The data for stock portfolio returns used in these tests came from Fama and French and can be downloaded at: www.mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html. Specifically, we downloaded Fama and French's "twenty-five Portfolios Formed on Size and Book-to-Market (5×5)." Fama and French describe their methodology as follows:

> The portfolios, which are constructed at the end of each June, are the intersections of 5 portfolios formed on size (market equity, ME) and 5 portfolios formed on the ratio of book equity to market equity (BE/ME). The size breakpoints for year *t* are the NYSE market equity quintiles at the end

4 Successful investment speculator, and practitioner of mathematical finance, Nassim Taleb is the author of *The Bed of Procrustes*, *The Black Swan*, and *Fooled by Randomness*.

of June of *t*. BE/ME for June of year *t* is the book equity for the last fiscal year end in $t - 1$ divided by ME for December of $t - 1$. The BE/ME breakpoints are NYSE quintiles. The portfolios for July of year *t* to June of $t + 1$ include all NYSE, AMEX, and NASDAQ stocks for which we have market equity data for December of $t - 1$ and June of *t*, and (positive) book equity data for $t - 1$.

Using this approach, Fama and French formed portfolios used to test beta and examine the size effect as well as the value effect (book-to-price) among twenty-five separate portfolios. Therefore, our analysis is based on the Fama and French data methodology, incorporating returns of nearly all publicly traded stocks (numbering in the thousands) over a 47-year period. Consequently, from a statistical significance standpoint, our tests incorporate approximately 60% more data than Fama and French used in their *Journal of Finance* award-winning paper.

In each of the cross-sectional regressions, we calculate for the Y axis the average annual return in excess of the risk-free rate for each of the twenty-five Fama and French portfolios for the 47-year period. The X-axis variable is different for each of the X-Y graphs and also comes from the Fama and French data download directly or is based on calculations of the data.[5]

Capital Asset Pricing Model

CAPM is based on the general notion that risk can be segregated as either market (systematic or undiversifiable) risk or unique (unsystematic, firm specific or diversifiable) risk. Diversified investors are concerned only with market risk. The equation for an asset's expected return, according to CAPM, is:

R_s (expected return) $= R_f$ (risk-free rate) $+ \beta_s [R_m - R_f]$ (market risk premium) $+$ alpha,

where beta (β_s) is an asset's contribution to the risk of a fully diversified portfolio.[6] The beta for an asset can be estimated by regressing asset returns against returns on a market portfolio index. The resulting regression equation for beta is:

$$R_s = a + \beta_s R_m,$$

where

R_s is the return on investment "s"; and
R_m is the return on the market index.

The slope, "b," of the regression line is the beta of the investment and measures the incremental risk of adding the investment to the market portfolio.

The model's normative elegance would make it unassailable if not for its problematic assumptions. Although the model contains numerous assumptions, the following three assumptions are most responsible for its empirical failings:

(a) there is a limiting, short-term, two-date holding period, more commonly referred to as the "intertemporal" problem;

(b) variance of returns is an adequate measure of risk; and

(c) asset returns are (jointly) normally distributed random variables, or investors employ a quadratic form of utility.[7]

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5 To avoid any potential problems related to beta estimation caused by nonsynchronous trading, we used the Fama and French–provided *annual* portfolio returns for these regressions and other calculations.

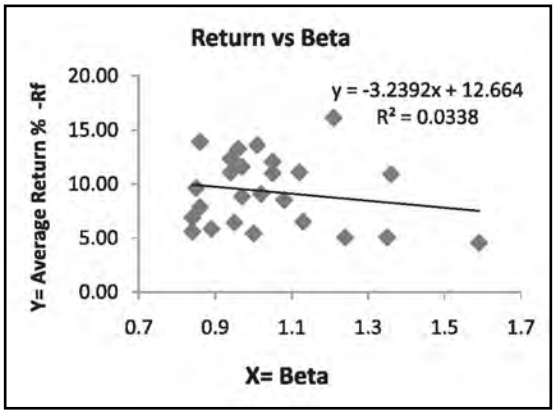
6 Even if the model thoroughly captures all significant undiversifiable risk factors, the alpha figure will likely be significant for a single company. Alpha, in this case, is unsystematic risk. We address the important issue of unsystematic risk later herein.

7 For more on quadratic utility, see Appendix.

We explore these three assumptions in greater detail later herein. The results of our empirical test of CAPM with the Fama and French portfolio returns data is presented in Figure 1.

Figure 1

Relationship of Beta to Risk/Return



Assuming that long-run differences in diversified portfolio stock returns are mostly due to relative risk profiles, Figure 1 indicates that CAPM's beta fails to explain risk, a conclusion similar to Fama and French's 1992 findings. CAPM's failure to explain long-run stock returns/risk and the significant assumptive flaws in the theoretical underpinnings of the model suggest or strongly suggest that a better model is needed.

Damodaran, in *Investment Valuation*, still supports CAPM as the preferred cost of equity model and cited additional tests of the model:

> Fama and French (1992) examined the relationship between betas and returns between 1963 and 1990 and concluded that there is no relationship. These results have been contested on three fronts. First, Amihud, Christensen, and Mendelson (1992) used the same data, performed different statistical tests, and showed that differences in betas did in fact explain differences in returns during the time period. Second, Kothari and Shanken (1995) estimated betas using annual data instead of the shorter intervals used in many tests, and concluded that betas do explain a significant proportion of the differences in returns across investments. Third, Chan and Lakonishok (1993) looked at a much longer time series of returns from 1926 to 1991 and found that the positive relationship between betas and returns broke down only in the period after 1982. They also found that betas are a useful guide to risk in extreme market conditions, with the riskiest firms (the 10% with highest betas) performing far worse than the market as a whole in the 10 worst months for the market between 1926 and 1991.[8]

However, more recently, Dr. Damodaran stated academic CAPM explains only 10%, perhaps 20%, of the value of Ke.[9]

8 Dr. Aswath Damodaran, *Investment Valuation, 2nd edition* (New York: John Wiley & Sons, 2002), 77.

9 See M. Mark Lee's article, "Using Total Beta and the Butler Pinkerton Calculator to Solve the CAPM Credibility Problem," *Business Valuation Review* (Fall 2010):75.

CAPM Modified for Firm Size

The results of our empirical test of CAPM modified for firm size, using the Fama and French portfolio returns data, are presented in Figure 2. Assuming that long-run differences in diversified portfolio stock returns are mostly due to relative risk profiles, the data in Figure 2 indicate that firm size covaries (inversely) with fundamental risk factors. Therefore, firm size is used as a proxy for risk. However, while the relationship is highly significant, the correlation is weak (29%) when analyzed without other risk proxies. In fact, the average returns for the small capitalization growth stock portfolio were substantially *less* than for the market portfolio (see following). Therefore, the common size adjustment method to CAPM is potentially unreliable.

Figure 2

Relationship of Company Size to Risk/Return

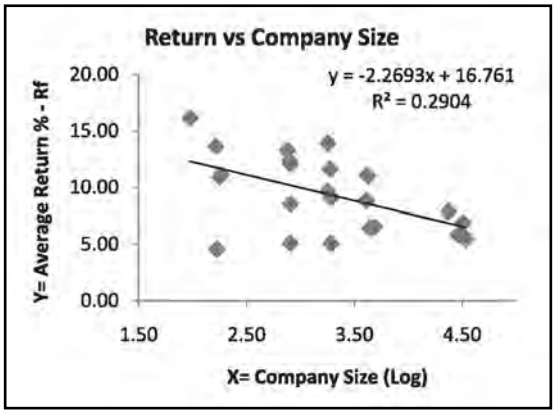
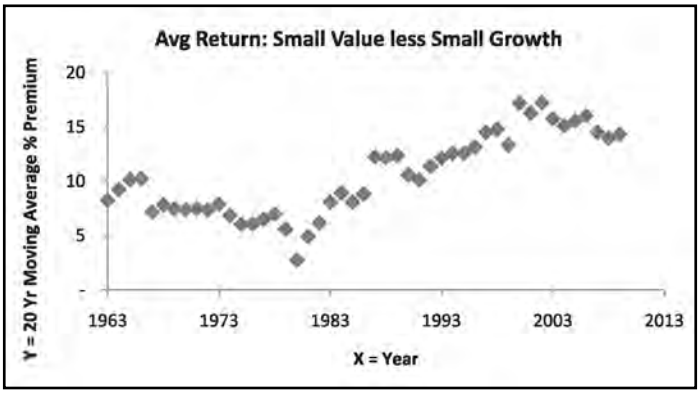


Figure 3

Evidence of Small Stock Premium Flaw



As illustrated in Figure 3, using two of the twenty-five portfolios formed by Fama and French, the small value portfolio's lowest average annual return premium versus the small growth portfolio was a minimum of 2.5% higher over *any* 20-year period, and the average annual premium was in excess of 10%. As further evidence of a value premium, the small value portfolio's beta and standard deviation were 1.21 and 28.90, respectively, compared to 1.59 and 37.10 for the small

growth portfolio. Therefore, the current practice of adding a size premium to small companies without regard to the company's "value" premium characteristics — i.e., operating margin and or return on equity (ROE) — potentially results in an unacceptably large error. The large differences reported in Figure 3 illustrate the (weak) regression results of long-run portfolio returns and firm size shown in Figure 2.

The Fama French Three Factor Model

Motivated by the empirical failure of CAPM, Fama and French developed a three-factor model by adding two additional factors to CAPM:

- size as measured by market capitalization; and
- the ratio of the book value of equity to the market value of equity (high book-to-market stocks are often referred to as "value" stocks, while low book-to-market stocks are classified as "growth" stocks)

The resulting equation can be written as follows:

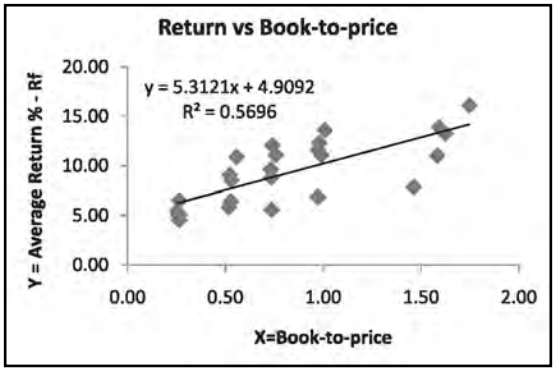
$$R = R_f + \beta_s \times (R_m - R_f) + \beta_{SMB} \times \text{Premium}_{SMB} + \beta_y \times \text{Premium}_{HML} + \text{alpha},$$

where SMB is "small minus big" and HML is "high (book-to-price) minus low." These additions to the required rate of return measure the combined historic "excess" returns of small capitalization stocks and of "value" stocks above the market as a whole.[10]

Assuming long-run differences in diversified portfolio stock returns are mostly due to relative risk profiles, the data in Figure 4 indicate that book-to-price covaries strongly with fundamental risk factors. Therefore, book-to-price should be used as a risk proxy; however, all of our traditional methods, including CAPM, Total Beta, CAPM modified with a size premium, and the simple size premium methods, fail to adjust for this risk. The book-to-price data were obtained from the twenty-five Fama and French portfolios provided by Fama and French in the data download from their website.

Figure 4

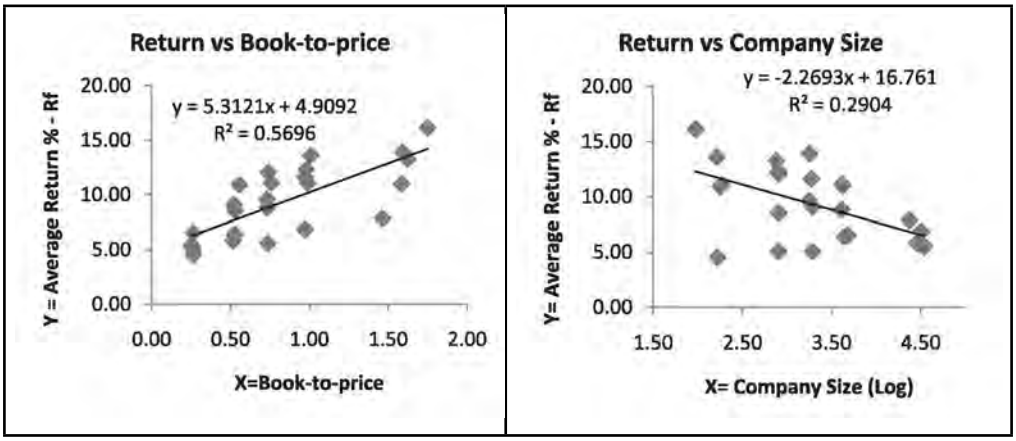
Relationship of Book to Price/Value Stock to Risk/Return



10 For a complete description of the factor returns, see: Fama and French, "Common Risk Factors in the Returns on Stocks and Bonds," *Journal of Financial Economics* Vol. 33, Issue 1, Feb 1993, pp 3–56 (1993).

Figure 5

Relationship of FF3FM Components to Risk/Return



FF3FM uses the combined relationships displayed in Figure 5 to price risk. Also, with the benefit of the two factors used in the FF3FM multiple regression (removing unwanted effects of multicollinearity), the third (market) factor — a "beta" of sorts — becomes statistically meaningful. For example, if we have two companies with identical size and book to price characteristics, and one company's product sales are more sensitive to economic cycles, that company's higher "beta" will result in a higher cost of equity using FF3FM.

Despite most academics now admitting that FF3FM is demonstrably superior to CAPM, FF3FM is used by few business appraisers.[11]

Total Beta Model

We believe the potential value of the Total Beta Model is based on its attempt to price systematic *and* unsystematic risk when estimating the value of small, privately held businesses. The model implicitly assumes that the marginal small business investor has zero diversification and, therefore, provides the maximum unsystematic risk adjustment. Company-specific risk is likely unimportant in publicly traded stocks, where one can invest in hundreds of companies via an Exchange Traded Fund (ETF), thereby eliminating such risk for minimal trading costs. On the other hand, privately held companies offer no such luxury.

We cannot assume that the *marginal* privately held business investor is either risk neutral or fully diversified.

Likewise, we cannot assume that the marginal privately held business owner is both completely undiversified and incapable of hedging. Consequently, CAPM cannot analytically derive the market clearing price of risk when the quantity of risk is unknown (unknown amount of diversification).

Furthermore, we cannot observe returns on privately held businesses, and, as a consequence, we are left only with the logical conclusion that unsystematic risk probably matters to some extent with respect to the value of small, privately held businesses.

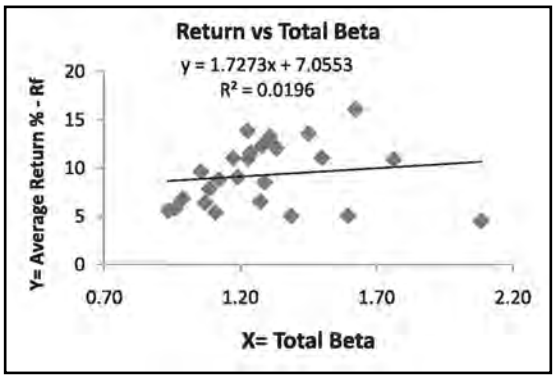
11 Vincent Covrig, Ph.D., and Dan McConaughy, Ph.D., "Comments on Butler-Pinkerton Series of Papers," and Larry Kasper's "The Butler Pinkerton Model for Company-Specific Risk—A Critique," *Business Valuation Review* (Winter 2008). "The main risk premiums accepted by most in academia are the three Fama-French risk factors (market, size, and book-to-market...)."

Assuming that long-run differences in diversified portfolio stock returns are mostly due to relative risk profiles, the data in Figure 6 indicate that the Total Beta model fails to explain risk.[12]

Financial theory teaches us that unsystematic risk for publicly traded securities should not be compensated with higher returns because it is easily and inexpensively eliminated with diversification. Consistent with this theory, the data show that Total Beta, measuring both systematic and unsystematic risk, like beta in CAPM previously in Figure 1, fails to explain stock returns.[13] Therefore, since Total Beta fails to measure systematic risks, Total Beta (similar to CAPM, to which it is intellectually tethered) fails to get the relatively easy (measurable) systematic portion of risk right.

Figure 6

Relationship of Total Beta to Risk/Return



We conclude that Total Beta can be improved by changing it from Total Beta to "Total Fama/French." To be valid, a risk model needs to measure the type of risk being priced in the market: systematic cash-flow risk versus systematic "price" risk, and asymmetric risk-of-loss versus price variance "risk"-of-gain. Therefore, using the same twenty-five Fama and French portfolios over the 47-year period for nearly all publicly traded stocks, the three factors in FF3FM are used to calculate the weighted average factor as its "beta" equivalent.[14] Then, like the Total Beta formula, we "gross-up" its "beta" (factor in this case) by dividing it by its correlation coefficient to derive a "total priced risk factor" or "Total Fama/French," if one prefers.

Unlike Total Beta, which has nearly zero correlation with long-run average stock returns, "Total Fama/French" is robust (Fig. 7).

12 Due to the fact that we cannot observe returns on privately held businesses, we cannot similarly test Total Beta in this regard.

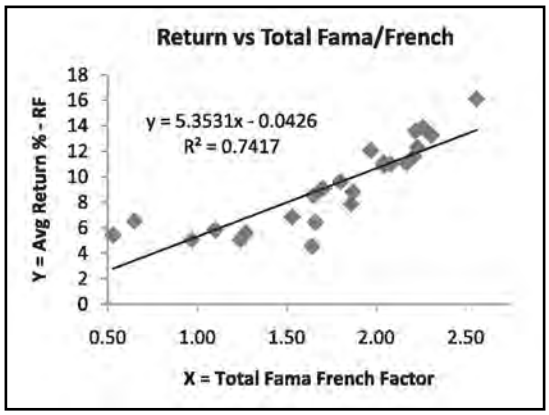
13 In other words, if an appraiser is troubled by beta's empirical failure to adequately explain long-term stock returns, consistent with financial theory, Total Beta offers no significant improvement.

14 Our "Total Fama French factor" (TFFF) for the portfolios (*n* of 25) was calculated as follows:

TFFF(n) = WTD beta(n)/correlation coefficient(n) where WTDBeta = [(n)CoefMKT*MKTpremium + (n)CoefHML*HMLPrem + (n) CoefSMB *SMBPrem]/MKTPrem. This is equivalent to R(n)/R(m), where Rn = FF3FM required return for portfolio(n) in excess of the risk-free rate, and R(m) = required return for the market portfolio in excess of the risk-free rate.

Figure 7

Relationship of Total Fama French to Risk/Return



The "Total Fama/French" factor regression has a robust r-squared of 0.74, and the intercept is not statistically different than zero (−.04%). Zero risk should equate to zero return over the risk-free rate, which further logically supports the Total Fama/French model.

FF3FM likely "corrects" CAPM's intertemporal flaw as well as fat-tail/risk-of-loss versus "risk"-of-gain problems. The model's three coefficients ("betas") are superior at estimating systematic risk as demonstrated empirically here. To emphasize, the concept of Total Beta, which provides a measure of systematic and unsystematic risk, is a worthy endeavor. However, to be useful as a valuation tool, Total Beta must first get the relatively easy (observable) systematic component right. In that regard, it, like beta, fails.

Duff & Phelps Risk Premium Report-Risk Study

In their latest book, *Cost of Capital — Applications and Examples (fourth edition)*, Roger Grabowski and Shannon Pratt introduce a new risk model — The Duff & Phelps Risk Premium Report-Risk Study. Primarily based on operating margins, the new model is a vast improvement over current models. The authors correlate stock returns since 1963 with operating margins and find a very robust relationship.

Given the model's combination of accuracy and simplicity, it is an invaluable tool for the business appraiser. While it is a vast improvement over existing practices, perhaps more importantly, due to the authors' credibility within the industry, it potentially paves the way to a new risk model paradigm for small business appraisers.

However, Mr. Grabowski warns that the model may not work well in low-margin businesses such as a distributor. He cautions that using the model in conjunction with a size premium potentially double counts, insomuch as small cap companies on average have lower operating margins.[15]

We did not test the Duff & Phelps operating-margin-based model since we are not aware of any operating-margin-segregated stock portfolio return data available for public consumption. Mr. Grabowski's cost-of-capital textbook demonstrates that the model has extremely high empirical

15 All other things equal, a company with a decreased operating margin will have an increased book-to-price ratio. Therefore, since FF3FM uses book-to-price and company size, we believe that the Duff & Phelps operating-margin risk proxy at least partially mimics the Fama and French factors (or vice versa).

explanatory power of stock returns. Based on the intuition of the model described here, his reported results seem intuitive to us.[16]

CAPM Flaws and FF3FM Improvements — Examples

Given the normative elegance of CAPM, most of us would weigh the empirical evidence of its ability to explain risk against the logical evidence that the model relies on overly simplistic and rigid assumptions about the fundamental nature of assets and investors.

To expand on previous assertions regarding CAPM, we believe the most problematic assumptions of the model are:

- It assumes investors must invest at the beginning of each (short-term) period (monthly being most common) and then *must* divest *all* of their holdings at the end of each period, regardless of changes in market conditions. This is commonly referred to as the "intertemporal" problem of CAPM. The basic insights are extended and generalized in the intertemporal CAPM (ICAPM).[17]
- It assumes that variance of returns is an adequate measurement of risk. This might be justified under the assumption of normally distributed returns, but for general return distributions, other risk measures will likely reflect the investors' preferences more adequately. Indeed, risk in financial investments is not variance in and of itself. Rather, it is the probability of loss and is asymmetric in nature.
- It assumes that either asset returns are (jointly) normally distributed random variables, or investors employ a quadratic form of utility. Contrary to this assumption, returns in equity and other markets are frequently not normally distributed. As a result, large swings (3 to 6 standard deviations from the mean) occur in the market more frequently than normal distribution assumptions would expect.

Next, we present two examples of the problems explained previously and the nature of FF3FM's ability to correct these assumptive flaws.[18]

Example #1 — The intertemporal problem

Ask an investor, just after she acquires a small business, which event, A or B, is worse:

A. The business declines in value by 20% because discount rates increase but the cash-flow outlook remains the same.

B. The business declines in value by 20% because the cash-flow of the business falls by 20% due to a recessionary global shock while discount rates remain the same.

CAPM, modified CAPM, and Total Beta assume *indifference* to events A and B (the same percentage systematic price change results in an identical beta calculation) — this is the "intertemporal" problem.

16 In their latest cost-of-capital textbook, Mr. Grabowski attributes the strong empirical operating margin and stock return relationship to unsystematic risk. This could prove to be problematic; unsystematic risk is not part of the FF3FM model in that unsystematic risk is not *independently* correlated with higher returns. Copeland, Weston, and Shastri, in *Financial Theory and Corporate Policy*, 4th ed. (Pearson Addison Wesley. Boston 2005, page 188), state, in "tests using arbitrage pricing theory (APT)..."..."...asset returns are explained by three or possibly more factors and have *ruled out the variance of an asset's own returns as one of the factors*" (emphasis added).

17 Robert C. Merton, "An Intertemporal Capital Asset Pricing Model," *Econometrica* 41(5) (1973): 867–887.

18 A complete discussion of the question, "*Why* does CAPM fail where FF3FM succeeds?" is beyond the scope of this paper. I focus on the intertemporal problem; assumptions two and three are only briefly explored.

FF3FM finds event B substantially worse than event A. Therefore, FF3FM finds numerically equal betas are not equal in terms of investor utility and the market clearing price of risk.[19]

The following hypothetical scenario for two different events (Table 1) in two different companies, valued with a three-stage growth model, clearly illustrates “discount rate risk” AKA “price risk” versus “cash-flow risk” — the intertemporal problem. Event A represents a strategy of holding a growth stock during a systematic discount rate shock, while event B represents holding a “value” stock during a systematic recessionary cash-flow shock. It is acknowledged that changing discount rates and systematically changing cash-flow expectations can occur together.

Table 1: Price Risk vs. Cash Flow Risk – Illustration

Event A — with growth stock:	
Year	1
Profit	$1,000,000
Dividend/net cash flow	–
Growth (years/g) 1–6/G = 15%,	
6–9G = 10% TermG = 3%	
Present value	$16,705,992
Ke	10.00%
Year	1
Profit	$1,000,000
Dividend/net cash flow	–
(Years/growth) 1–6/G = 15%,	
6–9G = 10% TermG = 3%	
Present value	$13,474,346
Ke	11.00%
Valuation change due to discount rate change	−19.3%
Event B — with “value” stock:	
Year	1
Profit	$1,000,000
Dividend/net cash flow	1,000,000
(Years/growth) 1–10 & terminal G (all) = 3%	
Present value	$12,500,000
Ke	11.00%
Year	1
Profit	$807,000
Dividend/net cash flow	807,000
(Years/growth) 1–10 & terminal G (all) = 3%	
Present value	$10,087,500
Ke	11.00%
Valuation change due to cash-flow change	−19.3%

19 This flaw of CAPM helps us to understand how the regression used to calculate beta (using relatively short-term price changes) can have a high r-squared with market returns, while the long-run 47-year average return has no correlation with beta. This is partly due to the fact that short-term correlated returns are substantially the result of less serious discount rate changes.

In the first instance, the value fell by 19.3% because discounts rates increased by 1%. In the second, the value decreased by 19.3% because the outlook for the business's net cash flows fell by 19.3% due to a recessionary global shock. CAPM/Beta and Total Beta assume indifference to this hypothetical situation. The model data show that, for growth companies, just a 1% increase in the discount rate reduces the present value by a very significant 19.3%. Thus, small, seemingly insignificant discount rate changes dramatically impact systematic price volatility, causing growth company betas to be "artificially" high (large correlated swings attributable to changes in discount rates, as opposed to more serious valuation changes caused by lowered cash flows associated with a recessionary global shock).[20] In the second case, wealth decreases and investment opportunities are unchanged, while in the first case, wealth decreases but future investment opportunities improve. These two events should have different significance for a risk-averse, *long-term* investor holding the market portfolio. To hold stocks that covary with the market's systematic cash-flow risk, an investor will demand a risk premium higher than that associated with assets that covary with news about the market's discount rates. Poor returns caused by increases in required returns (event A) are partially compensated for by improved prospects for future returns. Dividends and savings can now be reinvested at the higher required return that caused the valuation to fall in the first place.

CAPM, because it is a single-period model, assumes that an investor is *indifferent* to discount rate shock compared to cash-flow shock. Because CAPM assumes that everyone sells after each short-term period, both events would have identical losses with no further reason to prefer one event over the other. In reality, investors are not required to sell in the manner CAPM requires. Event A, with lesser cash-flow impact and improved investment environment, is clearly preferred. However, events A and B result in an equal beta based on equal price movement.

Given this dynamic, we reasonably expect, and in fact see, growth stocks with more event A "price" risk having "artificially" high betas that are less significant to investors than the betas actually suggest. This results in returns that are less than CAPM predicts. Conversely, we reasonably expect value stocks with more event B systematic cash-flow risk to have betas more significant to investors than the betas suggest. This results in actual returns higher than CAPM predicts.

Therefore, if we have a value stock and a growth stock, each with a beta of 1.00, we surmise that the growth stock's beta comes from a higher standard deviation of correlated returns from the discount rate or "price" risk. The value stock, with its short cash-flow duration, likely has in its beta relatively less "price" risk and relatively more systematic cash-flow risk.

Example #2

The following example highlights higher systematic risk accompanying lower operating margins. More precisely, with CAPM's underpricing of cash-flow risk illustrated already, this example briefly addresses some of the remaining assumptive problems related to the definition of risk, as well as CAPM's assumption of a normal distribution with no fat tail.

Inefficientco manufactures specialty ball bearings. A few years ago, it heavily invested in a new line of robotics, reducing labor costs by 90%. Last month, a competitor, Efficientco, invested in a brand-new line of second generation robotics that, compared to Inefficientco's robots, is faster, uses less power, wastes far less material, and reduces quality-control costs via consistent accuracy. Efficientco reduced prices and took market share. Consequently, Inefficientco now operates well below capacity and is forced to charge higher prices, resulting in its stock price tumbling. Thanks to a very strong economy, Inefficientco still earns a poor but positive return on capital.

20 This helps us to understand the ways in which growth stock beta values are relatively "exaggerated" by frequent small changes to the market's discount rate. On the other hand, value stocks are less impacted by less serious discount rate changes and are more sensitive to less frequent more consequential large systematic cash-flow changes, ergo "value premium."

Here, Inefficientco's risk relative to Efficientco is analyzed given two global (systematic) economic shocks that reduce demand by 5% each (see Table 2).

Table 2: Value Premium Risk – Illustration

	Preshock	Postshock
Five percent demand global economy negative shock:		
High operating margin, low book-to-market low-risk firm:		
Revenue	$1,000,000	$950,000
Variable cost %	40%	40%
Operating margin	8%	5%
Profit	$80,000	$50,000
Valuation impact, approx.		−38%
Low operating margin,		
high book-to-market high-risk firm:		
Revenue	$1,000,000	$950,000
Variable cost %	40%	40%
Operating margin	4%	1%
Profit	$40,000	$10,000
Valuation impact		−75%
Second five percent demand global economy negative shock:		
High operating margin, low book-to-market low-risk firm:		
Revenue	$950,000	$902,500
Variable cost %	40%	40%
Operating margin	5%	2%
Profit	$50,000	$21,500
Valuation impact		−57%
Low operating margin, high book-to-market high-risk firm:		
Revenue	$950,000	$902,500
Variable cost %	40%	40%
Operating margin	1%	−2%
Profit	$10,000	$(18,500)
Valuation impact		Asymmetric & Complex

Regardless of whether Inefficientco writes down its investment in the economically obsolete robots (decreasing its book-to-market ratio closer to its precompetition level), its low operating margin will not change. The company will be disproportionately affected by economic conditions compared to Effecientco, which operates with much wider margins. Therefore, Inefficientco's stock price will *act* like other firms with high book-to-market ratios, firms that, in aggregate, have similar risk characteristics. Whether or not Inefficientco chooses to write off its investment, the Fama and French regression of its stock returns will pick up (or "load") positively for this risk.

Conversely, a grocery store or distributor with very small, industry-average operating margins will not load for this risk. In this sense, it's a smart proxy for risk.[21] This example also illustrates the way in which tangible assets can be far more risky than intangible assets and suggests that the price-to-earnings multiple for Inefficientco should be extremely low when the economy is strong.

Relative to Efficientco, Inefficientco can be characterized as a:

- value stock,
- company with high operating leverage,
- company with high cash-flow risk,
- small stock,
- distressed stock, and
- company with low efficiency.

Critiques of FF3FM

There exists a vast amount of literature on FF3FM. A complete review of the literature is beyond the scope of this paper; however, we offer the following limited discussion.

FF3FM was inspired by CAPM's failure to adequately explain stock returns. Various researchers observed very substantial return anomalies related to firm size and book-to-price that were inconsistent with CAPM. FF3FM recognized these "anomalies" as valid risk *proxies* to offer an alternative to CAPM that has far higher explanatory power. Therefore, the model's strength — high empirical explanatory power — is also its potential weakness. Because the model was developed "in-sample," it, like typical in-sample models, will tend to have lower explanatory power in the future. Although CAPM fails to adequately explain long-run returns, it is a normative model and consequently is not based on empirical observation. Therefore, by definition, CAPM cannot have the in-sample problem.

Damodaran also points out certain limitations of FF3FM:

> The competitors to the CAPM clearly do a much better job of explaining past returns since they do not constrain themselves to one factor, as the CAPM does. This extension to multiple factors does become more of a problem when we try to project expected returns into the future, since the betas and premiums of each of these factors now have to be estimated. Because the factor premiums and betas are themselves volatile, the estimation error may eliminate the benefits that could be gained by moving from the CAPM to more complex models. The regression models that were offered as an alternative also have an estimation problem, since the variables that work best as proxies for market risk in one period (such as market capitalization) may not be the ones that work in the next period.[22]

We find Dr. Damodaran's critique interesting in that "market capitalization" is the factor used in his reasoning to reject modification of pure CAPM. He may be correct; however, nearly all business appraisers incorporate a small stock premium in cost of equity models and have, therefore, adopted the size anomaly Damodaran specifically warns against. FF3FM uses a factor for firm size and book-to-price. The book-to-price factor data have a correlation to returns nearly twice that of the size factor, and the book-to-price factor's historical risk premium is 50% higher than the size

21 The data are not always this simple given the complexity of the subject matter. For example, one empirical test related to FF3FM implications concluded, initially, counterintuitive results. See Aharoni, Grundy, and Zeng, *Revisiting the Fama and French Valuation Formula* (Melbourne, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1800603 SSRN, 2011). They found that a counterintuitive result of a test by Fama and French was reversed after they made an improvement to the test methodology.

22 Aswath Damodaran, *Investment Valuation, 2nd edition* (New York: John Wiley & Sons, 2002):78.

premium. As a consequence, if one wishes to criticize and/or reject FF3FM using his reasoning, it seems one must similarly criticize and or reject the size premium.[23]

Lakonishok, Shleifer, and Vishny (1994) argued that investors irrationally extrapolate past earnings growth and thus overvalue companies that performed well in the past. They conclude that the Fama and French factors are the result of behavioral flaws, not valid risk factors. However, if this is true, we might expect this news (the ability to capture dramatically higher alphas with no additional risk with a simple style-based passive ETF) to spread quickly, naturally ending the free lunch premium. Contrary to this logical expectation, as evidenced by the "value versus growth" stock portfolio returns in Figure 3, the 20-year moving average premium (post-1992) has actually *increased*.

FF3FM — Uniquely Suited to Privately Held Business Appraisal

FF3FM places more importance on systematic cash flow versus discount rate price exposure to economic shocks. Conversely, CAPM places disproportionate importance on the risk of valuation changes caused by market changes in risk-adjusted opportunity cost of equity ("price risk"). While both are systematic risks, here we showed how stock market investors prefer discount rate shock to cash-flow shock. We believe a private business owner will be *even more* disproportionately concerned with systematic cash-flow risk than with fluctuations in the value of her business due only to an increase in the market discount rate. At the privately held small company level, a 20% decrease in cash flow could have immediate adverse consequences, such as impairing an owner-operator's ability to fund her personal mortgage. The same 20% decrease to value resulting from an increase in discount rates with no effect on cash flow, has no such consequences; however, CAPM's "intertemporal" flaw forces CAPM to treat these two events *equal* in terms of its oversimplified model price of risk.

Intuitively, we see that CAPM's intertemporal structural flaw is amplified as the expected holding period increases. Assuming prospective owners of privately held businesses have substantially longer expected holding periods than do stock market participants, FF3FM is uniquely suited to value small, privately held businesses.[24]

Furthermore, based on the robotics example previously presented, FF3FM is likely more to be accurate at pricing asymmetric risk of *loss* versus variance risk, which includes "risk" of gain.

Finally, owner-operators whose businesses may fail as a consequence of recession are particularly vulnerable. They would have to seek new employment when the countercyclical price of risk is at its peak level of pain. The value of the owner-operator's human capital is high and inversely correlated with the potential loss or failure his or her business, especially if the probability of the potential loss or failure of the business is highly leveraged with and correlated to the general economy. In other words, we need a risk model that recognizes a failure/loss of the business due to a shock to cash flows to be proportionately more important than loss of value due to higher discount rates. FF3FM specifically excels at this.[25]

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23 Business appraisers may argue that since small companies are intuitively more risky, the size premium warrants special consideration; however, we have observed anecdotally that intuitive evidence to support this assertion is based on unsystematic risk factors, i.e., lack of customer, product, or geographic diversification or lack of depth of management. Unsystematic risk does not *cause* higher returns for *publicly traded* companies; therefore, this intuition and special consideration are unwarranted.

24 As far as we can tell, discovery of this particular "magnified advantage" of FF3FM vis-à-vis the intertemporal flaw of CAPM, and derivatives, when applied to privately held business appraisal, is novel.

25 The new Duff & Phelps model, with its emphasis on operating margins and cash-flow risks, is also, relative to CAPM, uniquely suited to privately held businesses.

Conclusion

Due to our intention to focus on conceptual issues, we have not provided nuts and bolts instructions on how to actually use the FF3FM to calculate a subject company's cost of equity. We plan to follow up this paper with another paper that addresses this issue.

Due likely to oversimplifying assumptions, CAPM mostly fails empirically to explain risk. As a consequence, Fama and French developed FF3FM by adding to CAPM two additional factors that successfully explain risk empirically. Roger Grabowski recently developed a robust cost of equity model that we believe is inherently similar to FF3FM, paving the way for improved business valuation via one or both of these models.

The Duff & Phelps model is robust and relatively easy and straightforward to employ, but it will not work well within industries that have normally very low or normally very high operating margins. FF3FM works with any industry, but it is more arduous to apply. The Duff & Phelps model's primary proxy for risk, operating margin, is so intuitive — recall the robotics profit margin analysis — that it potentially becomes a direct and intuitive *cause* of risk as opposed to the more esoteric "proxies" for risk used by FF3FM.

The new Duff & Phelps model and FF3FM are uniquely suited for privately held business appraisal due to their emphasis, relative to CAPM and modified CAPM, on cash-flow risk. FF3FM goes one positive step further in placing the highest price of risk on systematic cashflow risk. In a severe recession, in addition to a potential total investment loss, the private business owner-operator's human capital value would also be severely damaged due to the increased likelihood of her need to seek new employment during a (over) supply disequilibrium when human capital values and employment chances are down significantly.

CAPM and Total Beta's intertemporal flaw is even more problematic when used to value privately held businesses if we take as a given the longer holding periods for privately held businesses. FF3FM and the new Duff & Phelps model, due to their empirical, long-term observations based methodology, are not subject to the intertemporal problem.

The Fama and French model is not new; indeed, most of the important ideas and conclusions we present here are not new. However, many of the acknowledged concepts discussed herein, including CAPM's potentially severe intertemporal flaw, are rarely, if ever, part of our cost of equity dialog. Few business appraisers are even aware of it and its relevance to the cost of equity of small, privately held businesses.

Furthermore, assuming Dr. Covrig and Dr. McConaughy are correct, FF3FM is, in the opinion of most academics, the most credible cost of equity model. This is especially noteworthy given the fact that few in our profession know anything significant about FF3FM or the underlying evidence and intuition behind its credibility. We hope this begins a new fertile area of discussion and thinking.

APPENDIX

Quadratic utility

Suppose that a portfolio has a random wealth value of *y*. Using the expected utility criterion, on the quadratic utility function, we can get:

$$E\left[U(y)\right] = E\left[ay - \frac{1}{2}by^2\right] = aE\left[y\right] - \frac{1}{2}bE\left[y^2\right] =$$
$$aE\left[y\right] - \left(\frac{1}{2}\right)b\left[E\left[y^2\right] + Var\left[y\right]\right].$$

Many people believe that a rational investor's goal is to maximize his expected utility of wealth. The optimal portfolio maximizes this value with respect to all mean-variance pairs of the random wealth variable *y*. Therefore, the relationship between the efficient frontier and the utility function becomes an interesting question to look at.

Because we need to minimize the variance and to maximize the expected value in the following expression:

$$aE\left[y\right] - \left(\frac{1}{2}\right)b\left[E\left[y\right]^2 + Var\left[y\right]\right],$$

the optimal utility corresponds with the definition of the efficient frontier. Therefore, the optimal utility must correspond to a mean-variance efficient point.

Since U(*y*) is concave down, by Jensen's inequality, U(E[*y*]) ≥ E(U[*y*]); in words, the utility of expected wealth is greater than the expected utility.

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