

# JOURNAL OF BUSINESS VALUATION 2020 EDITION



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## A DISCERNING VALUATION ANALYSIS – UTILIZING A RECONCILIATION OF THE FCFF, FCFE & EVA MODELS

## A DISCERNING VALUATION ANALYSIS – UTILIZING A RECONCILIATION OF THE FCFF, FCFE & EVA MODELS

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#### **Objectives Of This White Paper:**

Our discerning valuation analysis contains and reconciles the following three discounted cash flow (DCF) models: (a) The Free Cash Flow to Firm model (FCFF); (b) The Free Cash Flow to Equity model (FCFE); and (c) The Discounted Economic Profits (DEP) or Economic Value-Added model (EVA).

The comprehensive model is contained on the attached schedules and an Excel version is available for educational purposes, ease of use and reference. Use and application of the discerning valuation analysis will achieve the following principal objectives:

- 1. It allows important insights and transparency via the inter-play of the following variable factors:
  - a) Economic profits and the impact on economic value as follows:
    - When ROIC = WACC, growth will neither create nor impair value. In other words, there will be no EVA created no matter the level of growth.
    - When ROIC > WACC, value will be created, and the higher the growth rate in EBIT (1- t), the compounding effect will generate increasing value added.
    - When ROIC < WACC, value will be impaired, and the higher the growth rate in EBIT (1 t), the compounding effect will increasingly destroy firm value.
  - b) Sales growth over the projected life cycle of the business;
  - c) Operating capital employed;
  - d) EBITDA margins;
  - e) Net reinvestment rates;
  - f) The impact of leverage associated with Economic Value Added; and,
  - g) Operating ROIC (interchangeably ROC).
- 2. It provides greater assurance of mathematical accuracy between the three models to arrive at the same conclusion of intrinsic values enterprise and equity.

We note that our DEP model is based on our review of materials and text books from McKinsey & Company (Valuation: Measuring and Managing the Value of Companies) and certain sections of our reconciliation of the FCFE and FCFF is based on work prepared by Professor Aswath Damodaran of the Stern School of Business at New York University.

This paper prepared by Kertzman Valuations Inc. ("KVI") differentiates from the above-noted sources in that it provides a comprehensive reconciliation of the DEP model with the FCFE and the FCFF models. In addition, our discerning valuation analysis provides other important insights between the models which is outlined in further detail on the attached schedules.

We trust that our valuation analysis will provide guidance to practitioners on various engagement assignments where the use of the model from the standpoint of (a) client cost versus client benefit, (b) adaptability and (c) application is deemed appropriate by the valuation professional. Assignments that we anticipate will benefit from this discerning valuation analysis are: Fairness opinions; fair value opinions; mergers, acquisitions, divestitures, private equity investments and pension fund investments.

A note: readers will obtain the most benefit and gain other important insights between the models by reviewing the detailed excel schedules which can be found here: (https://bit.ly/2ZN8Jv5)

#### Scope of Review:

Our primary sources of information are as follows:

#### Professor Aswath Damodaran - Stern School of Business at New York University:

- Online website containing articles, excerpts of text books and data on companies and industries in the USA and internationally (http://pages.stern.nyu.edu/~adamodar/);
- Investment Valuation: 3<sup>rd</sup> Edition; and,
- Applied Corporate Finance" 4<sup>th</sup> Edition.

#### McKinsey & Company:

- Corporate Valuation, Measuring and Managing the Value of Companies, 6th Edition;
- "A long-term look at ROIC";
- "An Empirical Analysis of Returns on Invested Capital"; and,
- Other online sources.

Other online article sources: dealing with the following topics (See attached Exhibits for specific sources):

- The principal factors (ROIC vs WACC) contributing to the creation of "Economic Profits" and "Enterprise Value Added" (EVA) in the context of business valuation.
- The importance and derivation of the key Non-GAAP business performance metric "ROIC" that has in recent years been more publicized in financial media and "sometimes" referenced in various public corporation annual reports in its MD&A.
- Competitive Advantage Period (CAP) and its sustainability.
  - The business life cycle and its main phases in the context of CAP and the industry (industries) the enterprise is engaged in.
  - The competitive barriers to entry and its influence on CAP.
  - The too often corporate obsession with "business growth" when this strategy can have unintended adverse consequences.
- · CEOs Who Focus On ROIC (Return On Invested Capital) Outperform, Forbes, September 12, 2018; and,
- Measuring Economic Value Added (EVA): How Corporate Governance Works for Shareholders, Singapore Management University, 2008

We also reviewed and recommend the following literature which have been summarized by KVI as Exhibits:

Source:	Exhibit
J.P. Morgan - October 2009 - Creating Value Though Best-in-Class Capital Allocation"	Α
McKinsey - Corporate Valuation 6th Edition - "An Empirical Analysis of Returns on Invested Capital"	в
Harvard Business Review - Jan/Feb 2017 - "Curing the Addiction to Growth"	С
Harvard Business review 1979 - How Competitive Forces Shape Strategy	D
Michael Mauboussin November 2016 - "Assessing The Magnitude And Sustainability of Value Creation"	E
CICBV - Business Valuation Digest - June 1998 - "Competitive Advantage Period: The Neglected Value Driver" - "An Empirical Analysis of Returns On Invested Capital"	F

#### The Discerning Valuation Model:

The various models and reconciliations are presented on the following schedules and summarized below:

Discerning Valuation Analysis	Schedule
FCFF vs FCFE vs DEP - Model Reconciliation	1
Disaggregation of ROIC	2
EVA Sensitivity - ROIC vs WACC vs Growth	3
EVA Valuation Schematic - Organic Growth v. M&A Growth	4A & 4B
Supplementary - WACC ROIC EVA Data Tables	5
Supplementary – Economic Profit Model – Formulae	6
Supplementary – Economic Profit – Perpetuity Model	7
Supplementary FCFF vs FCFE vs DEP - Model Reconciliation With Constant Sales revenue - growth rates and Constant EBITDA - % of sales revenue	8

Some readers may find it beneficial to review the indicated schedules prior to reading the commentary below. Reviewing the detailed Excel models is where the most benefit will be obtained for the reader of this White Paper. They can be found here: (https://bit.ly/2ZN8Jv5)

#### FCFF vs FCFE vs DEP - Model Reconciliation (Schedule 1)

The discerning valuation analysis contains the following three discounted cash flow models:

- 1. FCFF: The free cash flow to the firm represents the amount of cash flow from operations available for distribution to all investors (equity and debt) after reinvestments.
- 2. FCFE: The free cash flow to equity represents the cash flow available to equity after all expenses, reinvestment and debt.
- 3. DEP: The discounted economic profits of the firm. Economic profits represent the excess returns over and above the cost of capital. The present value of these economic profits is the economic value added, akin to the goodwill of the firm. In other words, if a company can earn a return on its invested capital greater than its cost of capital, there is goodwill. The DEP Model has been largely ignored in the business valuation community until recently. It is based on a model prepared by Stern Stewart and amended / outlined in further detail by McKinsey in the Corporate Valuation 6th Edition "An Empirical Analysis of Returns on Invested Capital"

In order to create the comprehensive model, a critical step is to ensure that the models arrive at the same enterprise and equity values and that certain other outputs are consistent. In this regard, we had to reconcile the models. This model reconciliation (for the three models outlined above) is outlined in the attached Excel workbook, Schedule 1 and the reconciliation process is described below.

The hypothetical assumptions / inputs for the discounted cash flow models are outlined on rows 7 to 15 of the attached Excel sheet and include revenue in current year, revenue growth rates, EBITDA margins, interest, cost of equity, etc. The example developed for the integrated discounted cash flow models are based on various hypothetical input assumptions over a projected (10) year period of multiple stages of business growth, decline, and maturity – the latter stage incorporated in the residual for the 11<sup>th</sup> and subsequent period of a constant growth perpetuity.

This integrated model arrives at the same intrinsic enterprise valuation (EV) of \$1,309 in the FCFF, FCFE, and DEP (discounted economic profits) models. Cells in the Excel model – F36, F74, F145.

By employing the "IRR" function in Excel, the calculated result of 13.80% "internal rate of return" for each of the FCFF and DEP models, agrees with the extrapolated "weighted average cost of capital" (WACC) based on the input assumptions – this proving the mathematical accuracy of a complex model involving many data variables and interdependencies.

Similarly, the IRR calculated result for the FCFE model of 17.00% agrees with the Cost of Equity (COE) based on the input assumptions – again proving the mathematical accuracy of the model. See rows 41 to 44.

This integrated model additionally discloses various key ratios for the derivation of:

- **ROIC** Represents the return to the Company / Firm (not the shareholder) based on the total capital employed at the beginning of year at book value. By way of example, on Schedule 1, the ROIC / ROC (as derived at rows 94 to 96) for a particular year is the EBIT x (1-t) divided by the total capital employed at the end of the preceding fiscal year at book value. The difference between the ROIC and WACC represents the excess rate of return earned by the Firm (row 140). This excess rate of return when multiplied by total capital employed at book value (at the end of the preceding year) represents the economic profits for that particular year (row 141 DEP model, being row 136 x 140). The aggregate of the present value of the economic profit is the Economic Value added (\$709 row 154). The Economic Value Added (\$709) + the book value of the capital employed in the initial year (\$600) equals the intrinsic value of the firm / enterprise value \$1,309. If the reader spends time to review the model they will gain insight into the many data variables and interdependencies associated with the three different cash flow models.
- **ROE** Represents the return on equity capital at book value at the beginning of the year (see extrapolations of rows 98 to 100). By way of example, the ROE (as derived at rows 98 to 100) for a particular year is the earnings after tax ("EAT") divided by the equity employed at the end of the preceding fiscal year at book value. Utilizing the DEP model, the difference between the ROE and Cost of Equity represents the excess rate of return earned on equity. This excess rate of return when multiplied by the equity capital employed at book value (at the end of the preceding year) represents the economic profits for that particular year. The aggregate of the present value of the economic profit is the Economic Value added.
- **Shareholder ROI** Return on investment at the Shareholder level. These calculations are outlined in more detail below. The ROI represents the return to the investor based on change in equity value (i.e. capital gain) plus the dividend yield (FCFE% of prior year end intrinsic value of equity). See rows 41 to 44. The ROI is equivalent to the IRR on FCFE and the Cost of Equity. See Cell E76.
- Interest bearing debt relative to intrinsic enterprise value (assumption outlined on row 14) is a key ratio to reconcile the FCFF and FCFE models. This is reconciled on rows 90 to 91 based on the above- models to prove the integrity of the models. This particular ratio is essential for the mathematical reconciliation of intrinsic EV for the three separate models.
- Net Reinvestments Rates for both sustaining and growth investments is based on the net operating working capital and capex. The net reinvestment rates are calculated at rows 109 to 118 on a firm basis and at rows 120 to 131 on an equity basis. We have calculated the net reinvestment rates utilizing three different methods based on either the firm basis or equity basis. If the reader spends time to review this complex section of the model, they will gain insight into the many data variables and interdependencies.

The model also discloses various key reconciliations for:

- Equity @ Book Value
- Interest Bearing Debt
- FCFF & FCFE

Regarding the DEP model section, the derivation of the EVA of \$709 is indicated as is the derivation of the original (base) capital employed at book value of \$600. The aggregate of the EVA and the original (base) capital employed at book value is the EV of the firm (\$709 + \$600 = \$1,309). The economic profits and EVA for each year are key elements in the DEP section as the absence of this disclosure would obscure the financial performance and progress of the firm particularly when the FCFF section may indicate "negative" net cash flow in certain years when growth expenditures are made. Please compare row 33 (FCFF) and row 141 (Economic Profit).

An additional important component of this model is our calculation and disclosure at the end of each year over the projected entire DCF period for the following:

- a) Intrinsic value of Firm (EV); and the Year-over-Year percentage increases equivalent of the notional firm gains. Row 36. See also rows 41 and 42.
- b) Deducting from the above for each year, interest bearing debt. Row 37.
- c) Calculating the intrinsic value of Equity; and the Year-over-Year percentage increases equivalent of the notional shareholder capital gain. Row 38 and Row 42 respectively.
- d) Adding to the above the FCFE % of the prior year-end intrinsic value of equity; this being equivalent of the "potential" dividend yield for each year. Row 43.
- e) The percentage sum of the last two calculations (Row 44) providing the total shareholder rate of return on investment (ROI) of 17.00% (this being equivalent to the assumed initial shareholder cost of equity or shareholder required rate of return commensurate with the perceived underlying investment risk in the shares for that particular firm).

We believe that the above disclosures in our integrated model fulfills our main objectives of providing in the valuation process the key insights, transparency, and ensuring mathematical accuracy of calculations - linking the multitude of input assumptions, variable factors and interdependencies – in order to arrive at a very high standard of reliability in valuation conclusions.

#### Disaggregation of ROIC (Schedule 2):

We replicated the ROIC model from McKinsey's Valuation – 4<sup>th</sup> edition to highlight the key determinant of the EVA in the DEP model. The model presented relates to McKinsey's determination of the ROIC for Home Depot for the fiscal year ended in 2003. The basic formula presented in the illustration is based on the original Dupont's classic derivation of ROIC.

The importance of this disaggregation model and its underlying equation is that ROIC depends on the product of: (a) the after-tax operating profit margin; and (b) the average operating capital employed at book value turnover – both relative to sales revenue.

In this illustration, to realize a ROIC of 18.22%, (a) could be calculated as EBIT (1-t) (11.00% x (1-28.60%)

=  $7.854\% \times (b) 2.32 = 18.22\%$ . EBIT (1-t) represents the earnings before interest and taxes ("EBIT); and the after-tax rate on the cash rate of taxes (i.e. (1-t).

This disaggregation of the ROIC illustrates the following:

- Capital intensive firms will tend to have a lower capital turnover ratio and thus a lower ROIC.
- A Firm can improve ROIC in numerous ways such as optimizing its supply chain and reducing excessive inventory levels and/or by improving its sales revenue mix to higher margin products.

In addition, the determination of the key underlying factors contributing to a specific firm indicating different levels of ROIC at different times in its life cycle – historically, currently, and prospectively can provide essential insights in various business valuation engagements.

#### EVA Sensitivity - ROIC vs WACC vs Growth (Schedule 3):

We prepared this model to illustrate that the obsession by many firms with business growth can have very different and often unintended results – value creation; value neutral; or, value destruction.

The sensitivity table on Schedule 3 illustrates the following:

- When ROIC = WACC, growth will neither create nor impair value. In other words, there will be no EVA created no matter the level of growth.
- The key is that if ROIC > WACC, value will be created, and the higher the growth rate in EBIT (1- t), the compounding effect will generate increasing value added.
- When ROIC < WACC, value will be impaired, and the higher the growth rate in EBIT (1 t), the compounding effect will increasingly destroy firm value.

#### EVA Valuation Schematic - Organic Growth v. Growth By Acquisition (Schedules 4A/4B):

The purposes of the models outlined on Schedules 4A and 4B is to compare the EVA based on growth by acquisition (Schedule 4B) with the EVA based on organic growth or organic growth with incremental investments (Schedule 4A). These models are summarized below.

#### Schedule 4A: Organic Growth

We prepared this model with three main sections:

- 1. Existing Assets in Place.
- 2. Incremental Investments via Organic Growth
- 3. Existing Assets in Place *plus* Incremental Investments via Organic Growth

The model is intended to illustrate the build-up components of:

- Invested capital at book value
- ROIC
- Economic Profit
- EVA
- Intrinsic Enterprise Value
- Intrinsic Value of Shareholders' Equity

It is recommended that the reader review schedule 4A before continuing.

In 2. above (Incremental Investments via Organic Growth), we assumed that the firm planned to increase it sales revenue by 50% - from sales of \$2,000 to \$3,000. Hypothetically, the investment capital employed at book value, was also assumed to increase by the same percentage (50%) - from \$1,000 to \$1,500.

As outlined on Schedule 4A:

- The EVA in 1. was determined to be \$500.
- The EVA in 2. was determined to be \$750. indicating a 50% increase.
- The EVA in 3. was determined to be \$1,250.

- The Intrinsic Enterprise Value in 3. was determined to be \$3,750 when compared to the corresponding amount for Invested Capital Employed @ BV in 3. of \$2,500, reflects the EVA in 3. of \$1,250.
- The Intrinsic Value of Shareholders' Equity in 3. was determined to be \$3,000 when compared to the corresponding amount for Shareholders' Equity @ BV in 3. of \$1,750, reflects the EVA in 3. of \$1,250.
- The ROIC in each of 1, 2, and 3, was determined to be 15%.
- The WACC in each of 1, 2, and 3, was assumed to be 10%.

#### Schedule 4B: EVA Valuation Schematic - M&A Growth:

Similar to Schedule 4A, we prepared this model along the same basic format, however, we assumed in this scenario that the same firm would achieve its growth via paying for a target firm's net assets at an amount equivalent to the *Intrinsic* Enterprise Value in 4 (a) under the "Organic" growth section; the amount being \$2,250.

Therefore, the incremental Net Operating Assets Employed @ BV via this acquisition would be \$2,250 for the target firm's net assets – this reflecting an Acquisition Premium of \$750 over the corresponding amount of \$1,500 for the book value in Schedule 4A. The acquisition premium of \$750 being equivalent to the EVA in the Organic Growth scenario.

Analyzing the aggregate of Existing Assets in Place *plus* Incremental Investments via M&A Growth, the following conclusions are drawn:

- The Intrinsic Enterprise Value in this schedule was determined to be \$3,750 when compared to the corresponding amount for Invested Capital Employed @ BV of \$3,250, this reflects the EVA in the amount of \$500 - this being the EVA for existing assets in place and "nil" EVA from the growth via the acquisition – because of the acquisition premium paid.
- The Intrinsic Value of Shareholders' Equity in this schedule was determined to be \$2,775 when compared to the corresponding amount for Shareholders' Equity @ BV of \$2,275, reflects the EVA of \$500.
- Although the Intrinsic Enterprise Value in the amount of \$3,750 in this schedule is the same as in Schedule 4A, the incremental EVA is \$500 in this schedule compared to incremental EVA of \$1,250 in Schedule 4A- again reflecting the acquisition premium in this schedule.
- The composite ROIC in this schedule works out to be 11.54%; this being calculated as follows: EBIT (1- t) of \$375 / Invested Capital Employed @ BV of \$3,250.

Referencing the numbering in Schedule 4A, the ROIC in this schedule is as follows:

- 1. 15%
- 2. 10%
- 3. 11.54%

There is a decline in the ROIC from 15% to 11.54% as the acquirer has paid an acquisition premium equivalent to the intrinsic value created via the organic growth model. This decline could be reduced if proportionate synergies are achieved by the acquirer.

The WACC in each of 1, 2, and 3, was assumed to be 10%.

#### **Supplementary Schedules: Schedules 5 to 7**

In order to gain a more in-depth understanding we recommend that the reader review our supplementary detailed analysis at Schedules 5 to 7, which can be found here: (https://bit.ly/2ZN8Jv5)

A brief description of each of the supplementary schedules and sensitivity tables is outlined below.

#### Schedule 5 - Supplementary WACC ROIC EVA Data Tables:

Our objective in the preparation of this comprehensive model is to provide an illustration of the derivation of WACC and ROIC with Data Tables that would indicate the impact of assumed levels of financial leverage and assumed levels of corporation income tax rates on Economic Profits and EVA.

The model additionally provides a reconciliation of the Intrinsic Enterprise Value and EVA under the following:

Unlevered – via Cost of Equity Levered – via WACC Levered – via Cost of Equity

Our model is based on the Capital Asset Pricing Model (CAPM) and the various assumed inputs and calculated amounts and ratios are all clearly cross-referenced.

Sensitivity tables demonstrating WACC, ROIC, ROIC minus WACC, Economic Profit and EVA by levels of interestbearing debt (IBD) to EV and income tax rate are also outlined on Schedule 5.

#### Schedule 6 - Supplementary: Economic Profit Model - Formulae:

This schedule is provided as an additional reference for the reader to help in understanding the algebraic relationships of the formulae and various rates.

#### Schedule 7 - Supplementary: Economic Profits Perpetuity Model:

This schedule is provided as an additional reference for the reader to help in understanding the derivation and reconciliation of the Intrinsic Enterprise Value based on a capitalization of FCFF versus EVA via the "Gordon Constant Growth Perpetuity Equation".

### Schedule 8 - Supplementary: Capitalization Approach (Model Utilizing Constant "Sales revenue - growth rates" and Constant "EBITDA - % of sales revenue")

This schedule is provided to illustrate the reconciliation of EVA of the three DCF models referred to in Schedule 1 with the EVA derived via a capitalization approach.

In order to use the capitalization approach in this schedule, the first two assumptions were changed as follows:

- a) Sales revenue growth rates: The growth rate was assumed to be constant throughout the period at 7%; and,
- b) The EBITDA % of sales revenue: This percentage was also assumed to be constant throughout the period at 16%.

The model in this schedule (with the exception of "(a)" and "(b)" above), is identical in all respects to the model provided at Schedule 1. This schedule using both DCF and capitalization approaches is only possible when the two assumptions noted above is made.

At rows 198 to 212, we utilized four different capitalization approaches to calculate the EVA at \$104, proving the mathematical accuracy and consistency of the entire model.

#### **Exhibit A**

Source: J.P. Morgan - October 2009 Creating Value Through Best-In-Class Capital Allocation

#### Value-Added Framework:

One way to adjust the return on invested capital for the risk of the investment is by explicitly charging for the corresponding cost of capital. The difference, often called the excess return, is then multiplied by the capital invested to calculate the economic value added (EVA<sup>®</sup>) in a given year. Discounting the sum of all expected EVAs results in the market value added (MVA). The MVA is closely tied to value creation. In fact, the sum of invested capital and MVA should be equal to the enterprise value calculated via a traditional discounted cash flow (DCF) model.

Economic Value Added (EVA) Framework								
Valı	ue drivers		Value disaggregation					
Excess return	Value is created by earning returns that exceed the cost of capital invested							
Investment opportunities	Long-term value creation requires growth; opportunities to create value through rationalization are limited		Market Value Added (MVA) = Incremental value over competitive advantage period					
Duration of competitive advantage	Excess returns occur during periods of competitive advantage; without competitive advantage excess returns tend to regress to zero	Invested Capital @ book value		Enterprise Value				
Risk	Lower perceived business risk reduces the cost of capital							

**EVA** = (ROIC - WACC) x Invested Capital = NOPAT - Capital Charge **Market Value Added (MVA)** = discounted sum of all expected EVAs

#### **Exhibit B**

Source: McKinsey - & Company Corporate Valuation - sixth Edition Valuation - Measuring and Managing the Value of Companies An Emprical Analysis of Returns on Invested Capital

In our study of rates of ROIC for U.S.-based non financial companies with revenues greater than \$1 billion (inflation adjusted) from 1963 to 2013, we produced several key findings

ROICs differ by industry. Industries that rely on sustainable competitive advantages such as patents and brands (for example, pharmaceuticals and personal products) tend to have high median ROICs, whereas companies in basic industries, such as paper, airlines, and utilities, tend to earn low ROICs.

Our results come from McKinsey & Company's Corporate Performance Analytical Tool, which relies on financial data provided by Standard & Poor's Compustat. The number of companies in the sample varies from year to year. In 2013, the sample included 1,246 companies.

There are large variations in rates of ROIC within industries. Some companies earn attractive returns in industries where the median return is low (e.g., Wal-Mart and Intel), and vice versa.

#### **ROIC Trends**

Until the early 2000s, the average median ROIC without goodwill was about 10 percent. Furthermore, annual medians oscillated in a tight range, though with higher returns in high-GDP-growth years and lower returns in low-growth years. Since the early 2000s, however, median ROIC without goodwill has increased to about 16 percent in 2013.

The 25th-percentile company has continued to earn about 6 percent during the entire period, while the 75th-percentile company's return has increased from the mid-teens to over 35 percent.

Much of the increase in median ROIC and the widening dispersion is due to the changing mix of U.S.-based companies. The share of profits of U.S.- based non financial companies earned by companies in pharmaceuticals, medical devices, and information technology has increased from 14 percent of total profits in 1990 to 33 percent in 2013. This massive increase has been driven by the fact that these sectors have grown faster than the rest of the economy, they tend to have higher margins and returns on capital, and their margins and returns on capital have increased (as will be discussed in the next section).

Also, for the higher-ROIC industries, ROICs have increased in recent years. Not surprisingly, industries with the highest ROICs, such as pharmaceuticals, medical devices, and IT-related businesses, are those with sustainable competitive advantages. In the case of pharmaceuticals and medical devices, this is due to patent-protected innovation. In IT-related businesses, it is due to increasing returns to scale and customer lock-in. The consumer staples sector has high returns due to customer loyalty based on brand strength. The industries at the bottom of the chart tend to be those where it is difficult to achieve a price premium or cost advantage.

Persistently high-return industries included household and personal products, beverages, pharmaceuticals, and software. As you would expect, these industries have consistently high returns because they are scalable (software) or are protected by brands or patents.

Persistently low returns characterize paper and forest products, railroads, and utilities. These are commodity industries in which price premiums are difficult to achieve because of low barriers to entry, commodity products, or regulated returns. Perhaps surprisingly, this group also includes department stores. Like commodity industries department stores can achieve little price differentiation, so, as a rule, they realize persistently low returns. Some industries are cyclical, having high and low returns at different points in the cycle but demonstrating no clear trend up or down over time.

In several industries there was a clear downward trend in returns. These included trucking, advertising, health-care facilities, and automobiles. Competition in trucking, advertising, and automobiles has increased substantially over the past decades. Health-care facilities have had their prices squeezed by the government, insurers, and competition with nonprofts.

Industries where returns on invested capital clearly are trending up are rare. Two examples are health-care equipment and aerospace and defense. Innovation in health-care equipment has enabled the industry to produce higher-value-added, differentiated products such as artificial joints, as well as more commoditized products, including syringes and forceps. As mentioned earlier, companies in aerospace and defense reduced their capital intensity as government provided up-front funding for many more contracts.

The ROICs of the best-performing companies do not revert all the way back to the aggregate median over 15 years. High-performing companies are in general remarkably capable of sustaining a competitive advantage in their businesses and/or nding new business where they continue or rebuild such advantages.

#### **Effect of Acquisitions on ROIC**

While returns on invested capital without goodwill have been increasing, returns on invested capital with goodwill have been at, as shown in Exhibit 6.11. This suggests that acquiring companies haven't been able to extract much value from their acquisitions. This is not to say they haven't improved the performance of the acquired businesses; indeed, a closer look reveals significant realized synergies driving up returns on capital without goodwill.

#### Summary

There are many lessons to learn about returns on invested capital. First, these returns are driven by competitive advantages that enable companies to realize price premiums, cost and capital efficiencies or some combination of these. Second, industry structure is an important but not an exclusive determinant of ROIC. Certain industries are more likely to earn either high, medium, or low returns, but there is still significant variation in the rates of return for individual companies within each industry. Third, and most important, if a company finds a formula or strategy that earns an attractive ROIC, there is a good chance it can sustain that attractive return over time and through changing economic, industry, and company conditions—especially in the case of industries that enjoy relatively long product life cycles. Unfortunately, the converse is also true: if a company earns a low ROIC, that is likely to persist as well.

#### Exhibit C

#### HBR Jan-Feb 2017 Curing the Addiction to Growth

Our study revealed one measure that can reliably tell retailers when to slow the pace of expansion: return on invested capital. Not coincidentally, it's a metric that research has shown is strongly correlated to the long-term appreciation of stock price. For retailers, ROIC is the ratio of adjusted operating income (operating income plus rental expense for the new store) to average invested capital (the sum of investments in property and equipment, capitalized leases, and inventory net of payables). To compute ROIC for a new store, a retailer needs four things: a sales forecast for the new store over time, operating expenses, the required capital investments, and how much the new store will cannibalize the sales of nearby stores.

#### Percent Penetration of INET Each Year

Retailers grow quickly in their early years by opening new stores. As attractive sites become scarce and new stores begin to cannibalize existing ones, growth falters.



From "Curling the Addiction to Grwoth" by Marshall Fisher, Vishal Gaur, and Herb Kleinberger, January - February 2017

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#### **Exhibit D**

#### HBR 1979

How Competitive Forces Shape Strategy

The state of competition in an industry depends on five basic forces. The collective strength of these forces determines the ultimate profit potential of an industry. It ranges from intense in industries like tires, metal cans, and steel, where no company earns spectacular returns on investment, to mild in industries like oil field services and equipment, soft drinks, and toiletries, where there is room for quite high returns.

There are six major sources of barriers to entry:

#### 1. Economies of scale

These economies deter entry by forcing the aspirant either to come in on a large scale or to accept a cost disadvantage. Scale economies in production, research, marketing, and service are probably the key barriers to entry in the mainframe computer industry, as Xerox and GE sadly discovered. Economies of scale can also act as hurdles in distribution, utilization of the sales force, financing, and nearly any other part of a business.

#### 2. Product differentiation

Brand identification creates a barrier by forcing entrants to spend heavily to overcome customer loyalty. Advertising, customer service, being first in the industry, and product differences are among the factors fostering brand identification. It is perhaps the most important entry barrier in soft drinks, over-the-counter drugs, cosmetics, investment banking, and public accounting. To create high fences around their businesses, brewers couple brand identification with economies of scale in production, distribution, and marketing.

#### **3. Capital requirements**

The need to invest large financial resources in order to compete creates a barrier to entry, particularly if the capital is required for unrecoverable expenditures in up-front advertising or R&D. Capital is necessary not only for fixed facilities but also for customer credit, inventories, and absorbing start-up losses. While major corporations have the financial resources to invade almost any industry, the huge capital requirements in certain fields, such as computer manufacturing and mineral extraction, limit the pool of likely entrants.

#### 4. Cost disadvantages independent of size

Entrenched companies may have cost advantages not available to potential rivals, no matter what their size and attainable economies of scale. These advantages can stem from the effects of the learning curve (and of its first cousin, the experience curve), proprietary technology, access to the best raw materials sources, assets purchased at pre-inflation prices, government subsidies, or favorable locations. Sometimes cost advantages are legally enforceable, as they are through patents.

#### 5. Access to distribution channels

The newcomer on the block must, of course, secure distribution of its product or service. A new food product, for example, must displace others from the supermarket shelf via price breaks, promotions, intense selling efforts, or some other means. The more limited the wholesale or retail channels are and the more that existing competitors have these tied up, obviously the tougher that entry into the industry will be. Sometimes this barrier is so high that, to surmount it, a new contestant must create its own distribution channels, as Timex did in the watch industry in the 1950s.

#### 6. Government policy

The government can limit or even foreclose entry to industries with such controls as license requirements and limits on access to raw materials. Regulated industries like trucking, liquor retailing, and freight forwarding are noticeable examples; more subtle government restrictions operate in fields like ski-area development and coal mining. The government also can play a major indirect role by affecting entry barriers through controls such as air and water pollution standards and safety regulations.

#### Exhibit E

Michael Mauboussin - Assessing The Magnitude And Sustainability Of Value Creation

#### Nov 2016

Corporate managers seek to allocate resources so as to generate attractive long-term returns on investment. Investors search for stocks of companies that are mispriced relative to expectations for financial results embedded in the shares. In both cases, sustainable value creation is of prime interest.

What exactly is sustainable value creation? We can think of it in two dimensions. First is the magnitude of returns in excess of the cost of capital that a company does, or will, generate. Magnitude considers not only the return on investment but also how much a company can invest at a rate above the cost of capital. Growth only creates value when a company generates returns on investment that exceed the cost of capital.

The second dimension of sustainable value creation is how long a company can earn returns in excess of the cost of capital. This concept is also known as fade rate, competitive advantage period (CAP), value growth duration, and T. Despite the unquestionable significance of the longevity dimension, researchers and investors give it insufficient attention.

As our focus is on sustainable value creation, we want to understand a company's economic performance relative to the cost of capital, not relative to its competitors. Naturally, these concepts are closely linked. Sustainable value creation is rare, and sustainable competitive advantage is even rarer.

#### Exhibit F

CICBV - Business Valuation Digest - June 1998

Competitive Advantage Period: The Neglected Value Driver An Empirical Analysis of Returns of Invested Capital

#### **CAP Defined**

CAP is the time during which a company is expected to generate returns on incremental investment that exceed its cost of capital. Economic theory suggests that competitive forces will drive returns down to the cost of capital over time (and perhaps below it for a period). Said differently, if a company earns above-market required returns, it will attract competitors that will accept lower returns, eventually driving industry returns lower.

The notion of CAP has been around for some time; nonetheless, not much attention has been paid to it in the valuation literature. The concept of CAP was formalized by Miller & Modigliani (1961).

A company's CAP is determined by a multitude of factors, both internal and external.

On a company-specific basis, considerations such as industry structure, the company's competitive position within that industry, and management strategies define the length of CAP. The structured competitive analysis framework set out by Michael Porter (1980) can be particularly useful in this assessment. Important external factors include government regulations and antitrust policies. CAP can also reflect investor psychology through implied optimism/ pessimism regarding a firm's prospects.

We believe that the key determinants of CAP can be largely captured by a handful of drivers. The first is a company's current return on invested capital. Generally speaking, higher ROIC businesses within an industry are the best positioned competitively (reflecting scale economies, entry barriers, and management execution). As a result, it is often costlier and/or more time consuming for competitors to wrest competitive advantage away from high-return companies. Second is the rate of industry change.

#### How Long are CAPs and How Should They be Determined?

The CAP for the US stock market, as a whole, is estimated to be between 10 and 15 years. However, within that aggregate, individual company CAPs can vary from zero to two years to over 20 years. As a general rule, companies with low multiples tend to have shorter CAPs (interestingly, these low multiples are accompanied by above-market-average earnings growth in some industries). Alternatively, companies with high multiples typically have long CAPs. For example, companies like Microsoft and Coca-Cola have CAPs well in excess of 20 years, demonstrating their perceived market dominance, the sustainability of high returns, and the market's willingness to take the long view. If a substantial percentage of the value of a company can be attributed to cash flows beyond a few years, it is difficult to argue persuasively that the market is short-term oriented. In turn, it follows that the forecast periods used in most valuation models are not long enough.

#### Summary

Although CAP has unassailable importance in valuation, it is a subject that has not been explicitly addressed in finance textbooks in a way commensurate with its importance. Further, many analysts and strategic planners that adhere to a DCF framework reduce the model's validity by using explicit forecast periods that do not reflect CAP. We believe that CAP can play an important role in linking valuation theory and practice.



## BUSINESS VALUATION AND ECONOMIC LOSS QUANTIFICATION ISSUES IN THE FRANCHISE INDUSTRY

## BUSINESS VALUATION AND ECONOMIC LOSS QUANTIFICATION ISSUES IN THE FRANCHISE INDUSTRY

Ephraim Stulberg, CPA, CA, CBV, CFF<sup>1</sup>

#### I. Introduction

Franchising is one of the most common forms of business in Canada. There are currently 75,000 franchised businesses operating in a variety of sectors, and the Canadian Franchise Association lists franchises in over 50 different industries amongst its membership.<sup>2</sup>

Many if not most CBVs will have the occasion to analyze a franchised business, whether in the context of a valuation engagement, an economic damages calculation, or an investigative assignment. The purpose of this paper is to highlight some of the common issues that CBVs will encounter in analyzing these types of businesses. The paper is structured into three sections.

The first section of the paper briefly sets out an overview of what a "franchise" is, and what types of businesses are commonly operated as part of franchise systems.

The second section deals with quantifying economic damages involving franchises. It includes a brief analysis of a type of damage calculation that is unique to the franchising industry (based on franchise disclosure statutes in place in the majority of common law provinces in Canada, such as Ontario's *Arthur Wishart Act*<sup>3</sup>), as well as other common types of economic loss calculations and the particular nuances that they can take on in a franchise context.

The third, and final, section deals with business valuation issues involving both franchisors and franchisees.

The aim of the article is to show that while franchising cuts across a wide swathe of the Canadian (and global) economy, there is a key set of common characteristics that CBVs would do well to keep in mind when analysing these types of businesses.

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The opinions expressed in this article are those of the author, and do not necessarily represent the opinions of Matson, Driscoll and Damico Ltd. or any of its principals or employees.

<sup>2</sup> Canadian Franchise Association, 2019 Accomplishments Report, pp. 6, 25

<sup>3</sup> Arthur Wishart Act (Franchise Disclosure), 2000, S.O. 2000, c. 3

#### II. What is a Franchise?

What do we mean when we speak about a "franchise"? It may be useful to think of a franchised business as any business that contains the following elements:<sup>4</sup>

- The franchisee pays the franchise system some money, either in the form of an upfront fee or an ongoing royalty/license fee.
- In exchange, the franchisee has the right to sell goods or services associated with a particular brand or mark.
- The franchisor has ongoing involvement and control over certain aspects of the franchisee's operations, often based on an operations manual or other document specific to that franchise system.

The precise nature of these three elements will vary from system to system, and will be set out in a franchise agreement or other equivalent document. It is important for CBVs to familiarize themselves with the relevant agreements in any engagement involving a franchised business, although they should be aware that it is not uncommon for the agreement to say one thing but for the actual practice to be somewhat different.

The largest industry sector in franchising is food services; these businesses made up around 35% of the membership in the Canadian Franchise Association in 2018.<sup>5</sup> Tim Hortons', McDonalds, Swiss Chalet, etc.

But there are many other types of franchise systems in the retail and service industries. Most hotel chains are franchised, as are most automobile dealerships and the guys who promise to remove junk from your house at all hours of the day. Some famous drugstores, retail stores, and grocery stores are also franchised.

What all franchise systems have in common is an ongoing, shared economic interest in the particular franchise unit, as well as in the overall franchise system. When the franchise unit makes money, the franchisor benefits; when the franchise system's brand is popular, the franchise unit generally does well.

As we discuss below, franchisors structure their economic relationships with their franchisees in many different ways. They can earn income from the sale of franchises (initial franchise fees, management of buildouts), from ongoing royalties (either percentage based, fixed, or some combination), from product sales, from rebates, from pooled advertising funds and from rent (if they own the real estate)

Franchisors can also structure their businesses through multiple entities. For example.

4 This summary is loosely based on the definition of "franchise" found in the *Arthur Wishart Act*, which states that: "franchise" means a right to engage in a business where the franchisee is required by contract or otherwise to make a payment or continuing payments, whether direct or indirect, or a commitment to make such payment or payments, to the franchisor, or the franchisor's associate, in the course of operating the business or as a condition of acquiring the franchise or commencing operations and,

a. in which,

- i. the franchisor grants the franchisee the right to sell, offer for sale or distribute goods or services that are substantially associated with the franchisor's, or the franchisor's associate's, trade-mark, service mark, trade name, logo or advertising or other commercial symbol, and
- ii. the franchisor or the franchisor's associate exercises significant control over, or offers significant assistance in, the franchisee's method of operation, including building design and furnishings, locations, business organization, marketing techniques or training, or

b. in which,

- i. the franchisor, or the franchisor's associate, grants the franchisee the representational or distribution rights, whether or not a trade-mark, service mark, trade name, logo or advertising or other commercial symbol is involved, to sell, offer for sale or distribute goods or services supplied by the franchisor or a supplier designated by the franchisor, and
- ii. the franchisor, or the franchisor's associate, or a third person designated by the franchisor, provides location assistance, including securing retail outlets or accounts for the goods or services to be sold, offered for sale or distributed or securing locations or sites for vending machines, display racks or other product sales displays used by the franchisee; ("franchise")

<sup>5 2019</sup> CFA Accomplishment Report, p. 27

- Some franchisor corporations have carved out their royalty streams, which trade publicly as "royalty income funds"; Canadian examples include the Keg Royalties Income Fund and Boston Pizza Royalties Income Fund.
- Some franchisors own much of the real estate out of which their franchisees operate (e.g. McDonalds Corp., which earns the majority of its revenue from rent charged to its franchisees), although some systems have spun off their real estate into separate REITs: some Canadian examples include Canadian Tire (CT REIT) and Loblaws (Choice Properties REIT).
- Some franchisors will enter into head leases for the real estate occupied by their franchisees, often through a separate corporation. Other franchise systems will have the franchisee enter directly into a lease with the third-party landlord.
- Some franchisors who earn profits on the sale of goods to their franchisees run these profits through a separate corporation.

#### III. Economic Loss Calculations

#### a) Rescission under Franchise Disclosure Legislation<sup>6</sup>

Whether or not a business meets the definition of a "franchise" can have important legal and financial ramifications. Many provinces have franchise disclosure legislation, which requires, except in certain exempted situations, that franchisors provide to prospective franchisees a *disclosure document* containing all "material facts" about the franchise. Failure to comply (or in some provinces, "substantially comply")<sup>7</sup> with the disclosure requirement results in a time-limited right for the franchisee to rescind the franchise agreement.

Once a franchisee has exercised its rescission right by delivering a notice of rescission, these *Acts* require that the franchisor (and certain related parties) compensate the franchisee for its losses. In particular, they must:<sup>8</sup>

- a) Refund to the franchisee <u>any money received from or on behalf of the franchisee</u>, other than money for inventory, supplies or equipment;
- Purchase from the franchisee any <u>inventory</u> that the franchisee had purchased pursuant to the franchise agreement and remaining at the effective date of rescission, at a price equal to the purchase price paid by the franchisee;
- c) Purchase from the franchisee any <u>supplies and equipment</u> that the franchisee had purchased pursuant to the franchise agreement, at a price equal to the purchase price paid by the franchisee; and
- d) Compensate the franchisee for any <u>losses</u> that the franchisee incurred in acquiring, setting up and operating the franchise, less the amounts set out in clauses (a) to (c). [emphasis added]
- 6 The information in this section is mainly taken from Ephraim Stulberg and Jonathan Mesiano-Crookston, "Rescission under the Ontario *Arthur Wishart Act*: Quantifying the Remedy", Franchise Law Journal 33:2 (Fall 2013). An updated version of this paper is found at https://canadiandamages.blogspot.com/2019/09/blog-post.html
- 7 Section 9 of the British Columbia Franchises Act states that: A disclosure document or a statement of material change complies with section 5 despite the presence of a defect in form, a technical irregularity or an error, if
  - a. the defect in form, the technical irregularity or the error does not affect the substance of the disclosure document or the statement of material change, and
  - b. the disclosure document or the statement of material change is substantially in compliance with this Act.
- 8 This text is from section 6(6) of the Arthur Wishart Act (Franchise Disclosure), 2000, SO 2000, c 3. Virtually identical language appears in the provincial Acts of British Columbia, Manitoba, PEI and New Brunswick.

If the franchisor does not pay these amounts within sixty days, the franchisee may commence an action for a declaration that the franchise agreement was properly rescinded and to recover these amounts.

#### **Impact on Franchisee**

Though not explicitly stated, the underlying goal of section 6 of these pieces of disclosure legislation is, as has been noted by the Ontario Court of Appeal, the same as under the rescission remedy at equity, namely:

"... to put the franchisee back in its pre-franchise position where there has been non-disclosure, provided notice is served within the prescribed time.<sup>9</sup>

This was a sentiment echoed by Justice Murray of the Ontario Superior Court in one of the few reported cases dealing explicitly with quantification issues under s. 6(6) under the *Wishart Act*.<sup>10</sup>

"The purpose and object of these subsections [i.e. (a) through (d)] of the Arthur Wishart Act are to put the franchisee in the position that it was prior to entering into the franchise agreement."

This objective is accomplished in two parts.

*First*, the franchisor must, as required by subsections 6(6)(a) through (c), reimburse all money received from the franchisee. It must also purchase inventory, equipment, and supplies from the franchisee at their original cost to the franchisee. For the most part, these assets represent specific items that the franchisee needed to buy in order to run the franchise. The *Acts* recognizes that upon rescission, many of the assets originally purchased by the ex-franchisee are now of little value to it. They may be of a specialized nature, being tailored to the franchised business, and therefore impossible to divest at a price anywhere near their original cost. If the franchised business is no longer operating, there is a further issue that this equipment can likely only be sold at bankruptcy or liquidation prices, far below its purchase price. The *Acts* therefore requires the franchisor to purchase or reimburse the franchisee for the value of these items at the price the franchisee paid.

Second, the Acts require the franchisor to compensate the franchisee for any losses incurred in acquiring, setting up and operating the franchise which have not already been captured by subsections (a) through (c). Subsection (d) is a broad catch-all designed to capture any other losses which the franchisee may have suffered in connection with the franchise.

The effect of the above steps will be to return the franchisee to its pre-franchise position, as the franchisee is able to recoup all of the amounts it invested in (1) purchasing assets or (2) funding operating losses.

#### Can the franchisee be left better off?

The jurisprudence in Ontario has found that, in some cases, it may be possible for a franchisee to advance claims under subsections (a), (b) and (c), but not under (d). <sup>11</sup> A franchisee may choose to do this because either (1) it is unable to reliably document its losses under subsection (d) due to the poor state of its accounting records,<sup>12</sup> or (2) it actually earned a profit (after the amounts in subsections 6(6)(a) through (c) are considered), and so has no loss to claim under (d).

• 2122994 Ontario Inc v Lettieri, 2016 ONSC 6209.

12 This is not an uncommon situation, especially in smaller franchise systems.

<sup>9</sup> *1490664 Ontario Ltd. v Dig This Garden Retailers Ltd.*, 2005 CanLII 25181, 256 DLR (4th) 451, [2005] OJ No 3040 (Ont CA), at para. 31.

<sup>Payne Environmental Inc v Lord and Partners Ltd, 2006 CanLII 1770, [2006] OJ No 273, 14 BLR (4th) 117 (Ont SCJ), at para. 13.
This was the finding in:</sup> 

 <sup>2189205</sup> Ontario Inc v Springdale Pizza Depot Ltd, 2012 ONSC 4122; 2189205 Ontario Inc v Springdale Pizza Depot Ltd, 2013 ONSC 1232; 2189205 Ontario Inc v Springdale Pizza Depot Ltd, 2013 ONCA 626;

As an example of this latter case, consider a franchisee who earned \$500,000 in sales, paid \$100,000 in royalties and rent to the franchisor, and incurred \$350,000 in other costs. Although the franchisee actually earned a profit of \$50,000,<sup>13</sup> it may be able to rescind the agreement and yet still claim a remedy of \$100,000 under subsection 6(6)(a) in respect of the royalties and rent it paid.<sup>14</sup>

#### **Owner-Manager Labour**

We said above that the rescission remedy (generally) returns the franchisee to its pre-franchise position. However, in many cases, the franchisee's principal has not been able to draw a salary from the business during its operations.

If the franchisee is not compensated for this unpaid labour, it will be significantly worse off than it would have been had it not bought the franchise. This is an issue that arises in almost every case of calculating a franchisee's operating losses, and goes by a number of names, including "owner/manager labor", "loss of opportunity",<sup>15</sup> or "foregone salary"<sup>16</sup>.

Arguably, the franchisee should be entitled to reasonable compensation in exchange for his or her investment of labor into the business. This labor is a cost of earning revenue, even if it was not recorded on the franchise's financial statement. The franchisee was required to run the business.<sup>17</sup> Had the franchisee not performed this task, he or she would have had to hire someone else to do so, which would have represented a "hard" cost to the business.

While the jurisprudence is still relatively underdeveloped on this point, the idea that franchisee labor is compensable is supported by case law that exists. Thus:

- In *Melnychuk v Blitz Ltd*<sup>18</sup>, Justice Hockin of the Ontario Superior Court of Justice ruled that in addition to the remedy under subsection 6(6) of the *Act*, which remedy he was willing to grant on summary judgment, the plaintiff *might* also be able to recover damages related to his loss of opportunity resulting from his having entered into the franchise agreement (i.e. that he could have worked elsewhere and made money at that other endeavor). However, Justice Hockin thought that this loss would be a damage claim "at large", along with mental distress and punitive damages, and was not prepared to dispose of those claims on summary judgment.
- In *Grill It Up*,<sup>19</sup> a franchisee quit his job as a casino dealer in expectation of buying a franchise. The franchise purchase fell through. The franchisee was awarded four months of lost employment income (being \$14,692) representing his time through to the point at which he ought to have known the purchase was not going to be concluded and ought to have started looking for another job.
- In *Springdale*,<sup>20</sup> the Court considered a claim for loss of wages under subsection 6(6)(d), and granted damages for this loss of \$40,000. Although the plaintiffs sought a higher amount based on the amounts recorded in their personal tax returns from the period prior to opening the franchise, the Court noted that these amounts were not corroborated by the plaintiffs' Notices of Assessment issued to them by the Canada Revenue Agency.

<sup>13</sup> I.e. \$500,000, less \$100,000, less \$350,000.

<sup>14</sup> This situation would only apply in provinces that break the remedy into multiple subsections. By contrast, see the *Alberta Franchises Act, RSA 2000,* c F-23, which requires contains a blanket remedy requiring compensation for "any net losses that the franchisee has incurred in acquiring, setting up and operating the franchised business." (s. 14(2)).

<sup>15</sup> Melnychuk v Blitz Ltd, 2010 ONSC 566.

<sup>16</sup> See Springdale, supra (note 11).

<sup>17</sup> It is a requirement of many franchise agreements that the principal of the franchisee be actively involved in the business.

<sup>18</sup> Melnychuk, supra (note 15), at para. 26.

<sup>19 1706228</sup> Ontario Ltd. v Grill It Up Holdings Inc., 2011 ONSC 2735 [Grill It Up], at para. 44-48.

<sup>20</sup> Springdale, supra (note 11)

• Finally, in *Essa v. Mediterranean Franchise Inc 2016 ABQB 178* (a case under the *Alberta Franchises Act*), the court awarded \$36,000 for unpaid owner labour based on an hourly wage of \$10. The court noted that the plaintiff's hourly rate as an engineer was \$300, and concluded that the claim was "properly compensable as part of their net loss just as much as actual payments to employees would have been compensable had they any other employees" (para. 230).

#### **Impact on Franchisor**

Up to this point, we have discussed the impact of the rescission remedy on the franchisee. What of the franchisor?

The franchisor's obligation to repay the franchisee's franchise fees, royalties and advertising funds payments under subsection 6(6)(a) results in the franchisor being placed in the same position it would have been in had the franchisee never purchased the franchise.

However, the other sub-sections are more onerous to the franchisor. The supplies and equipment that the franchisor must purchase from the franchisee at original cost pursuant to subsections 6(6)(b) and (c) are very likely worth nothing near that cost at the time of rescission. Inventory may have spoiled, or may be out of date. And, of course, if the franchisee has suffered significant operating losses, the franchisor must pay for these without receiving any benefit in return.

Moreover, other amounts received from the franchisee may have been used to cover expenses associated with supporting the operation of the rescinding franchisee. For example, a franchisor that collects rent under a sublease agreement might already have remitted it to the landlord. Yet, while the franchisor retained none of that money, he or she is legally responsible for refunding all of it because of the failure to provide proper disclosure to the franchisee.

In summary, a franchisor may be considerably worse off as a result of a franchisee's rescission.

#### **Common Issues in Rescission Calculations**

For CBVs quantifying rescission remedies, while the mechanics of the remedy are generally fairly straightforward, there are some common issues that should be investigated:

- As noted above, payments to the franchisor are treated as a separate category under the *Wishart Act* and parallel laws. It is therefore important to understand what amounts have been paid to the franchisor. While some of these may be obvious, others (e.g. buildout costs, rent) may not.
- It is also important to identify what amounts have been paid, and what amounts have been accrued but remain payable to the franchisor.
- Ideally, an inventory count should be performed immediately prior to the rescission date. However, it may also be possible to estimate inventory based on industry averages or based on data from the franchisor.
- Some cases have emphasized that supplies and equipment are compensable only if they were acquired pursuant to the franchise agreement. It can be worthwhile to review these sections of the general ledger to gain an understanding of the assets in question.
- In some cases, franchisees may be charging related party expenses that are at above market rates.<sup>21</sup> Again, a review of the general ledger can reveal these items, and CBVs will be familiar with the techniques for normalizing them.
- In some instances, franchisees will underreport sales. Analytic procedures can be used to identify this underreporting, including:

<sup>21</sup> See 1777453 Alberta Ltd v Got Mold Disaster Recovery Services Inc, 2019 ABQB 259

- Comparison of gross margins to other stores in the system.
- Comparison of purchase volumes from authorized suppliers to other stores in the system.
- If the franchisee is able to settle some of its liabilities for less than face value following the rescission, then this "gain" may need to be offset against the operating losses.<sup>22</sup> By the same token, there may be ongoing lease obligations for which the franchisee remains liable that may need to be considered in the calculation.

#### b) Economic Loss Quantification

There can be numerous circumstances under which it will be necessary to quantify economic losses of a franchised business. Conceptually, it can be helpful to divide these into two categories:

- **Category #1**: Cases where both the franchisor and franchisee have suffered a loss due to some external event. Examples of this can include:
  - Business interruption losses due to fire, flood, etc. under a property insurance policy.
  - Expropriation of the franchised location.
  - Wrongful termination of a lease by a landlord.
- Category #2: Cases where the franchisor and franchisee are in a dispute. Examples can include:
  - Breaches of the franchise agreement by the franchisor (e.g. breach of exclusive territory clause, wrongful termination of the agreement, etc.)
  - Breaches of the franchise agreement by the franchisee (e.g. failure to de-identify following termination, underreporting of revenue for royalty calculations)
  - Breaches of duty of good faith

#### Category #1 Losses

Situations where both the franchisor and franchisee are claimants can be interesting for a variety of reasons.

First, it can be important to ensure that the franchisor actually has a legal right to make a claim. While this determination is beyond the role of a CBV, CBVs can perform a valuable function to legal counsel by ensuring that counsel has a proper understanding of the financial relationships between the franchisee and the franchisor, based on the records of the franchisee and the franchisor. Given that many franchisors operate their businesses through multiple corporations, the CBV should review the records of the franchisee and match up any potential economic losses with the relevant franchisor entities.

In terms of measurement of losses, franchisees will suffer business losses in much the same way that similar, nonfranchised businesses will suffer losses. They can suffer losses of revenue or increased costs due to a business interruption, or an expropriation and related construction. This loss can be temporary (loss of profit) or permanent (loss of business value).

There are, however, aspects that are somewhat unique to a franchised business.

One key difference between measuring economic losses of a franchised business and an otherwise, non-franchised business can be the availability of data from comparable businesses. Large, sophisticated systems will track not only basic metrics such as weekly sales by store, but also other metrics such as average delivery time, or the particular sections within a territory that deliveries take place. Especially when the franchisee is part of a large franchise system, it is often possible to gather a large dataset of very comparable businesses against which to benchmark the performance of the subject franchisee, absent the event. There can be some pitfalls associated with the use of this data, which we discuss below as part of a brief example ("Marge's Pretzel Wagon"); however, these data are generally much richer than for comparable, non-franchised businesses.

22 However, see 2122994 Ontario Inc. v. Lettieri, 2017 ONCA 830, where that was found irrelevant.

The way in which the franchisor will be impacted by a business interruption or an expropriation will depend on the franchise agreement and on the franchise model. It is important to understand the franchisor's business model in order to fully capture the impact of the event on the franchisor's results:

- Most franchisors charge a royalty to their franchisees. Many times, this is based on gross revenues; thus, a decline in franchisee revenues will translate to a loss of royalties. But some franchisors charge a fixed, monthly royalty that will not be impacted.
- Many franchisors also require their franchisees to contribute to a pooled advertising fund, which the franchisor spends on national advertising. These contributions are again generally tied to gross sales, which ostensibly means that a decline in franchisee sales levels will result in a financial loss to the franchisor. Conversely, it might be argued that any loss of advertising fund contributions would be offset by a reduction in overall advertising spending by the franchisee, such that there is no net loss as a result of the decline in sales.
- Franchisors who control the real estate from which the franchisee operates also sometimes will charge the franchisee "percentage rent". Again, this is based on gross sales, typically above a particular threshold; it is important to analyze whether any percentage rent has been lost as a result of the decline in the franchisee's revenue.
- Many franchisors earn a large proportion of their income not on royalties, but on the sale of inventory to their franchisees; Domino's Pizza is an example. Again, a decline in franchisee sales will translate into a loss of profit on the sale of inventory by the franchisor.
- Finally, in some instances there may be a benefit to a franchisor if a particular franchise is destroyed; to the extent that the franchisor charges a management fee to build out a new location, this can be an unexpected source of additional profit to the franchisor if a new location has to be constructed as a result of a fire or an expropriation.

#### **Mitigation - Franchisor**

When analyzing the losses of a franchisor as a result of a business interruption or an expropriation, it is important to understand that the revenue losses of the franchisee and franchisor will not necessarily overlap, due to the effects of mitigation.

A franchisor with multiple locations in a particular area will sometimes see a decline in sales at the loss-affected location offset, at least somewhat, by an increase in sales at its other nearby locations. A customer who really wanted to eat at, say, Tim Hortons, may be willing to drive 5 minutes to the next nearest location to buy their meal. Thus, while the individual franchisee will have lost a sale (assuming it does not also own the nearby location), the franchisor will be no worse off in respect of that particular customer.

This also means that care must be taken in using the results of other nearby franchisees to project the revenue levels that the expropriated franchisee would have achieved but for the event giving rise to the claim for damages. A common approach in quantifying lost profits is to use a benchmark, i.e. to look at how comparable, unaffected businesses performed during the loss-affected period. Yet these nearby franchisees may experience higher than normal levels of revenue precisely because of the event impacting the subject business.<sup>23</sup>

23 For something similar to this issue, see Dunkin' Brands Canada Ltd. c. Bertico inc. 2015 QCCA 624.

In that case, a group of Dunkin Donuts franchisees sued their franchisor for failure to support the franchise system, allowing other competitors (including Tim Hortons) to eat into their market share. The expert for the franchisees used the sales growth of Tim Hortons to project the growth that the franchisees should have achieved. The Quebec Court of Appeal found (at para. 188) that the trial judgement:

"fails to allow for the competition that Dunkin' Donuts would have faced from Tim Hortons even if the Franchisor had not committed a fault. Not taking it into account is a reviewable error. Tim Hortons certainly took advantage of the weakened competition from Dunkin' Donuts resulting from the Franchisor's civil wrongs in this segment of the market. While the quickservice restaurant business might well be expanding, consumers' appetite for these products is not infinite. Stated simply, had the Franchisor not committed the faults determined by the judge, Tim Hortons would not have done as well. And had the Franchisor not been at fault, the Franchisees would still have faced competition from Tim Hortons."

#### Marge's Pretzel Wagon

To give some context to some of the principles set out above, consider the following example:

- Marge's "Pretzel Wagon" is located on Evergreen Terrace.
- Following an initial growth spurt stemming from aggressive expansionary tactics, its sales have stabilized at around \$1M per year.
- Due to a partial expropriation of Marge's property and associated construction from 2016 to 2019, Marge's sales have declined to \$800,000 per year.
- Same-store growth across the Pretzel Wagon system during that period throughout the province has been 6%.
- The chain has been renovating its stores over the past few years. Sales at newly renovated stores saw a 20% increase the first year following the renovations. Marge had just finished renovating her store in 2016.
- Same-store sales growth at the two other Springfield stores since the expropriation have been 15%. Both are within a 5-minute drive of Evergreen Terrace.
- Marge's gross margin is 50%. She also pays a 7% royalty and a 2% ad fund contribution. She buys all her baking supplies from Pretzel Wagon Franchising. Pretzel Wagon earns a 50% profit margin on its sales of baking supplies.

Table 1 presents one possible calculation of Marge's lost profits from 2016 to 2019. We project Marge's 2016 sales using growth of 20% to reflect the impact of her recent renovations, with growth of 6% per year in subsequent years. We do not use the results of Stores #1 and #2, since their higher rates of growth have likely been influenced by the decline in sales at Marge's location.

Note how, based on this assumption, we conclude that while Marge has suffered a sales loss of \$400,000 to \$629,000 per year, the sales loss to the franchisor is considerably less, as some of Marge's lost sales were made up at Stores #1 and #2.

#### Table 1

	2015		2016		2017		2018		2019	Total
Chain Growth Rate			6%		6%		6%		6%	
Springfield Growth Rate			15%		15%		6%		6%	
Store #1 #2	\$ 1,700,000	\$	1,955,000	\$	2,248,250	\$	2,383,145	\$	2,526,134	
Assuming "normal" growth		\$	1,802,000	\$	1,910,120	\$	2,024,727	\$	2,146,211	
Excess over Chain		\$	153,000	\$	338,130	\$	358,418	\$	379,923	
Marge's Lost Sales										
Projected Sales		\$	1,200,000	\$	1,272,000	\$	1,348,320	\$	1,429,219	
Actual Sales	\$ 1,000,000		800,000		800,000		800,000		800,000	
Sales Loss		\$	400,000	\$	472,000	\$	548,320	\$	629,219	
Marge's Lost Profit	41%	\$	164,000	\$	193,520	\$	224,811	\$	257,980	\$ 840,311
Impact of re	novation									
Gross margin	n of 50%, le <b>s</b> ro	oyalt	ties (7%) ar	nd a	d fund (2%	6)				
Franchisor's Sales Loss										
Systemwide Sales Loss		\$	247,000	\$	133,870	\$	189,902	\$	249,296	
Baking Supplies*	25%	\$	61,750	\$	33,468	\$	47,476	\$	62,324	
Royalties	7%	·	17,290		9,371	ŕ	13,293	·	17,451	
Ad fund	2%		4,940		2,677		3,798		4,986	
Total		\$	83,980	\$	45,516	\$	64,567	\$	84,761	\$ 278,823

\* Profit on baking supplies based on selling price of baking supplies

= 50% of sore sales, and COGS to franchisor of 50%. 50% x 50% = 25%.

#### **Mitigation - Franchisee**

Many businesses, faced with the temporary or permanent impact of an expropriation or other adverse event, will undertake mitigation efforts. These may include moving to a new location, lowering prices on their goods and services to entice customers, or add additional products.

It is important to understand that the options available to franchisees in these respects are often quite limited.

Franchisors exert considerable control over product offerings and pricing; the whole idea of a franchise system is that there should be relative uniformity across locations

Franchisees also do not have the right to simply move locations without the permission of the franchisor.

This is not to say that franchisees will never be able to mitigate their losses. It is not uncommon for franchisees to negotiate royalty holidays from their franchisors, and the reduction in royalties should be offset against any sales losses. But mitigation is far less common for franchisees than it is for franchisors.

#### IV. Business Valuations

In this last section, we look at valuation issues that are unique to the franchising industry. We divide our discussion between valuing a) franchisors, and b) franchisees; each of these discussions is in turn broken out between a) the income approach and b) the market approach.

#### Valuing Franchisors – Income Approach

The three main drivers of value under the income approach are a) the current level of cash flows, b) projected growth in cash flows (net of associated reinvestment needs), and c) the risk to those cash-flows. Let's take a look at each one.

#### a) Current Level of Cash Flows

For "pure play" franchisors, this issue can be relatively simple. Operating margins for franchisors are generally high; there is also typically fairly little in the way of capital expenditures.

Furthermore, franchisors as a whole tend to carry fairly little debt relative to their equity values (unless they have made acquisitions). They also tend to carry fairly low working capital balances. All of this means that in general, after-tax net income can serve as a reasonable proxy for cash flows.

For franchisors who also earn revenue from other sources (e.g. sale of inventory, operation of corporate stores), the analysis can become more complicated, and it will be necessary to consider things like capital expenditures to upgrade stores, changes in minimum wage legislation and commodity prices, and all of the other complicating factors that go into valuations of businesses in other industries.

#### b) Growth

For franchisors, growth can come from two main sources: a) growth in the number of franchisees and b) growth in income per franchisee. In addition, growth can also come from acquisitions.

Growth in the number of franchisees can lead to multiple sources of revenue growth. In additional to new royalty streams, franchisors also typically charge an initial franchise fee that is payable upfront; this can often be substantial and can be a significant source of revenue. Some franchisors also serve as suppliers to their franchisees and earn income from markups on the supplies they sell. Franchisors can also assist their new franchisees manage the build-out of their locations, charging a management fee. It is important to differentiate between growth from one-time sources of revenue and growth from ongoing royalties.

In many businesses, growth is accompanied by significant cash outflows as companies are required to carry additional inventory, carry more accounts receivable and build larger facilities. Franchisors do not have to deal with these issues to nearly the same degree as most companies.

That said, franchisors face other issues when it comes to growth. There is a cost associated with finding new franchisees in new territories, and for that reason many franchisors outsource that function to master franchisees. The master franchisee will assist the franchisor in developing franchisees in a given territory, but only in exchange for a significant cut of the new franchisees' franchise fees and royalties.

Moreover, growth within a territory can result in friction with existing franchisees. The addition of a new location within proximity to a franchisee can lead to greater overall system sales (and thus more royalties and other payments to the franchisor); but this comes at a cost to the existing franchisee, who in some sense becomes a competitor to the newcomer and will likely see a reduction in income. If the reduction is too great, the existing franchisee may go out of business. There can thus be a tension between franchisors and franchisees when it comes to growth: a certain critical mass is desirable by both, but beyond a certain point growth tends to benefit the franchisor far more than the franchisee.

#### c) Risk

Established franchisors are *relatively* immune from macro-level trends, due to generally lower levels of operating leverage.

To understand why this is the case, consider the difference between a franchisor and a franchisee of a restaurant chain. Assume that each of a chain's 100 franchisees earns an average of \$500,000 in revenue per year, that the costs of sales equals 30% of sales, the royalty is 5%, and fixed costs (labour, rent, utilities) equals 55% of sales, giving it a profit margin of 10%, or \$50,000 per year. The franchisor makes \$25,000 in royalties (5% of \$500,000) per franchisee, and \$2.5M overall from the 100 franchisees, with fixed costs of \$750,000 per year.

If the market shifts and the franchisees' sales decline by 15%, the franchisor's profit from the restaurants will drop by around 21%;<sup>24</sup> however, the franchisees' profits will drop by almost 98%.

		Franchisee					Frai	nchisor	
		E	Before	After			Before		After
Revenue		\$	500,000	\$ 425,000			\$ 2,500,000	\$	2,125,000
Cost of Sales	30%		150,000		127,500				
Royalty	5%		25,000		21,250				
Fixed costs			275,000		275,000		750,000		750,000
Profit		\$	50,000	\$	1,250		\$ 1,750,000	\$	1,375,000
Decline in Profit					-97.50%				-21.43%

Table 2

The fact that a franchisor's profits are less subject to large swings based on small changes in revenue is an advantage and lowers the riskiness of an investment in a franchisor.

On the other hand, there are also risk factors that are significantly higher for franchisors than for other businesses. Many of these are legal in nature. Franchisors can be susceptible to class actions of various types, although the success rate for these so far in Canada has been poor.<sup>25</sup> Franchisors are also subject to a rigorous disclosure

<sup>24</sup> We have assumed a level of fixed costs for the franchisor similar to Dine Equity, a "pure play" franchisor.

<sup>25</sup> Several notable examples include:

<sup>•</sup> Fairview Donut Inc. v. The TDL Group Corp., 2012 ONSC 1252 (brought by Tim Horton's franchisees over the introduction of a breakfast menu). Certification denied.

<sup>• 1250264</sup> Ontario Inc. v. Pet Valu Canada Inc., 2016 ONCA 24 (brought by Pet Valu franchisees over the alleged failure of the

regime in many Canadian provinces, as described above; in our experience dealing with quantifying such claims, the average bill to a franchisor is somewhere in the \$300,000 to \$500,000 range, plus legal costs.

#### Valuing Franchisors - The Market Approach

As we discussed above, franchise systems derive their value from many different sources. That can make the market approach difficult to apply; it is difficult to speak of a standard valuation multiple based on revenue in the franchising industry. Thus, for example:

- While pure-play royalty income funds (e.g. Boston Pizza Royalties Income Fund, Keg Royalties Income Fund) have tended to trade at multiples of over 10 times revenue, other hybrid franchisor public companies (e.g. Imvescor Restaurant Group Inc.) have traded at around five times revenue. Multiples of revenue are therefore generally not a good approach to use.
- As described above, franchisors who derive most of their revenue from franchising (as opposed to corporate owned stores) generally are less subject to volatile changes in their profits. Royalty income funds are even less volatile, since their costs are minimal.

Table 3 provides an example of some "comparable" companies for Canadian franchisors. Some of these are royalty income funds with very high EBITDA margins, others are relatively pure-play franchisors (e.g. MTY), while others hold a mix of corporate owned stores and franchise locations (eg. Recipe Unlimited). EBITDA margins and multiples will therefore vary considerably.

#### Table 3 Sentieo Sentieo Comparables

Tickers	Company Name	Yesterday Enterprise Value (USD, mn)	LTM P/E (Yesterday) (X)	LTM EV/ EBITDA (Yesterday) (X)	LTM (Daily) EV/Sales (Yesterday) (X)	<b>Revenue</b> [% Change CY2017 - CY2018] (%)	5 Year Equity Beta (Yesterday)	LTM Revenue (Yesterday) (USD, mn)	LTM EBITDA Margin - Adjusted (Yesterday)
AW.UN:CN	A&W Revenue Royalties Income Fund	502		15.6x	15.2x	15%	0.33		83.51%
BPF.UN:CN	Boston Pizza Royalties Income Fund	341	10.38x	10.0x	9.8x	2%	0.38	35	97.24%
KEG.UN:CN	Keg Royalties Income Fund	248		11.6x	10.9x	4%	0.30	23	96.77%
MTY:CN	MTY Food Group inc.	1,408	19.08x	14.0x	3.6x	49%	0.33	384	31.59%
PZA:CN	Pizza Pizza Royalty Corp.	212	11.04x		7.8x	0%	0.25	27	0.00%
RECP:CN	Recipe Unlimited Corporation	1,708	14.70x	9.8x	1.8x	54%		944	18.54%
SPS.A:CN	Sportscene Group Inc.	52	14.07x	6.7x	0.6x	9%	0.31	87	9.36%
Average		639	13.85x	11.3x	7.1x	19%	0.32	250	48.14%
Median		341	14.07x	10.8x	7.8x	9%	0.32	61	31.59%
Max		1,708	19.08x	15.6x	15.2x	54%	0.38	944	97.24%
Min		52	10.38x	6.7x	0.6x	0%	0.25	23	0.00%

Date produced 2019-11-07

franchisor to share volume rebates with franchisees). Certification denied.

• 2038724 Ontario Ltd. v. Quizno's Canada Restaurant Corporation, 2014 ONSC 5812 (brought by Quizno's franchisees over allegations of price fixing). Certification granted, but later settled for a small amount.

In summary, the market approach is a difficult approach to apply for franchisors, as there can be massive differences between ostensibly "comparable" companies.

#### Valuing Franchisees - Income Approach

#### a) Cash Flows

With respect to projected cash flows, every franchised business will be different in terms of its operating and investment cash flows. There are, however, a few twists when it comes to assessing a franchise.

#### **Capital Investments**

When valuing a business, it is always necessary to consider the need for capital investments, and to deduct any planned expenditures from the value.

Franchise agreements often give franchisors the right to require franchisees to carry out capital upgrades. The costs associated with these can often be significant, running into the several hundreds of thousands of dollars if not millions. The valuator needs to gain an understanding of any requirements for capital expenditures: when they will be required, how much they will cost, how they will be financed, and what the likely impact on subsequent profitability will be. Financial performance of franchisees can sometimes be dramatically affected by these renovations. Moreover, a franchise that has already done its capital expenditures will often exhibit a spike in sales when other, nearby franchises are forced to close for renovations. It is important to understand the reason for these spikes and to normalize results on a go-forward basis.

#### **Renewal Rights**

In many business valuations, the valuator will assume that the business will carry on into the indefinite future. When we apply a multiple of 5 times after-tax cash flows (for example), that multiplier may be assuming that the discount rate is 22% and the growth rate is 2% into perpetuity.<sup>26</sup>

Franchise agreements typically have a finite term, often consisting of 5 to 10 years. While many agreements contain renewal options, those are normally not automatic.

That does not mean that, in valuing the business, we should project cash flows only over the remaining term of the franchise agreement. But it does mean that a realistic assessment of a) the probability of renewal, and b) the impact of non-renewal on cash flows needs to be undertaken. If the agreement is not renewed, will the franchisee be able to "de-identify" and carry on business under a new name? If so, how will the business perform? If not, what is the liquidation value of its assets? In some situations a scenario analysis may be most appropriate. Consider the following hypothetical example:

- Mom and Pop Inc. is a franchised taco restaurant. It owns a "Taco Shack" restaurant located at the corner of Walk Street and Don't Walk Avenue. Historically, annual sales have been \$1M, gross margins are 60%, royalties are 5%, and pre-tax cash flows have been \$100,000 per year after paying the owners a market salary.
- The building is owned by LandCo, a third-party.
- Mom and Pop signed a sublease with LandCo in 2015. It expires in 2030.
- The franchise agreement expires in 2020. Relations with the franchisor have generally been good, although the franchisee has been cited for violations in the past year for introducing a new product not normally offered in the system.

<sup>26</sup> Using the Gordon Growth Model, 1/(22%-2%) = 5.
- The land on which Mom and Pop is located was expropriated in 2018. The business could not relocate.
- In 2019, Taco Shack Franchising Co. decided to require a system-wide upgrade to their existing restaurants. All renewing restaurants are required to renovate upon renewal; average cost expected to be \$200,000. There is also a renewal fee of \$30,000 that would need to be paid.<sup>27</sup> Based on results at other stores in the system, sales would have been expected to increase by 10% in the year following the renovation, and to stabilize thereafter.
- It would have cost \$75,000 to "de-identify" the restaurant and continue operating as a non-Taco Shack restaurant, at which point revenues would decline by 20%.

Table 4 shows an example of the discounted cash flows based on this illustrative example. The weighting assigned to each set of cash flows will be dependent on the facts of the case and how likely it is that the franchise agreement would have been renewed.

# Table 4

			2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Continue a	s Franchis	ee												
Sales		\$	1,000,000 \$	1,000,000 \$	1,100,000 \$	1,100,000 \$	1,100,000 \$	1,100,000 \$	1,100,000 \$	1,100,000 \$	1,100,000 \$	\$ 1,100,000 \$	1,100,000	\$ 1,100,000
COGS	40	%	400,000	400,000	440,000	440,000	440,000	440,000	440,000	440,000	440,000	440,000	440,000	440,000
Royalties	5	%	50,000	50,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000
SGA		_	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000
Pre-tax Pro	ofit		100,000	100,000	155,000	155,000	155,000	155,000	155,000	155,000	155,000	155,000	155,000	155,000
Taxes	12%	_	12,000	12,000	18,600	18,600	18,600	18,600	18,600	18,600	18,600	18,600	18,600	18,600
After-tax P	Profit	9	88,000 \$	88,000 \$	136,400 \$	136,400 \$	136,400 \$	136,400 \$	5 136,400 \$	5 136,400 \$	5 136,400 \$	\$ 136,400 \$	136,400	\$ 136,400
Capex				230,000	-	-	-	-	-	-	-	-	-	-
After-Tax C	Cash Flows	\$	88,000 -	\$ 142,000 \$	1,000,000 \$	136,400 \$	136,400 \$	136,400 \$	36,400 \$	36,400	36,400	\$ 136,400 \$	136,400	\$ 136,400
Discounted	dat 15%	6 \$	82,060 -	\$ 115,144 \$	96,177 \$	83,632 \$	72,723 \$	63,238 \$	54,989 \$	6 47,817 \$	41,580 \$	\$ 36,156 \$	31,440	\$ 27,339
Total													:	\$ 522,008

#### Debrand

Sales		\$ 1,000,000 \$	1,000,000 \$	800,000\$	800,000\$	800,000\$	800,000\$	800,000\$	800,000\$	800,000\$	800,000\$	800,000\$	800,000
065	40%	400.000	400.000	320.000	320.000	320.000	320.000	320.000	320.000	320.000	320.000	320.000	320.000
Royalties	0%	-	-	-	-	-	-	-	-	-	-	-	-
SGA		450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000
Pre-tax Profit		150,000	150,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
Taxes	12%	18,000	18,000	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600
After Tax Profit		\$ 132,000 \$	132,000 \$	26,400 \$	26,400 \$	26,400 \$	26,400 \$	26,400 \$	26,400 \$	26,400 \$	26,400 \$	26,400 \$	26,400
Capex		-	- 75,000	-	-	-	-	-	-	-	-	-	-
After-Tax Cash Flo	ows	\$ 132,000 \$	57,000 \$	26,400 \$	26,400 \$	26,400 \$	26,400 \$	26,400 \$	26,400 \$	26,400 \$	26,400 \$	26,400 \$	26,400
Discounted at	15%	\$ 123,091 \$	46,220 \$	18,615 \$	16,187 \$	14,075 \$	12,240 \$	10,643 \$	9,255 \$	8,048 \$	6,998 \$	6,085 \$	5,291
Total												\$	276,748

27 Figures are net of tax shield.

# **Restrictions on Resale**

Franchisors will generally have the right to veto any potential sale of the franchise if the proposed purchaser is deemed unsuitable. While this right cannot be exercised unreasonably, this right can sometimes be a burden to franchisees.

In addition, unlike most businesses, owners of franchises are sometimes restricted in their ability to sell their businesses for an amount equal to their fair market value based on their discounted cash flows. In some systems, the franchisor sets the selling price.

In *Cooke v. Cooke*, 2011 BCCA 44, a family law case, the divorcing couple owned two Tim Horton's franchises in separate companies. They jointly retained a business valuator to value the two companies. The valuator arrived at a value of \$850,000 for the more profitable company, and \$295,000 for the less profitable company.

Unbeknownst to the valuator, Tim Horton's had placed restrictions on the resale value of the franchises, stipulating a resale value of only \$440,000 for the more profitable of the locations.

Nonetheless, the trial judge ruled that since the husband had no plans to dispose of the business, the limitation on its resale value was largely theoretical, and the value of the business to him as an ongoing investment was \$850,000. This finding was upheld on appeal.

# b) Risk

# **Management Expertise**

Let's begin with some positives. One of the reasons franchised businesses are so popular is because one is buying into a business model that is tried and true. There is an operating manual, and the franchisor takes responsibility for many decisions such as what vendors to source supplies from, how and where to advertise, and how the business should appear. All of these factors ought to result in a lower level of riskiness than for a comparable, non-franchised business.

# **Concentration Risk**

The flip side of this is that franchised businesses are typically restricted in a variety of ways. Their rights are typically limited to a particular territory and to the sale of particular products at particular prices. Non-franchised businesses have more flexibility in terms of mobility and the ability to try new product offerings.

# Valuing Franchisees - Market Approach

Franchised businesses would seem to present a prime opportunity to use the market approach. Ostensibly, franchise systems impose a level of homogeneity on their franchisees such that, in theory, the valuation metrics for a group of franchisees should be a good predictor of what a subject franchisee will sell for.

Yet even within the context of franchised businesses, the application of this approach is not easy. In *C.V.D. v. I.D.,* 2003 MBQB 274, for example, the Manitoba Court of Queen's Bench rejected the application of a rule of thumb approach to valuing a McDonalds' franchise at 50% of sales.

There are several reasons that render the use of the market approach less than automatic even in a franchise context.

First of all, even within a franchise system, sales and profitability levels can vary dramatically. For example, below, we present information from 22 transactions involving Dairy Queen restaurants, based on data from the Deal Stats database. The chart shows that the vast majority of these restaurants sold for an enterprise value equal to 0.2 to 0.6x sales. That might seem like a fairly narrow range, until you realize that it simply means that a restaurant with sales of \$800,000 will sell for anywhere from \$160,000 to \$480,000.

Second of all, within any franchise system there will be a wide range of revenue levels, profit margins and other metrics. Every franchise is still, in many ways unique.

# **MVIC/Sales Histogram**



That said, franchisors are often closely involved in the sale of franchise units, and they may possess the type of detailed data that is often not available from transactional databases. This information can make the market approach more practicable.

# V. Conclusion

Franchised businesses are all around us. While each franchise system will have its own unique characteristics depending on the underlying industry, this article has identified a number of common areas to which CBVs should pay close attention in executing business valuation or economic loss quantification engagements involving businesses in the franchise industry.



# CYBER TOOLS FOR FORENSIC ACCOUNTANTS

# CYBERTOOLS FOR FORENSIC ACCOUNTANTS

Cynthia Hetherington, MLS, MSM, CFE, CII

In today's data-intense, digital world we've all gone cyber in our endless quest for answers. Everything in the forensic accounting world, in business valuations and accounting, involves data collection and fact checking. We are all invested in analyzing large datasets, finding anomalies and extracting key information and insights.

Despite the variety of cybertools at our disposal, from optical characterization and recognition software to Al technology, an entirely different set of digital tools is proving especially useful to forensic accountants in tracking down and tracing the actions of people.

The easiest to access, the most readily available, are open-source social-media sites, search engines and databases, some free, some not. That said, fee-based tools can hasten the investigative process, making it even more intelligent.

Gathering critical intelligence on people, historical topics or events, by following the resource tips and how-tos described here, will allow you to penetrate the public and not-so- public record without resorting to subterfuge or subverting security protocols.

Understanding how these searches work — the data infrastructure or physical architecture of how information is disseminated, collected, captured and stored — is crucial if obliged to explain your methodology to a client or testify as an expert witness in court.

If uncertain about the authenticity of the information you've gleaned from open sources such as Facebook, should it serve as the basis for your analysis, take care to state that clearly in your report.

# Why start with people?

The quest for answers generally starts with people for the simple reason that companies and institutions don't run themselves, we do. The focus here is on exposing the fraudsters and schemers behind the crimes and products for which they need to be held accountable. Their social-media presence, whatever size the footprint, can reveal plenty to those of us with the right tools and know-how to uncover their misdeeds.

With so much information being shared often carelessly, with little view to privacy, discretion in the social-media realm has largely gone out the window. Name it and it's out there waiting to be found: business contacts, videos, photos of your subject's family and

friends, homes or facilities, interests and extracurricular activities, academic records, business histories, travel itineraries, even drug habits.

Today's Zoom meetings can prove a real tell, or point of exposure, as can YouTube videos because you may find yourself on someone's home turf. Of course, you'll be looking over their shoulder and evaluating everything in the frame.

# Make your presence known, not felt

Whether following the money or tracking down hidden assets, conducting due diligence on persons of interest requires a familiarity with and presence on the most popular social-media platforms used the world over: Facebook, LinkedIn, Twitter, Instagram, Snapchat and YouTube. These are your main points of entry.

As part of your investigative protocol, be sure to open accounts in your name on each of these sites. Keep your profile honest but bare bones. It need contain only enough information about yourself or the institution you represent to let people know you exist.

Worth recognizing is the fact that China, a notable exception, blocks Google, Facebook, Twitter and other popular social media.

While a Chinese national living and working in North America may be visible on many of the social networks just mentioned, he or she is also likely communicating much more freely with family, friends and business associates back home. See Exhibit 1, "China's most popular social-media sources." Where relevant, searching these alternative country-specific sites is a must.

# Exhibit 1 China

China's most popular social media sources include / similar too

- WeChat Privacy Group Chat / Facebook
- Sina Weibo Microblog / Twitter
- Tencent QQ Instant messaging / WeChat
- Tencent Video Video platform Tiktok
- Baidu Tieba Subject focused / Google
- Douban Music, Movies & Chats / Reddit
- Zhihu Q&A / Quora
- Meituan Consumer Purchases / Yelp
- Toutiao News / Reddit
- DouYin Music, Movies & Chats / Tiktok



Similarly, social-media users in Singapore, the United Kingdom and India, while sharing most of our North American site preferences, also frequent unique sites.

Unless you are a native speaker, resources such as Babelfish and Google Translate will help you understand the foreign content posted by these individuals.

# **Conducting simple name searches**

While our main focus here is equipping you with the cybertools to search for people of interest via their usernames, nicknames, aliases, photos and images, nothing prevents you from searching social networks directly by doing a simple name search.

Plug the person's name and variations of it into each of the search boxes shown at the bottom of Exhibit 2. Consider this the hobbyist slide. If you lack the tools, budget or regular client demand for searches, visit each site independently, filtering by posts, photos, videos, tags, mentions and so on.

# Exhibit 2 Finding subjects on social networks

- Search by name, nickname, aliases and usernames.
- Robert, Bob, Bobby, bobbyj1965
- Consider the use of different derivatives of their name across several platforms.
- LinkedIn may be formal while Facebook might be casual

# Common name tips.

- Add keywords or search for relatives with a less common name who may be connected to your subject.
- Search for tags and mentions regardless of if the subject does not have social media, has private social media, has public social media, or had social media profiles deleted or suspended.
- Search for all versions of name and filter by posts, photos, videos etc. Alternatively, try searching @username in search bar and Google.

Search Instagram	
	Search Facebook
Search Twitter	
	Search LinkedIn

# Searching for Usernames/Nicknames/Handles/Aliases

Leapfrogging borders, Google's algorithm ranks information based on popularity. By entering your subject's name within quotation marks, his or her most popular social-media accounts will immediately pop up, along with related photos and images.

Say you're searching for a Tara Hetherington. Put her name in quotes, then click on all the Taras to find your closest matches by location. Next, open each of her social-media profiles.

Her Instagram account, though rarely visited judging by the lack of activity, actually turns up solid gold: the username BigMumma\_77. This is a key piece of information. Now you're prepared to visit all her possible accounts using that nickname in the search bar in the format as follows: platform.com/BigMumma\_77.

43 Things	Doximity	GirlsAskGuys	Livemocha	Qapacity	TravBuddy.com
About.me	Draugiem.lv	Gogoyoko	Makeoutdlub	Quechup	Travellerspoint
Academia.edu	Dreamwidth	Goodreads	Meerkat	Raptr	tribe.net
Advogato	DXY.cn	Goodwizz	MEETir	Ravelry	Trombi.com
aNobil	Elftown	Google+	Meettheboss	Renren	Tsu
AsianAvenue	Elixio	GovLoop	Meetup (website)	ReverbNation.com	Tuenti
aSmallWorlc	Ello	Grono.net	MillatFacebook	Ryze	Tumblr
Athlinks	English, baby	Habbo	mixi	ScienceStage	Twitter
Audimated.com	Eons.com	his	MocoSpace	Sgrouples	Tyited
Bebo	Epernicus	Hospitality Club	MOG	ShareTheMusic	Uplike
Biip.no	Experience Project	Hotlist	MouthShut.com	Shelfari	Vampirefreaks.com
BlackPlanet	Explorco	HR.com	Mubi	Sina Weibo	Viadeo
Bolt.com	Facebook	Hub Culture	My Opera	Skoob	Virb
Busuu	Faceparty	Identi.ca	MyHeritage	Skyrock	VK
Buzznet	Fetlife	Indaba Music	MyLife	Smartican	Vox
CafeMom	FilmAffinity	Influenster	Myspace	SocialVibe	Wattpad
Care2	Filmow	Instagram	Nasza-klasa.pl	Sonico.com	WAYN
CaringBridge	FledgeWing	IRC-Galleria	Netlog	SoundCloud	We Heart It
Classmates.com	Flickr	italki.com	Nexopia	Spaces	WeeWorld
Cloob	Flixster	Itsmy	Ning	Spot.IM	Wellwer
ClusterFlunk	Focus.com	Jaiku	Odnoklassniki	Spring.me	Wepolls.com
CouchSurfing	Fotki	Jiepang	Open Diary	Stage 32	Wer-kennt-wen
CozyCot	Fotolog	Kaixin001	Orkut	Stickam	weRead
Cross.ty	Foursquare	Kiwibox	OUTeverywhere	Streetlife	Wooxie
Crunchyrol	Friendica	Lafango	Ozone	Students Circle	WriteAPrisoner.
Cucumbertown	Friends Reunited	LaiBhaari	Partyflock	Network	com
Cyworld	Friendster	Last.fm	PatientsLikeM	StudiVz	Xanga
DailyBooth	Fuelmyblog	Late Night Shots	Periscope	StumbleUpor	XING
DailyStrength	Gaia Online	lbibo	Pingsta	Tagged	Xt3
delicious	GamerDNA	Library raryThing	Pinterest	Talkbiznow	Yammer
DeviantAr	Gapyear.com	Lifeknot	Plaxo	Taltopia	Yelp, Inc.
Diaspora*	Gather.com	Linkagoal	Playfire	Taringa	Yookos
Disaboom	Gays.com	Linkedin	Playlist.com	TeachStreet	Younow
Dol2day	Geni.com	LinkExpats	Plurk	TermWik	Zoo.gr
Dontstayin	Gentlemint	Listography	PokemanGo	The Sphere	Zooppa
douban	GetGlue	Livelournal	Poolwo	Toro	

#### Exhibit 3: If you have their @ then: /username

Just keep changing the source platform in the search line to see what else turns up. Tara's Twitter account, for example, allows you to see her tweets, retweets, media preferences, interlocutors and so on.

Better still, by inserting an @ site:/username, you can search for Tara on every site ending in dot.com. For an exhaustive list of these sites, see the checklist in Exhibit 3.

A social-media spreadsheet I'm happy to share puts the huge @ list shown in the previous exhibit in Column A, alongside a list of /nicknames in Column B. You can then run a script in Excel to generate a web search, plus auto-generate searches.

# Namechk.com, Namecheckup and PeekYou

Why not save time, though, by using any one of the above? These three free cybertools use artificial intelligence to auto-generate searches on your behalf.

The Namechk screen capture shown in Exhibit 4 features a colour-coded legend. By plugging BigMumma\_77 into the search box, the greyed-out sites indicate which of the

social-media platforms she's visible on under that username. Tap on each and up will pop her profiles. Frankly, this should prove sufficient for 99% of your cyber investigations.

#### Exhibit 4: Namechk, Namecheckup & Peekyou

000						
PEEKYOU Name	Username					
nickname	000					
	Namech_k nickname				۹	≡
	Domains		Help	o keep Name	shk free Dor	iate PayPal
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NCNAME.	Due v Treasura Redisck About Dy v	.ch	.ms	Jin	,club	.bar
	a character of the	Jhost	.press	.digital	.today	.farm
	Find Available Username	vailable domai	in to make an o	fler for it.		68 - 68 -
	Inter-viername here					
- New -	Afraine suggestor? Share O Tweet O					

However, what if your subject has several social-media accounts and uses different photos, avatars and nicknames on each platform? How does that impact your search?

Often people who create separate accounts, or even multiple Facebook accounts, will share or friend their own accounts. Read through their contacts and connections looking for matches with related accounts.

Sometimes the quickest route is to find a jealous lover or corporate competitor who, having linked to every single one of those accounts, will have ferreted out your subject's various usernames, completing the search for you. Nobody is a more intrepid investigator than someone who suspects he or she has been lied to, conned or thwarted.

# **Image-Matching Tools**

When searching for people based on their images online, start with their professional profile photos on LinkedIn. This will make it easier to trace them across multiple platforms.

Posting the same LinkedIn headshot to TinEye, Images.Google (see Exhibit 5) and China's Yandex (see Exhibit 6) will turn up a host of different leads to follow. You can also conduct searches using common buildings, landmarks, products and other relevant images as your points of reference.



# TinEye

Dragging and dropping a LinkedIn headshot along with its location (URL) into TinEye will turn up several matches, along with the date the photo was posted. This can prove useful in uncovering potential leads and tracking down related people of interest via posts about your subject.

# Images.Google

This digital tool is particularly effective in conducting product searches by location if, for example, you happen to be hunting down stolen goods being sold online. Click on the camera icon to drag and paste the image or, for best results, its URL into the search box.

When conducting people searches using Images.Google the results can often be too generic.

For more leads, scroll past the initial assessment depicting similar-looking images to the pages featuring exact matches.

#### Yandex

Though it works in a similar fashion to the other two, Yandex excels at connecting photo matches to an even broader array of websites, many you might not even know exist or have earned mentions on. It captures press releases, conferences attended and so on.

# **Database Searches**

#### Zoominfo

North American, Zoominfo's strength is in tracking down people. You can subscribe or try it

for free. By entering Zoominfo.com/people/firstname/lastname, it scrapes all the sites it can find looking for individuals bearing the name in question.

If you're a board member of an association or senior auditor for your company, your bio and photo will likely appear on their respective websites and elsewhere. Zoominfo will capture that data and create a dossier, complete with contact information. It will also indicate when the report was last updated.

What you're after here is finding additional company contacts or business associates to augment your search, using those names to dig still deeper. The more data you can gather, the better.

#### **Professional databases**

You also might consider leveraging obituaries of relatives of your person of interest by scouring databases such as LexisNexis, Thomson Reuters, Factiva and KnightRider Tribune Collection.

# Using Google "Hacks," or Workarounds, to Narrow Your Search

What if you've hit a wall even though you're convinced the proof you're after is out there? See Exhibit 7, "Google hacks for hard-to-find sites." All that's meant here by the term "hack" is a technical protocol for tracking down information in a faster, less roundabout way using keywords.

#### Exhibit 7 Google Hacks for hard to find sites

- Facebook no longer permits cell and email searches, so use Google to search Facebook content.
- Search in messenger
- Use Google to locate email and cell, as shown below

Example: ch@hetheringtongroup.com or (973) 706-7525 or osmosiscon

- site:facebook.com ch@hetheringtongroup.com (27 results)
- site:facebook.com "973 703 7525" (4 results + 5 image results)
- site:twitter.com osmosiscon (68 results + dozens of image results)
- Facebook > New Account (DO NOT GO TO ANY OTHER PROFILES) > Make a friend request and immediately
  rescind it > go to friend recommendations (these will be their friends list).

Say you want to search Facebook, knowing information tends to be exchanged more readily there, all the better to eavesdrop by monitoring the chatter.

Because Facebook no longer permits phone and email searches, turn to Google instead and enter the following: site:facebook.com "cellphone number" or "email address," "business partner address" or any other keyword or words relevant to your search. Make sure you enclose them in quotation marks, then watch as a slew of results pop up.

# **Proximity searches**

Another trick you can use to narrow your Google search and turn up quicker matches is by conducting what's known as a proximity search. By inserting an asterisk between two expressions or keywords, in this case the name of your subject and a likely connection — "john doe" \* "other person's name" — you can link the two to uncover still more connections. Anything on one side of the asterisk must be within 15 words of the other side.

Say your audit reveals that John Doe, the procurement officer for a major bank, has been engaged in illicit business dealings with another person of interest. Do a proximity search by pairing each of their names in any number of different ways, be it in combination with a cellphone number, a business address belonging to individuals or agencies connected with the bank, business associations in common — you name it.

# Google.com/alerts

Once you've exhausted every conceivable combination you can think of that might link the two suspects, go to Google.com/alerts, as shown in the screen grab in Exhibit 8. Start your search again, using asterisks, the same keywords and email addresses as before, but opting to see "all" results, not just "best" results.

Alerts Monitor the web for intere				
Q yingyang			×	
How often	As-it-happens	٥	<	— Exhibit 8
Sources	Automatic	٥		Google.com/alerts
Language	English	\$		Make sure you choose
Region	Any Region	٠	<	— Automatic & All results
How many	Only the best results	٠		
Deliver to	data2know@gmail.com	. 0		

# Free vs. Fee-Based Professional Tools

Though lots of cybertools are free to use, obviously not all are equally reliable. Given the sheer volume of data forensic accountants must deal with, you would be well-advised, for peace of mind, to invest in professional feebased digital resources as well.

See Exhibit 9 for a list of free versus fee-based alert services.

#### Exhibit 9 Alert Services: free or fee

# **FREE - Assorted**

- Google.com/alert
- Socialmention
- Biznar
- Searchtempest
- Claz.org
- Speech Solutions

# FEE - News

- Factiva
- Nexus
- ProQuest

#### **FEE - Social Media**

- Navigator Liferaft
- Media Sonar
- Cision
- Vocus
- Echosec.net
- Dataminr

## Echosec.net

Developed in Canada, Echosec is a fee-based geo-location service that enables users to conduct live searches targeting specific areas using keywords. It also boasts a translation tool. For a visual of the mapping process, see the screen grab in Exhibit 10.

Whatever your chosen search terms, the social-media accounts of anyone in the vicinity also using them — whether on Twitter, Instagram, open Facebook accounts or YouTube, etc. — will pop up in real time.

Say a terminated employee poses a security risk to your client. Echosec lets you set up tightly focused keyword alerts, such as "they'll get theirs," tied directly to the address of the office building under possible threat. It will alert you by email the moment anything untoward is happening.

Ecosec also facilitates broad area searches, without the use of keywords, to determine how many people are generating virtual traffic in a given area, regardless of its size.

#### LifeRaft Navigator

Another Canadian software mapping tool, LifeRaft Navigator hunts for keywords in real time, much like Echosec. Where it differs is in its visuals. Navigator provides both mapping (Exhibit 11) and tile views (Exhibit 12) so you can see what a given keyword looks like posted on Twitter, say, or geographically on a map showing the location of each poster, or in the form of word clouds.

The moment something of interest catches your eye, you can mark it to indicate it's been read and choose how often you would like the information refreshed, which can be in as little as two minutes.



#### Exhibit 10 Echosec.net

# Archive.org

To bolster your casework you may need to comb through digital content dating back 20 or so years. Archive.org is not only free but among the most reliable global databases available. Its homepage (see Exhibit 13) boasts the site's having archived more than 431-billion web pages. A visit can prove particularly helpful when working on intellectual property cases.

# Exhibit 13 Archive.org



By selecting the website whose content you want to browse, Archive.org will indicate how far back its archived pages extend. In this case, 1998 is the year we've chosen (1997 marks the start). The archival material selected: the CSA's SEDAR database — the Canadian security regulators' equivalent of the SEC's EDGAR. As shown in Exhibits 14, up pops the webpage exactly as it appeared back in the day.

# Exhibit 14 SEDAR circa 1998



# **Business Research Portals**

If you need to roll the clock back even further, newspaper and journalistic databases are an amazing resource. They capture content globally, nationally and locally in multiple languages, reaching back to at least the 1970s, if not earlier.

Now to the trifecta of fee-based business-research databases: Factiva, ProQuest and LexisNexis.

# Factiva

See Exhibit 15 for a screen capture of its homepage. A business information aggregator and research tool covering the financial press in close to 200 countries and 28 languages, Factiva is owned by Dow Jones & Company.

## Exhibit 15 Factiva.com



#### **ProQuest Dialog**

See Exhibit 16 for a screenshot of its homepage. Acquired from Thomson Reuters in 2008, ProQuest began life as Dialog. Founded in the 1960s, Dialog was the earliest known business database and a precursor to the internet. A favourite of librarians, it's library of 97 databases in multiple languages covers just about every industry, index and abstract imaginable.

#### Exhibit 16 ProQuest Dialog

Q Searching: <u>96 d</u> Basic Search   Ad	Itabases •   ProSheets • Ivanced •   Command Line	O Recent searches   O Selected items   A Alerts Manager   My R Cost Estimate   Preferences	eesearch (Cynthia)   Ext • 0 0 0
Dialog	Full text Peer reviewed  Include medical synonyms	Advanced search	
Search tips			

#### LexisNexis

A market driver in the development of electronic access to legal and business research, it provides access to more than five-billion documents and records from over 35,000 sources of local and international news and business information. See Exhibit 17.

Nexture V too	Fallers Alerts History v		
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	These w	٩	£
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	Filters Recent Sources Favorite Sources		
	Dises 1		
	Companies and Financial		
	Dispution		
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	Due feview.erd loanet		
	Diagot Neura		
	2 You have subscription below description on the lefthere. We can show the inflations.		

## Exhibit 17 Nexis.com

# **BizNar, the outlier**

See Exhibit 18 for a screenshot of its homepage. Like the Google alerts of business information, BizNar is a free-touse professional resource. It mines the deep web, reaching

into special, often unique collections that wouldn't normally be top of mind, or otherwise easy to find using traditional search engines. Created by a company out of New Mexico, it allows you to roll back your search to a specific time and see only articles pertaining to your subject. Plus it also facilitates visual data mapping for those who prefer to work in pictures.

Mic	Search		See		About		n In -
BizNar	Search: Full Record: fdc Create new alert from this search	a <b>b</b>	8	ə	8	٢	0
Search Summary 2,567 top results from 2,904,750 found in all sources	All (1.657)         News ( ) Persearch ( )           Results 1 - 20 of 1.540         Sort Byr         Rank. *         Laws tex:         All Collections *         +         1         2         3         4         5	-		DHC Int	Wikiped	in nel	
52 of 52 sources complete 1,027 additional results found. Topics Visual	Athread     EBNG 2727 07     The Motify Fool (2*     1996-05-16      What is FDIC insurance? What does it protect against? Thankst!! Ryan			DBC Inte epartm onferen eld at th onventi ucus O	emation ent Inst ce) is a ce and - te India on Cent I	al (Fire luctors n annu exhibit na ter and	al Den
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#### Exhibit 18 Biznar\*

# The public library system

Not to be overlooked, contact your local library to find out what normally fee-based digital resources they have on offer that can be made available to you for free.

# The Unending Search for Answers

The quest to uncover fraud in its many guises is a never-ending one. At least once armed with the cybertools discussed here, you have more of a fighting chance to outsmart the canniest of them.

Cynthia Hetherington, MLS, MSM, CFE, CII, is president of the New Jersey-based Hetherington Group, a professional information business delivering critical intelligence and expertise on data infrastructure and cyber events to companies and federal, state and local agencies. A librarian by training and licensed detective, she has authored three books on cyber investigations, publishes an industry newsletter, online blogs and hosts the annual Osmosis Conference.



# EXAMINING THE CSR VALUATION PARADOX USING CANADIAN PUBLIC COMPANIES

# EXAMINING THE CSR VALUATION PARADOX USING CANADIAN PUBLIC COMPANIES

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Prepared for the Chartered Business Valuators Institute

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# Abstract

The impact of corporate social responsibility ("CSR") on business valuations is subject to debate. The traditional, neoclassical approach to CSR suggests that the additional costs incurred for environmental and social activities are not in the best interest of maximizing shareholder wealth. However, CSR may also lead to financial benefits in the form of reduced costs and valuable intangible assets. This debate has led to a *CSR Valuation Paradox*. Our results do not reveal any relationship between CSR measures and one-year ahead future firm performance or stock price crash risk. We discuss the implications of these findings for business valuators.

# **Key Words**

Canadian Capital Markets; Corporate Social Responsibility; Business Valuation; Abnormal Returns; Stock Price Crash Risk.

# **JEL classification**

G14; G30; M14

**Data:** The financial statement and stock price data used in this study were obtained from the Standard and Poor's Compustat database. The corporate social responsibility data used in this study was obtained from CSRHub.

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# Examining the CSR Valuation Paradox: Evidence from Canadian Public Companies

# 1. Introduction

The impact of corporate social responsibility ("CSR") on business valuations is subject to debate. The traditional, neoclassical approach to CSR suggests that the additional costs incurred for environmental and social activities are not in the best interest of maximizing shareholder wealth (Palmer et al., 1995; Walley and Whitehead, 1994). However, CSR may also lead to financial benefits in the form of reduced costs (e.g., avoiding environmental clean-up costs, litigations, or consumer boycotts) and valuable intangible assets (e.g., brand equity, customer retention, and employee morale). This debate has led to what we term the *CSR Valuation Paradox*. This study explores the *CSR Valuation Paradox* by examining the relationship between CSR, future firm performance, and future stock price crash risk ("SPCR") in the Canadian setting. Specifically, we explore whether measures of CSR are associated with higher level of future firm performance and lower levels of future SPCR for Canadian publicly listed companies. A brief description of each of the three key variables of interest is provided.

The World Bank's International Finance Corporation ("IFC") defines CSR as *"the commitment of businesses to contribute to sustainable economic development by working with employees, their families, the local community and society at large to improve their lives in ways that are good for business and for development."* CSR has emerged as a mainstream business activity and is now promoted as a core area of management. A large number of Canadian corporations have made commitments to CSR and issue CSR reports. For example, BCE, Telus, Kinross Gold, Goldcorp, Air Canada, Suncor Energy, and Bombardier were recently ranked among the top socially responsible Canadian corporations.

Future firm performance is commonly measured with a market-based metric, such as buy-and-hold abnormal

future returns to common equity holders. This is the main measure adopted in this study. SPCR is a measure of asymmetric risk, especially down side risk. Given the unprecedented market volatility and corporate scandals over the past ten years, which are expected to continue into the future, stock price crash risk has emerged an important consideration for business valuation, investment decisions, and risk management. As a result, we focus on these two measures associated with risk (i.e., SPCR) and rewards (i.e., future returns) in relation to CSR.

Overall, our results do not provide any evidence of a relationship between CSR activities and either one-year or two-year ahead future firm performance. We do not find a relationship between future firm performance and either their overall CSR measure or any of their four CSR sub-categories. As a result, our findings do not provide direct support either the Shareholder Perspective (i.e., a negative relationship) or the Stakeholder Perspective (i.e., a positive relationship). We use multiple CSR databases to test the robustness of our findings to the CSR measures employed. Our findings have significant implications for business valuators. First, it may be possible that CSR initiatives manifests themselves in future firm performance over a long-run period (e.g., five to ten years). Second, our findings may be as a result of relying upon third-party CSR measures during the valuation process. Most third party measures do not benefit from inside information regarding CSR initiatives which could be obtained by business valuators who have access to management. Business valuators may wish to create their own measures of CSR for an individual company during their valuation process in order to understand the impact on a firm's cash flows. This is especially true as there is a growing body of literature that suggests that there may be a difference between sustainability talk and practice (Cho et al., 2015). As a result, our preliminary conclusion is that there is no general rule regarding the impact, if any, of third-party CSR measures with respect to a firm's future cash flows or risk measures. Therefore, it will be up to the business valuator to assess each company's unique situation and value propositions that arise from CSR initiatives.

It is important to note that our data analysis does not incorporate the recent market volatility based around the COVID-19 pandemic. Future researchers are encouraged to explore whether CSR performance was related to stock performance during the COVID-19 crisis once data becomes available. In addition, this study took a holistic approach to CSR and therefore did not isolate the impact of specific climate/environment/social actions on future firm performance. Future researchers are encouraged to explore whether any specific element of the broad CSR construct are more specifically linked to future firm performance.

# 2. Theoretical Background

# 2.1. Corporate Social Responsibility

Business analysts, commentators and scholars have been focusing on the concept of CSR for almost half a century. There is no generally accepted and agreed upon definition of CSR in the literature; however, most definitions have similar themes and key constructs. In general, CSR is encapsulated by situations where a private, for-profit corporation exceeds minimum compliance with laws and regulations in order to engage in actions that further some social good (Price and Sun, 2017). A generally agreed upon definition is based upon the World Bank's IFC definition of CSR:

"the commitment of businesses to contribute to sustainable economic development by working with employees, their families, the local community and society at large to improve their lives in ways that are good for business and for development."

Given various economic and social crises in the twenty-first century, there appears to be an ever-increasing emphasis on CSR. Many stakeholder groups, including customers, are demanding corporations to act in a socially responsible manner (Crowther, 2003). As a result, corporations have been focusing on environmental issues aimed at slowing climate change and reducing greenhouse gas emissions, resource depletion, and pollution by engaging in initiatives such as the Kyoto Protocols, the Paris Agreement, and the Montreal Carbon Pledge (United Nations Framework Convention on Climate Change, 2017). Social justice related issues, such as child labor and animal testing, have also become increasingly important to the general public resulting in more and more public pressure on corporations to engage in socially acceptable practices (Crowther, 2003). Overall, the emphasis on CSR has continued to increase across the globe as more and more stakeholders demand business managers to engage in ethical business practices and provide accountability beyond shareholder profits (Combs, 2014).

# 2.2. Corporate Social Responsibility in Canada

The Government of Canada provides a definition of CSR, which is stated as follows:

"the voluntary activities undertaken by a company, over and above legal requirements, to operate in an economically, socially and environmentally sustainable manner." (Global Affairs Canada, Government of Canada, 2019)

The Government of Canada has provided guidance on CSR for Canadian companies, both domestically and globally, under the pretenses that responsible investment and business operations can help promote Canadian values globally. The Government of Canada states that corporate socially responsible conduct by Canadian companies can improve the prospects for business success and contribute to broad-based economic benefits both domestically and globally (Global Affairs Canada, Government of Canada, 2019).

There are various rating agencies / methodologies that are used to rank the CSR levels of Canadian public companies. For example, *Maclean's* partnered with *Sustainalytics* to release an annual ranking of the Top 50 Most Socially Responsible Companies in Canada. Another example is the *Corporate Knights* who release an annual ranking of the Best 50 Corporate Citizens in Canada.

Many Canadian companies often discuss their approach to CSR in their annual reports. For example, CIBC Mellon publishes a standalone document that outlines their CSR philosophies and initiatives, which provides the following overview:

At CIBC Mellon, we believe in doing business at the highest standards while engaging employees in making a positive difference for their colleagues, clients and communities. Corporate responsibility and corporate volunteering allow us to engage in activities that make a difference both inside and outside of the company, and provide a truly enjoyable workplace for our employees. By supporting community partners through monetary donations and volunteering, actively seeking environmentally-friendly solutions and becoming a socially responsible leader for others to follow, we are able to drive solutions with responsibility, care and commitment, and make a positive impact for all our stakeholders. (CIBC Mellon, 2019)

There appears to be a dearth of research in the Canadian setting regardless of all of the focus on CSR by government agencies, rating agencies and Canadian corporations. To the best of our knowledge, there are no prior studies on the relation of CSR and future firm performance or SPCR in the Canadian setting even though there is a large body of literature in this domain (Grewatsch and Kliendienst, 2017).

# 2.3. Corporate Social Responsibility and Shareholder Wealth

CSR has also been a growing area of interest for academics. The academic literature has explored CSR from both a theoretical and empirical perspective (Frynas & Yamahaki, 2016). The development of theoretical frameworks and perspectives on CSR has been important in improving our understanding of the nature and role of CSR in business practices. For example, CSR-related scholarship and theories provide frameworks to simplify complex realities while abstracting useful insights from empirical observations of socially responsible and irresponsible practices (Unerman & Chapman 2014).

We focus on two competing theories of CSR that have emerged from the literature: i) *The Stakeholder Theory*; and ii) *The Shareholder Theory*. As normative theories, both the Stakeholder Perspective and the Shareholder Perspective propose what *"CSR ought to be"* in terms of business practices (Smith, 2003). Both perspectives provide a framework to explain the complex relationship between CSR business practices and corporate performance. These two competing theories have been at the forefront of an ongoing debate regarding the impact

of CSR initiatives on corporate value-creation and financial performance. We discuss both perspectives in order to develop the research question explored in this study.

# 2.3.1. Shareholder Theory and CSR

The first, and oldest, normative theory of business ethics and CSR is the Shareholder Theory. Agency Theory provides the theoretical underpinnings for the Shareholder Theory (Hasnan, 1998) whereby a business is seen to be an arrangement by which the shareholders advance capital to managers to be used for a specified purpose. In this arrangement, the shareholders are the principals and the managers are the agents and the two groups are bound by a principal-agent relationship whereby the managers should act on behalf of, and in the best interest of, the shareholders (Ross, 1973). Specifically, the principal-agent relationship empowers management to manage the capital advanced to them exclusively for the purpose delineated by the shareholders.

The principal-agent relationship leads us to explore the purpose of a corporation. Specifically, managers must understand the objectives of the shareholders in advancing capital to the business. Shareholder Theory traces its roots to the economist Milton Friedman and suggests that the objective of a corporation can be summarized as follows:

"there is one and only one social responsibility of business - to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition, without deception or fraud." (Friedman, 1962).

It should be noted that Friedman did not always delineate the pursuit of profit in such a specific manner. As described by Hasnas (1998), Friedman would often state that a business should "make as much money as possible while conforming to the basic rules of society, both embodied in law and those embodied in ethical custom" (Friedman, 1970). When stated this broadly, Friedman's objective asserts that a corporation should pursue profits ethically.

With respect to CSR, managers of corporations have a fiduciary duty to expend resources in a manner authorized by the shareholders and in accordance with laws and regulations. Assuming Friedman's objective for a corporations, to maximize shareholder wealth (Friedman, 1962), managers cannot expend resources for the sole purpose of generating societal benefits. Shareholders and managers are free to spend their personal funds to advance any societally beneficial projects or to fund charitable organizations; however, when functioning in the capacity of the principal-agent relationship, managers do not have the authority to employ resources for projects / initiatives other than those expressively set-out by the principals. This suggest that businesses have no social responsibilities (Hasnas, 1998).

From a legal perspective, the managers have a fiduciary duty to follow the legal directives of the shareholders. The directives are generally determined based upon a shareholder vote. Therefore, if voted on by the shareholder, a manager would be required to undertake socially responsible initiatives such as paying employees above minimum wage, incurring costs in order to clean lake and rivers beyond the requirements of the law in which they operate, or donating large amounts of food and resources to shelter houses. These activities would be undertaken regardless of their impact on profitability of the business if they were voted on by the shareholders. However, in most cases, shareholders do not issue such explicit directives and purchase shares in a company for the sole purpose of maximizing their return on investment (Hasnas, 1998).

It is important to note that Shareholder Theory does not suggest that mangers should pursue profit at all costs. Rather, managers should pursue profit in a manner required by all legal, non-deceptive norms. This suggests that all ethical constraints placed on corporations by societies should be embodied in societal laws and regulations. A significant amount of criticism towards the Shareholder Theory often ignores, or underplays, this ethical requirements of a corporation (Hasnas, 1998).

# 2.3.2. Stakeholder Theory and CSR

Stakeholder Theory, as a normative theory of business ethics, asserts that managers owe a duty of care that extends beyond just the corporation's shareholders and encompasses:

"individuals and constituencies that contribute, either voluntarily or involuntarily, to [a company's] wealthcreating capacity and activities, and who are therefore its potential beneficiaries or risk-bearers" (Post et. al, 2002).

Theoretical and ethical support for the Stakeholder Theory is based on Immanuel Kant's principle of respect for persons (Evan and Freeman, 1988) which assert's that *"every human being is entitled to be treated valuable in his or her own right; that each person is entitled to be respected as an end in himself or herself. Since to respect someone as an end is to recognize that he or she is an autonomous moral agent, i.e., a being with desires of his or her own and the free will to act upon those desires, the principle of respect for other persons requires respect for others' autonomy" (Hasnas, 1998, pg. 26 – 27).* 

Stakeholder Theory views a corporation as a mechanism for coordinating all stakeholder interests and asserts that managers should manage a business in a way that benefits all stakeholders regardless of the impact on financial performance. Managers are viewed as agents of all stakeholders with two main responsibilities: i) a fiduciary responsibility to ensure that none of the key stakeholder's ethical rights are violated; and ii) to achieve corporate legitimacy by considering broad stakeholder interests when making decisions. Specifically, managers must give consideration to all stakeholders. This suggests that there may be times when managers must make decisions that are detrimental to shareholder wealth but benefit other key stakeholders (Hasnas, 1998). Overall, the objective is to balance profit maximization and on-going sustainability (Smith, 2003).

Stakeholder Theory is now generally accepted by practitioners and ethicists much in the same manner that Shareholder Theory was once accepted in the not-too-distant past. One of the main issues in operationalizing Stakeholder Theory is determining the extent to which a corporation's many and varied stakeholder merit consideration. At a minimum, stakeholders are generally considered to include a corporation's customers, suppliers, owners, employees, and the local communities (Evans and Freeman, 1988).

Stakeholder theorists suggest that adopting a broad stakeholder perspective when making business decisions can result in various intangible benefits and generate a competitive advantage. For example, considering the needs of employers can result in more human capital in the form of increased productivity and value-creation for shareholders (e.g., Choi and Wang, 2009). Focusing on social and environmental matters can result in increased demand from customers and/or price premiums for a firm's product or services. Suppliers may be more willing to share knowledge with a firm or integrate their operations and information systems more closely if they believe that they are a key stakeholder. As a result, a competitive advantage can emerge from firm-specific processes and relationships that are unique to their stakeholders' and organization's objectives (Russo and Fouts, 1997) and difficult for rivals to replicate in the short-term (Hillman and Keim, 2001).

# 2.3.1. The CSR Valuation Paradox

Shareholder Theory and Stakeholder Theory have differing views on the role of CSR in the modern corporation even though both perspectives seek to maximize corporate performance. In a simplified form, the main difference between the two theories is that Shareholder Theory aims to maximize shareholder wealth whereas Stakeholder Theory aims to maximize stakeholder utility even if such a scenario does not result in the maximum shareholder wealth possible. Summarized in the spirit of Immanuel Kant's principles, Shareholder Theory views nonshareholders as a "means" to the "ends" of wealth maximization whereas Stakeholder Theory views the well-being of non-shareholders as an "ends" (Smith, 2003).

The tension between Shareholder Theory and Stakeholder Theory gives rise to what we label as the "CSR Valuation

*Paradox*". That is, does the relationship between CSR initiatives lead to increased firm-performance as suggested by the Stakeholder Theory? Or, do CSR initiatives result in additional costs and lack of focus as suggested by the Shareholder Theory? A recent, critical review of the moderators and mediators in the CSR-corporate financial performance relationship reveals that the myriad of studies conducted to date suggest the relationship is positive, insignificant, negative, U-shaped, and inverted U-shaped (Grewatsch and Kliendienst, 2017). A recent study in *The Accounting Review* by Eli Bartov et al. (2020) found that, in contrast to prior research, that a company's CSR performance can destroy, as opposed to enhance, firm value under certain circumstances. As a result of these inconsistencies, there is a call for the research to go beyond the simple relationship between an overall CSR measure and corporate performance and to focus more on the elements that comprise a CSR measure (Grewatsch and Kliendienst, 2017). The Triple Bottom Line ("TBL") refers to the inclusion of Environmental, Social, and Economic ("ESG") results in the measurement of a firm's performance (Elkington, 1997).

The TBL suggests that assessing a firm's value-creation and performance cannot be done by analyzing financial data alone and must also include social and environmental performance. Most agree that the TBL is a better, broader concept than accounting-based measures alone, but an age-old problem with CSR has focused around the reliable measurement of environmental and social performance. However, recent advances in standard-setting bodies and measurement techniques have brought ESG measures into the lexicon of investment professionals.

Investors are now focused on incorporating ESG measures into their investment decision making (Boerner, 2007; Ho, 2016). Incorporating ESG measures of CSR into investment decisions has been termed "responsible investing" or "sustainable investing" (United Nations Principles for Responsible Investment, 2017). In Canada, the Canada Pension Plan Investment Board focuses on sustainable investing and states the following:

"We believe that organizations that manage Environmental, Social and Governance (ESG) factors effectively are more likely to create sustainable value over the long-term than those that do not. As we work to fulfill our mandate, we consider and integrate ESG risks and opportunities into our investment decisions." (CPPIB, 2019)

Overall, the lack of literature in the Canadian setting related to CSR and future firm performance in addition to the inconsistent results in the prior studies, leads to our two main sets of research questions:

#### **Research Question 1a**

Does CSR lead to increased future firm performance in the Canadian setting?

# **Research Question 1b**

Does CSR lead to lower future SPCR in the Canadian setting?

#### **Research Question 2a**

Which elements of CSR are associated with future firm performance in the Canadian setting?

#### **Research Question 2b**

Which elements of CSR are associated with future SPCR in the Canadian setting?

# 3. Canadian CSR Data Source (CSRHub)

We obtain CSR data for Canadian publicly listed companies from CSRHub. CSRHub aims to provide consistent ratings of CSR performance for a broad range of companies by aggregating data from a wide variety of sources such as Thompson Reuters, MSCI, Newsweek, CDP and Glassdoor. CSRHub outlines its methodology for removing biases and inconsistencies in their data sources while converting the sources into a quantitative measure. We outline the CSRHub methodology in Appendix 1.

CSRHub rates company performance across four categories. Each of the four categories is based upon three sub-categories. The data schema is summarized in Table 1. A full description of each category and subcategory is outlined in Appendix 2.

Category	Sub-Category
Community	Community Development and Philanthropy
	Human Rights and Supply Chain subcategory
	Product
Employees	Compensation and Benefits
	Diversity and Labour Rights
	Training, Safety and Health
Environment	Energy and Climate Change
	Environmental Policy and Reporting
	Resource Management
Governance	Board
	Leadership Ethics
	Transparency and Reporting

# Table 1 - CSR Hub Data Schema

We analyze Canadian listed company CSR data for the period of 2011 to 2018. Data prior to 2011 was too sparse and was not available for a large enough number of companies to reflect the Canadian market. There are 321 Canadian companies covered by CSRHub; however, only 243 companies had sufficient data to be included in our regression analyses. The complete listing of all 243 companies included in our sample can be found in Appendix 3. Table 2 presents a summary of the companies by industry and TSX Composite Index listing.

Industry	S&P/TSX Composite Index (note 1)	Broader Toronto Stock Exchange	Total
Oil and Gas Extraction	12	26	38
Mining (except Oil & Gas)	22	15	37
Mining, Quarrying, & Oil & Gas Extraction	4	10	14
Architectural, Engineering, & Related Services	2	7	9
Retail	3	6	9
Electric & Gas Utilities	6	2	8
Banking	6	0	6
Utilities	3	3	6
Brokerage & Capital Markets	3	2	5
Insurance Carriers	3	1	4
Real Estate Management & Development	2	2	4
Trains, Trucks, Buses & Storage	4	0	4
Agriculture & Mining	1	2	3
Diversified Financial Services	2	1	3
Forestry & Fishing	2	1	3
General Merchandise Stores	2	1	3
Machinery Manufacturing	3	0	3
Manufacturing	1	2	3
Natural Gas Distribution	2	1	3
Paper Products	1	2	3
Passenger Airlines	1	2	3
REITs	3	0	3
Software & Internet	3	0	3
Telecommunications	2	1	3
Motor Vehicle Manufacturing	3	0	3
Industries with only two observations (note 2)	18	12	30
Industries with only one observation (note 3)	20	10	30
Total	134	109	243

# Table 2 - Companies in sample by industry and TSX Composite Index listing

## Note 1 - Effective as at Monday, June 22, 2020.

Note 2 - Aerospace & Defense; Alternative Energy; Broadcasting & Advertising; Chemicals, Plastics & Rubber Products Mfg.; Commercial Banking; Communications Equipment Manufacturing; Construction; Food Products; Health Care & Pharmaceuticals; Management & Sales Consulting; Media & Entertainment; Other Services; Petroleum Refineries; Specialty Retail; Trust, Fiduciary, & Custody Activities.

Note 3 – Advertising, Public Relations, & Related Services; Agriculture, Construction, & Mining Mach. Mfg.; Air Freight, Couriers & Moving Companies; Airport, Harbor Operations, & Logistics; Beverage Manufacturing; Biotechnology; Conglomerates; Construction Materials; Consumer Lending; Containers & Packaging Manufacturing; Data Processing, Hosting & Related Services; Diversified Consumer Services; Electrical Equipment Manufacturing; Electronic Equipment & Instrumentation; Energy Equipment & Services; Gambling Industries; Games & Gaming; Hardware Manufacturing; Industrial Conglomerates; IT & Network Services; Motion Picture & Sound Recording; Newspaper, Periodical, & Book Publishers; Pharmaceutical & Medicine Manufacturing; Real Estate Financial Services; Semiconductor & Other Electronic Component Mfg.; Supermarket, Food & Beverage Stores; Textiles & Apparel; Travel, Recreation & Leisure; Wired Telecommunications Carriers; Wireless Telecommunications Carriers.

Table 3 – Panel A presents the ten Canadian companies in both 2018 and 2011 with the highest overall CSRHub score, while Table 3 – Panel B presents the ten Canadian companies in both 2018 and 2011 with the lowest overall CSRHub score. We present Table 3 in alphabetical order.

2018	2011
Bank Of Montreal Quebec	BCE Inc
BCE Inc	Bombardier Inc
First Capital Realty Inc	Catalyst Paper
Gildan Activewear Inc.	Lululemon athletica
Potash Corporation of Saskatchewan Inc.	Nexen Inc.
Rogers Communications Inc.	Royal Bank of Canada
Sun Life Financial Inc.	Suncor Energy Inc.
TELUS Corporation	The Bank of Nova Scotia
The Toronto-Dominion Bank	The Toronto-Dominion Bank
Vermilion Energy Trust	TransAlta Corporation

# Table 3 - Canadian Companies with highest and lowest CSR scores Panel A - Canadian Companies with the highest overall CSR Score

#### Panel B - Canadian Companies with the lowest overall CSR Score

2010	2011
2018	2011
Boyd Group Income Fund	Alimentation Couche-Tard Inc.
Computer Modelling Group Ltd	Brookfield Asset Management Inc.
Cott Corporation	Fairfax Financial Holdings Limited
Enghouse Systems Limited	Niko Resources Ltd.
Northern Dynasty Minerals Ltd.	Peyto Exploration & Development Corp.
Postmedia Network Canada Corp.	Power Corporation of Canada
Premium Brands Holdings Corporation	Power Financial Corporation
Pure Industrial Real Estate Trust	Quebecor Inc
Quarterhill Inc	Toromont Industries Ltd.
Tricon Capital Group Inc.	Turquoise Hill Resources Ltd

Table 4 presents the five Canadian companies in 2018 with the highest CSRHub scores in each of the four categories (i.e., governance, environment, employees and community).

## Table 4 - Canadian Companies with the high CSRHub Score in Sub-Categories (2018)

Governance	Environment
The Co-operators	Gran Colombia Gold Corp.
Enmax	Almaden Minerals Ltd.
Lone Pine Resources Inc.	The Co-operators
Toronto Hydro Corporation	Stornoway Diamond Corp
Stornoway Diamond Corp	Fondaction
Employees	Community
Employees Lone Pine Resources Inc.	Community Mountain Province Diamonds Inc.
Employees Lone Pine Resources Inc. Aura Minerals Inc.	Community Mountain Province Diamonds Inc. Stornoway Diamond Corp
Employees Lone Pine Resources Inc. Aura Minerals Inc. Seabridge Gold Inc.	Community Mountain Province Diamonds Inc. Stornoway Diamond Corp DragonWave Inc.
Employees Lone Pine Resources Inc. Aura Minerals Inc. Seabridge Gold Inc. RBC Capital Markets LLC	Community Mountain Province Diamonds Inc. Stornoway Diamond Corp DragonWave Inc. Petrobank Energy and Resources Ltd.

# 4. Research Design

We outline, in detail, the study's research design in Appendix 4. Appendix 4 first outlines our measurements of future firm performance, SPCR and CSR. Next, we present the specifications of our regression models which explore the relationship between CSR and both firm future performance and SPCR. Our model specification also delineates all of the control variables that are employed in the multivariate analysis. Lastly, we present the specifications of our regression models which explore the relationship between the CSR sub-components and both firm future performance and SPCR.

In order to facilitate a deeper understanding of our empirical findings, and the resulting discussion, we provide a brief summary of the measurement of the key variables employed in this study:

- Future Firm Performance: the annual buy-and-hold abnormal return (BHAR). That is, we calculate the annual return for a given stock adjusted for the performance for the market as a whole.
- Stock-Price Crash Risk: We calculate the two most widely used measures of crash risk literature: i) negative coefficient of skewness (NCSKEW<sub>i</sub>, ); and ii) down-to-up (DUVOL<sub>i</sub>, ). Essentially, we are measuring whether the firm had any stock price crashes in a given year.
- Corporate Social Responsibility: For each company, we standardize their CSR\_Overall to determine their CSR position relative to all firms in our sample in a given year. CSR\_Overall is an aggregate score and composed of four sub-components: i) Community (CSR\_Community), ii) Employees (CSR\_Employees), iii) Environment (CSR\_Environment), and iv) Governance (CSR\_Governance).

# 5. Research Sample, Descriptive Statistics, and Univariate Analyses

Our initial sample consists of 25,051 observations with available financial statement information during the period from 2009 to 2018. The calculation of one of our control variables, three-year moving sum of absolute discretionary accruals of a firm ( $EM_{i,T}$ ), requires us to eliminate observations in the first two years of our sample period. Also, the calculation of future performance of companies requires us to use observations in the one-year leading period. Therefore, our sample is reduced such that only observations with annual reports dated during the period from 2011 to 2017 are included. In addition, our sample is further decreased after the elimination of observations that have missing observations in one or more of dependent, explanatory and control variables. Our final sample is based on a size of 884 observations. All variables, except for the SPCR measures, are winsorized at the 1% and 99% levels.

Table 5 presents the descriptive statistics for our dependent, explanatory, and control variables. The mean of the future firm performance proxy,  $BHAR_T$ , is 0.0247, while the means of the two future SPCR measures, NCSKEW<sub>T+1</sub> and DUVOL<sub>T+1</sub>, are 0.0679 and 0.0629, respectively. The average of the overall CSR score is 0.4764, while the average scores of the four CSR categories range from 0.3495 to 0.5580.

Variables	Ν	Mean	Standard Deviation	andard Deviation Minimum	
Explanatory Variable					
BHART	884	0.0247	0.4282	-0.8468	1.6101
NCSKEW <sub>T+1</sub>	884	0.0679	1.5253	-12.3022	9.2813
DUVOL <sub>T+1</sub>	884	0.0629	0.5960	-6.1686	2.2146
Explanatory Variable					
CSR_Overall_Score <sub>T</sub>	884	0.4764	0.3012	0.0000	1.0000
CSR_Community_Score <sub>T</sub>	884	0.3495	0.2679	0.0000	1.0000
CSR_Employees_Score <sub>T</sub>	884	0.4741	0.2974	0.0000	1.0000
CSR_Environment_Score <sub>T</sub>	884	0.4711	0.2663	0.0000	1.0000
CSR_Governance_Score <sub>T</sub>	884	0.5580	0.2637	0.0000	1.0000

#### Table 5 - Descriptive Statistics of Dependent, Explanatory, and Control Variables

We then present a scatter plot visualization between the two key variables of interest (future firm performance and future SPCR) and CSR scores. Figure 1 presents the scatterplot between BHARs and overall CSR score, while

Figure 2 presents the scatterplot between future SPCR and overall CSR score.





Standardized CSR Score



Figure 2 - Scatterplot between Future SPCR and Overall CSR Score

Figures 1 and 2 do not reveal any discernible pattern or relationship among the CSR scores and either future firm performance or future SPCR.3

We undertake various univariate analyses to further explore the relationship between the key variables. First, we present the Pearson correlation matrix between the dependent and explanatory variables in Table 6.

<sup>3</sup> We also prepared scatterplots between both future firm performance and future SPCR relative to each of the four CSR categories. Again, we do not observe any visual relationship between the CSR measures and the future measures of risk and return.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CSR_Overall_Score	(1)	1.000							
CSR_Community_Score	(2)	0.808**	1.000						
CSR_Employees_Score	(3)	0.824**	0.745**	1.000					
CSR_Environment_Score	(4)	0.819**	0.555**	0.496**	1.000				
CSR_Governance_Score	(5)	0.683**	0.369**	0.436**	0.499**	1.000			
NCSKEW	(6)	0.015	0.034	0.028	0.022	-0.024	1.000		
DUVOL	(7)	0.052	0.064	0.073*	0.056	-0.011	0.860**	1.000	
BHARs	(8)	0.050	0.067*	0.029	0.013	0.034	-0.396**	-0.613**	1.000

#### Table 6 - Correlation Matrix between Dependent & Explanatory Variables

\*\* Correlation is significant at the 0.01 level (2-tailed). \* Correlation is significant at the 0.05 level (2-tailed).

Table 6 further supports the scatterplot visualization analysis in that the CSR measures show little correlation with future firm performance and future SPCR. The only significant correlation among the future SPCR proxies and CSR is found for the DUVOL proxy and the "CSR Employees" category; however, the relationship is not consistent throughout all categories of CSR. With respect to the firm specific performance, the only statistically significant correlation is found with the "CSR Community" category. There are no other significant correlations between future firm performance and either the overall CSR or the four main CSR categories.

Table 6 does reveal that there are significant, positive correlations among the four CSR categories and the overall CSR score. This is, of course, as expected based on the computation of the overall CSR score as outlined in Appendix 1. The correlations among the four CSR categories also reveal that companies that tend to be strong in one category are also strong in the other three categories. This is likely due to a company adopting an overall strategy / approach to CSR which permeates throughout the entire organization.

Next, we conduct a between-group analysis based on a median-split technique. Specifically, we first create two groups by dividing the sample into CSR High scores and CSR Low scores. The CSR High (CSR Low) companies are deemed to be any firm-year observation that has an overall CSR score above (below) the median. Next, we calculate the average BHAR and future SPCR for each of the CSR High and CSR Low observations. Lastly, we determine whether any difference in means across the CSR High and CSR Low observations is statistically significant based upon a t-test for difference in means assuming unequal variances. We graphically present the results of this univariate analysis in Figure 3 and Figure 4.

Figure 3 presents the between-group analysis for future firm performance, and reveals that companies with higher CSR scores had higher future BHARs than firms with lower CSR scores (i.e., 3.74% versus 1.19%); however, the t-test for difference in means reveals that this difference in not statistically significant and therefore likely due to randomness. As a result, we conclude that we do not find any statistically significant differences in BHARs between CSR High and CSR Low observations.

Figure 4 presents the between-group analysis for the future SPCR, and reveals that companies with lower CSR scores had lower levels of future crash risk relative to the firms with higher CSR scores (i.e., 0.048 versus 0.058); however, the t-test for difference in means reveals that this difference in not significant and therefore likely due to chance. Again, we conclude that we do not find any statistically significant differences in the future SPCR across CSR High and CSR Low observations.



# Figure 4 - Between Groups Analysis: CSR Level and Stock Price Crash Risk



# 6. Empirical Results

#### 6.1. OLS Regression Results

Table 7 shows the results of the regression equation (6), which examines the relationship between the overall CSR score and future firm performance. The estimated coefficient of *CSR\_Overall\_Score* is not statistically significant ( $\beta_1 = -0.033$ ; t = -0.60), meaning that we do not find any relationship between the overall CSR score and future firm performance.

#### Table 7 - Relationship between Overall CSR Score and Future firm performance

	BHAR			
Variables	Coefficient	t-stat		
Intercept	0.805***	2.67		
Explanatory Variable				
CSR_Overall_ScoreT	-0.033	-0.60		
∑CONTROLS (See Appendix 5 for values)	Yes			
∑INDUSTRY	Yes			
∑YEAR	Yes			
N	884			
F-Sig	3.66***			
$R^2$	17.40%			

\*\*\* Results significant at the 0.01 level (2-tailed). \*\* Results significant at the 0.05 level (2-tailed). \* Results significant at the 0.10 level (2-tailed).

The results of the regression equation (7), which studies the relationship between the overall CSR score and future SPCR, are shown in Table 8. The estimated coefficient of *CSR\_Overall\_Score* is not statistically significant for both the *NCSKEW* proxy ( $\beta_1$  = -0.042; *t* = -0.21) and the *DUVOL* proxy ( $\beta_1$  = 0.019; *t* = 0.25), implying that there is not a relationship between the overall CSR score and future SPCR.

#### Table 8 - Relationship between Overall CSR Score and Future SPCR

	NCSKEW	DUVOL <sub>7+1</sub>		
Variables	Coefficient	t-stat	Coefficient	t-stat
Intercept	-1.014	-0.80	-0.596	-1.23
Explanatory Variable				
CSR_Overall_ScoreT	-0.042	-0.21	0.019	0.25
∑CONTROLS (See Appendix 5 for values)	Yes		Yes	
∑INDUSTRY	Yes		Yes	
∑YEAR	Yes		Yes	
N	884		884	
F-Sig	1.67***		2.50***	
$R^2$	10.20%		14.51%	

\*\*\* Results significant at the 0.01 level (2-tailed). \*\* Results significant at the 0.05 level (2-tailed). \* Results significant at the 0.10 level (2-tailed).

Table 9 demonstrates the results of the regression equation (8), which examines the relationship between the scores of the four CSR categories and future firm performance. The estimated coefficients of *CSR\_Community\_ Score, CSR\_Employees\_Score*, and *CSR\_Governance\_Score* are not statistically significant ( $\beta_1 = 0.077$ ; t = 0.81,  $\beta_2 = 0.008$ ; t = 0.09,  $\beta_4 = 0.025$ ; t = 0.37). Though the estimated coefficient of *CSR\_Environment\_Score* is statistically significant at the 10% level ( $\beta_3 = -0.130$ ; t = -1.69), it is not strong enough for us to conclude the existence of a relationship between the four CSR components and future firm performance.

#### Table 9 - Relationship between Four CSR Categories and Future firm performance

	BHAR	T
Variables	Coefficient	t-stat
Intercept	0.785***	2.56
Explanatory Variables		
CSR_Community_Score <sub>T</sub>	0.077	0.81
CSR_Employees_Score <sub>T</sub>	0.008	0.09
CSR_Environment_Score <sub>T</sub>	-0.130*	-1.69
CSR_Governance_Score⊤	0.025	0.37
∑CONTROLS (See Appendix 5 for values)	Yes	
∑INDUSTRY	Yes	
∑YEAR	Yes	
N	884	
F-Sig	3.50***	
$R^2$	17.67%	

\*\*\* Results significant at the 0.01 level (2-tailed). \*\* Results significant at the 0.05 level (2-tailed). \* Results significant at the 0.10 level (2-tailed).

Table 10 shows the results of the regression equation (9), which examines the relationship between the four CSR components and future SPCR. The estimated coefficient of *CSR\_Community\_Score*, *CSR\_Employees\_Score*, and *CSR\_Governance\_Score* are not statistically significant for both the *NCSKEW* and the *DUVOL* proxies. While the estimated coefficient of *CSR\_Environment\_Score* is positive and significant at the 5% level for the *NCSKEW* future crash risk measure, it is not strong and significant enough for the *DUVOL* future crash risk measure, implying that there is not a consistent relationship between the four CSR components and future SPCR.

	NCSKEW	DUVOL <sub>7+1</sub>		
Variables	Coefficient	t-stat	Coefficient	t-stat
Intercept	-0.783	-0.61	-0.507	-1.03
Explanatory Variables				
CSR_Community_Score⊤	-0.440	-1.24	-0.202	-1.49
CSR_Employees_Score <sub>T</sub>	-0.075	-0.24	0.092	0.77
CSR_Environment_Score <sub>T</sub>	0.654**	2.29	0.205*	1.88
CSR_Governance_Score <sub>T</sub>	-0.336	-1.36	-0.118	-1.25
∑CONTROLS (See Appendix 5 for values)	Yes		Yes	
∑INDUSTRY	Yes		Yes	
∑YEAR	Yes		Yes	
Ν	884		884	
F-Sig	1.71***		2.47***	
$R^2$	10.92%		15.03%	

# Table 10 - Relationship between Four CSR Categories and Future SPCR

\*\*\* Results significant at the 0.01 level (2-tailed). \*\* Results significant at the 0.05 level (2-tailed). \* Results significant at the 0.10 level (2-tailed).

# 6.2. Additional Analyses

# 6.2.1. Two-Year Ahead Measures

We conduct an additional test of our main findings by calculating both the BHARs and the SPCR measures based on the two-year ahead as opposed to the one-year ahead measures. We calculate two-year ahead measures of BHARs and SPCR to explore whether CSR measures are associated with future firm performance is over a slightly longer period of time. We selected a two year-head period as opposed to a longer period of time (e.g., five-year ahead) to avoid the methodological issues associated with long-run window event studies.

We first calculate the descriptive statistics and the correlation matrix for all of the variables that comprise our sample based on the two-year ahead measures. For brevity, we do not tabulate and the present these tables in the study. The descriptive statistics and correlation matrix present very similar characteristics to those presented in our main analyses. Next, we re-estimated regression equation (7), which studies the relationship between the overall CSR score and future SPCR, and equation (8), which examines the relationship between the scores of the four CSR categories and future firm performance, with the two-year ahead measures. The results of the regression analyses are presented in Appendix 6.

With respect to the overall CSR measure, Appendix 6 does not reveal any relationship between the two-year

ahead SPCR measures and the CSR score; however, we note a statistically significant, negative relationship between overall CSR measures and two-year ahead BHARs. These BHARs findings are not consistent with the current, conventional expectations associated with the Stakeholder Theory, but rather support the Shareholder Theory and are not completely inconsistent with prior studies (e.g., Aupperle et al. 1985; Friedman 1970).

With respect to the four individual components of the overall CSR score, Appendix 6 reveals result consistent with our one-year ahead measures. For example, we continue to find negative relationship between two-year BHAR and CSR environment score and a positive relationship between the two-year SPCR measure and CSR environment. Both of these relationships, as discussed above, are not consistent with the conventional expectations of the Stakeholder Theory.

The only new finding for the four individual components of the overall CSR score and the two year-ahead measures is in regards to the community score. That is, we find a negative relationship between the CSR community score and future SPCR. This relationship is consistent with conventional expectations and the Stakeholder Theory.

# 6.2.2. Alternative measure of CSR (Sustainalytics)

A possible concerns regarding the main findings is in regards to the measures used as proxies for the CSR scores. Recall that our main analyses are based upon CSR measures from CSRHub. To test the robustness of our main findings, we re-estimate our regression analyses with CSR data provided by Sustainalytics. Sustainalytics describes themselves as "a global leader in ESG and Corporate Governance research and ratings".<sup>4</sup> Sustainalytics' ESG Risk Ratings "are designed to help investors identify and understand financially material ESG risks at the security and portfolio level".<sup>5</sup>

Our estimations with the Sustainalytics CSR measures provide results that yield the same or similar conclusions as our main results. That is, we do not find any material differences in our findings when using CSRHub or Sustainalytics measures. As a result, we conclude that our main findings are not the result of the unique dataset provided by a CSR data provider.

# 7. Discussion of Results and Implications for Business Valuators

This study explores the *CSR Valuation Paradox.* The prior research that explores the CSR-corporate financial performance relationship does not shed any light on the *CSR Valuation Paradox* as positive, insignificant, negative, U-shaped, and inverted U-shaped (Grewatsch and Kliendienst, 2017). Overall, our results do not provide any evidence of a relationship between CSR activities and future firm performance based on either our univariate and multivariable analyses. Specifically, we do not find a relationship between either the overall CSR variable or any of the four CSR sub-categories and future firm performance. As a result, our findings do not provide direct support to either the shareholder perspective (i.e., a negative relationship) or the stakeholder perspective (i.e., a positive relationship).

This study has various implications for business valuators. First, one of the major objectives of this study was to bring the *CSR Valuation Paradox* to the forefront. As CSR continues to come to the forefront of business initiatives due to changing societal and regulatory expectations, business valuators must become more familiar with the concepts and theories related to CSR. Our study provides business valuators with various theories and background information on the nature of CSR. We also highlight the debate surrounding the impact of CSR on business valuations by focusing on the tension between the traditional, neoclassical approach to CSR which suggests that the additional costs incurred for environmental and social activities are not in the best interest of maximizing shareholder wealth (Palmer et al., 1995; Walley and Whitehead, 1994) relative to the stakeholder perspectives which suggests that CSR may lead to many financial benefits in the form of reduced costs (e.g., avoiding

<sup>4</sup> https://www.sustainalytics.com/about-us/

<sup>5</sup> https://www.sustainalytics.com/esg-ratings/
environmental clean-up costs, litigations, or consumer boycotts) and valuable intangible assets (e.g., brand equity, customer retention, and employee morale).

It is important for business valuators to understand CSR initiatives as they continue to become an expectation of businesses. Our study has focused mostly on going-concern valuation approaches by exploring the relationship between CSR initiatives and future firm risks and returns. Based on our findings, and the inconsistencies noted in the prior literature (Grewatsch and Kliendienst, 2017), our preliminary conclusion is that there is no general rule of thumb regarding the impact, if any, of CSR initiatives on a firm's future cash flows or risk measures. Therefore, it will incumbent upon the business valuator to assess each company's unique situation and value propositions that arise from CSR initiatives. If future cash flows cannot be attributed to CSR initiatives, business valuators may consider the nature of CSR initiatives as an element a firm's cost of capital (i.e., earning multiple).

There are some possible, alternative explanations for our findings that should be considered by business valuators. First, it is possible that CSR initiatives may manifests themselves in future firm performance over the long-run (e.g., five to ten years). As a result, our shorter event study window may not capture the longer run benefits of CSR activities. Researchers are challenged to examine the existence of a CSR-firm performance relationship over a five to ten year period as there will be many changes / factors that impact both CSR initiatives and future firm performance across such a long event-study window.

A second possible explanation that should be considered by business valuators is the reliance upon third-party CSR measures during the valuation process. Most third party measures do not benefit from inside information regarding CSR initiatives which could be obtained by business valuators who have access to management. As a result, business valuators may wish to use caution when relying upon third party measures of CSR during their valuation process. Business valuators may wish to create their own measures of CSR for an individual company during their valuation process in order to understand the impact on a firm's cash flows. Future researchers may explore the CSR-firm performance relationship by incorporating multiple external CSR measures and/or internal measures.

Although liquidating valuation approaches are not the main thrust of our paper, we wish to discuss how recent societal and regulatory changes related to CSR impacts business valuators. A recent Canadian court decision has been viewed by many as a strengthening environmental liability claims at the expense of other stakeholders. Many provinces have enacted various legislation in order to protect the environment from the impacts of commercial activities. Most of the legislation is related toward remediation costs such as decommission costs to remedy any environmental harm created through commercial processes. However, there has been an inability for regulators to hold companies responsible for these environmental liabilities during bankruptcies and these claims have often been treated as unsecured liabilities.

On January 31, 2019, the Supreme Court of Canada released its decision in *Orphan Well Association v Grant Thornton Ltd., 2019 SCC 5* ("Redwater"). The Redwater case overturned two lower court decisions which held that the *Bankruptcy and Insolvency Act* would take precedent over provincial environmental responsibilities. Essentially, energy companies could repay secured creditors before remediating old wells. In the case of Redwater Energy, the bankruptcy trustee planned to liquidate all of the company's valuable wells in order to repay secured creditors and then walk away from non-producing wells and thereby leave the remediation costs to Alberta's Orphan Well Association.

The Supreme Court of Canada said the trustee "couldn't walk away from the disowned sites. It said that the BIA [Bankruptcy and Insolvency Act] was meant to protect trustees from having to pay for a bankrupt estate's environmental claims with its own money. It didn't mean Redwater's estate could avoid its environmental obligations." In an interview with CBC News<sup>6</sup>, one of Redwater Energy's creditors (ATB Financial), stated that "it

<sup>6</sup> The full story can be accessed from CBC: https://www.cbc.ca/news/business/supreme-court-redwater-decision-orphanwells-1.4998995. A full legal case summary can be found in many places, including Osler: https://www.osler.com/en/resources/ regulations/2019/supreme-court-of-canada-decision-in-redwater-early-implications

was important for us to get clarity on what the interpretation of the law was, to ensure that we could have the right approach in balancing the environment and the economics". The Redwater case clearly highlights the Supreme Court of Canada's position on the role of environmental safeguards in commercial activities.

Lastly, we wish to discuss the relationship between CSR activities and intangible assets. Intangible assets are becoming increasingly more important to corporate valuation creation. In addition, intangible assets now far exceed tangible assets for many corporations, such as Uber and Airbnb. This is especially true when considering the even growing gap between market value and book values. Valuators may wish to consider a corporation's CSR activities on the extent and magnitude of their intangible assets. Researchers have already began to explore this relationship. For example, Shen et al. (2019) suggest the CSR can help corporation create value from intangible assets in two ways: i) to increase employee loyalty and retain knowledge workers; and ii) to increase organization identification and promote collaboration across departments. Both of these factors help corporations unlock the value of their intangible assets. We recommend future researchers continue to explore the impact of CSR activities on a company's intangible asset value.

# 8. Summary and Conclusion

Overall, our study does not document a relationship between CSR activities and one-year ahead future firm performance. We do not find a relationship between a firm's future firm performance and either their overall CSR measure or any of their four CSR sub-categories. As a result, our findings do not provide direct support either the Shareholder Perspective (i.e., a negative relationship) or the Stakeholder Perspective (i.e., a positive relationship).

Our study brings the *CSR Valuation Paradox* to the forefront and provides business valuators with various theories and background information on the nature of CSR. Our findings also have significant implications for business valuators. First, it may be possible that CSR initiatives manifests themselves in future firm performance over the long-run (e.g., five to ten years). Second, our findings suggest that business valuators may wish to use caution when relying upon third party measures of CSR during their valuation. Lastly, we conclude that there is no general rule regarding the impact, if any, of CSR with respect to a firm's future cash flows or risk measures. Therefore, it will be up to the business valuator to assess each company's unique situation and value propositions that arise from CSR initiatives.

Future researchers and business valuators are encouraged to continue to explore the relationship between CSR and future firm performance. The need for more research will only increase as CSR initiatives continue to expand exponentially due to societal and regulatory expectations. We believe that business valuators will increasingly need to focus on CSR initiatives as part of their valuation methodology as we move into the future. Future researchers are encouraged to explore different measurements and measurement bases for CSR, and how these measures are manifested in both future cash flows and risk profiles. In addition, researchers may wish to explore how specific CSR initiatives impact future firm performance. That is, certain CSR initiatives may carry more weight than others for specific firms.

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# Appendix 1 - CSRHub Ratings Methodology & Rules

The following approach is outlined on the CSRHub website regarding their methodology.<sup>7</sup>

- Map to a central schema. We have divided Corporate Social Responsibility performance into twelve subcategories. These subcategories roll up into four categories. We have established an open-ended number of special issue topics to hold CSR issues that do not fit our twelve subcategory schema. We map each element of data we receive from a data source into one or more subcategory and/or one or more Special Issue. For instance, if a data source reports that a company is involved in Burma, we include this information in our Leadership Ethics subcategory and in our "Involved in Burma" special issue. We have mapped over 5,000 data elements.
- Convert to a numeric scale. We take each of our sources and convert it into a rating on a 0 to 100 scale (100 = positive rating).
- 3. **Normalize.** We compare the scores from different data sources for the same company. By analyzing the variations between our sources, we can determine their biases. We then adjust all of the scores from a source to remove bias and create a more consistent rating.
- 4. **Aggregate.** We weight each source based on our estimate of its credibility and value. We then combine all of the available data on a company and generate base ratings at the subcategory level. We then aggregate these ratings further to the category level.
- 5. **Trim.** We drop ratings when we do not have enough information. We currently do not rate about 140,000 companies for whom we do not have enough information.
- 6. We research each rated company and attempt to determine which industries it participates in. We gather contact information, a description of the company's business, and the location of its Web site. This information allows us to create industry and country averages. We have set up our own industry category system, based loosely on the NAICS code structure.

CSRHub follows a set of rules to determine when they can rate a company's performance. The following rules to rate a company's performance are outlined on the CSRHub's website. <sup>8</sup>

- a) In order to rate a subcategory, we require:
  - A minimum number of sources (it ranges depending upon a variety of circumstances between two and six sources) for each subcategory. So, to give a company a rating for "Energy & Climate Change" we might need data from both CDP and Climate Counts.
  - b) A minimum amount of data. We measure this in terms of "data weight." Some sources tend to predict and follow the consensus of our other sources—others diverge often from consensus. Our software gives the sources that are good predictors a higher weight than those who are not. Some sources invest a lot of resources in their work and/or generate original data. Our software gives these sources additional weight compared to those who merely summarize work done by others. Some sources offer one rating that covers a wide range of sustainability issues while others have many detailed ratings elements. Those with more elements get more weight.
  - c) If there is not good agreement between the data sources or if the resulting score is extreme (e.g., 0 or 100), we may exclude the result. (Whether or not we do depends on the quality of the sources, number of sources, etc.

<sup>7</sup> The methodology was obtained from the CSRHub website: https://esg.csrhub.com/csrhub-ratings-methodology

<sup>8</sup> The methodology was obtained from the CSRHub website: https://esg.csrhub.com/csrhub-rating-rules

- b) To score a category, we must have a rating for at least one subcategory. We may suppress a category rating if we do not have enough weight in the subcategories underneath it to produce a reliable score.
- c) To offer an overall rating, we must have:
  - a) Ratings for all four categories.
  - b) Ratings for at least five subcategories (so at least one category must have two subcategories in it).
  - c) Enough total weight.
  - d) Enough total sources.
  - e) If the weight is light or the number of sources is low, a reasonable score (we trim outliers that do not have enough support to justify).

The above process is mechanical—our software handles the details of both converting the data we receive into a 0 to 100 score, mapping it into our subcategories and special issues, normalizing the data across all of the companies we follow, and then processing the data to produce ratings. We have data on approximately 100,000 companies. We analyze data on 31,658 companies. We issue ratings on 17,268 companies (about 67% of the companies we analyze data on). We offer full ratings on only 8,419 of these (about 70% of the companies we rate). Each month, we conduct a separate "human review" of our ratings to make sure that we have not missed an obvious problem or outlier. At present, only 26 companies are receiving "manual" adjustments.

Surprisingly few of our users ask questions about this process. We hope that this indicates that our ratings are reasonable and fit generally with expert opinion about how the companies we follow are performing. We are actively working to increase the scope of our coverage. We currently rate about 800 private companies, government agencies, and NFPs. We hope our non-public company coverage will soon exceed that of public companies.

# Appendix 2 - CSRHub Data Schema Description

The following data description was taken from the CSRHub website.9

#### Community

The **Community Category** covers the company's commitment and effectiveness within the local, national and global community in which it does business. It reflects a company's citizenship, charitable giving, and volunteerism. This category covers the company's human rights record and treatment of its supply chain. It also covers the environmental and social impacts of the company's products and services, and the development of sustainable products, processes and technologies.

Community Dev & Philanthropy	The <b>Community Development and Philanthropy subcategory</b> covers the relationship between a company and the communities within which it is embedded. It reflects a company's community citizenship through charitable giving, donations of goods, and volunteerism of staff time. It also includes protecting public health (e.g., avoidance of industrial accidents) and managing the social impacts of its operations on local communities. The subcategory also includes a company's land use and building design impact on the local economy and ecosystem.
Product	The <b>Product subcategory</b> covers the responsibility of a company for the development, design, and management of its products and services and their impacts on customers and society at large. This subcategory reflects a company's capacity to reduce environmental costs, create new market opportunities through new sustainable technologies or processes, and produce or market goods and services that enhance the health and quality of life for consumers. This subcategory rating covers the integrity of a company's products and sales practices, including their labeling and marketing, social impacts and end-of-life disposition. It also relates to product safety and quality and the company's response to problems with safety and quality.
Human Rights & Supply Chain	The <b>Human Rights and Supply Chain subcategory</b> measures a company's commitment to respecting fundamental human rights conventions, its ability to maintain its license to operate by supporting freedom of association and excluding child, forced or compulsory labor. This subcategory covers a company's transparency in overseas sourcing disclosure and monitoring and a company's relationship with and respect for the human rights of indigenous peoples near its proposed or current operations.

9 The methodology was obtained from the CSRHub website: https://esg.csrhub.com/csrhub-data-schema?\_ ga=2.176127202.1778711325.1567856034-1124770579.1567856034

# Appendix 2 - CSRHub Data Schema Description (Continued)

#### Employees

The **Employees category** includes disclosure of policies, programs, and performance in diversity, labor relations and labor rights, compensation, benefits, and employee training, health and safety. The evaluation focuses on the quality of policies and programs, compliance with national laws and regulations, and proactive management initiatives. The category includes evaluation of inclusive diversity policies, fair treatment of all employees, robust diversity (EEO-1) programs and training, disclosure of workforce diversity data, strong labor codes (addressing the core ILO standards), comprehensive benefits, demonstrated training and development opportunities, employee health and safety policies, basic and industry-specific safety training, demonstrated safety management systems, and a positive safety performance record.

Compensation & Benefits	The <b>Compensation and Benefits subcategory</b> covers a company's capacity to increase its workforce loyalty and productivity through rewarding, fair, and equal compensation and financial benefits. It includes benefits that engage employees and improve worker development. This subcategory also focuses on long-term employment growth and stability by promotion practices, lay-off practices, and relations with retired employees.
Diversity & Labor Rights	The <b>Diversity and Labor Rights subcategory</b> covers workplace policies and practices covering fair and non-discriminatory treatment of employees, and its diversity policies. It covers a company's labor-management relations and participation by employees, National Labor Relations Board (NLRB) violations or patterns of anti-union practice, conformance to internationally recognized worker rights, as defined in the basic conventions of the International Labor Organization (ILO). Fundamental labor rights include freedom of association and protection of the right to organize; right to bargain collectively; a minimum age for the employment of children; a prohibition against forced labor; lack of employment and occupational discrimination; and equal compensation. This subcategory measures a company's ability to maintain diversity, provide equal opportunities regardless of gender, age, ethnicity, religion or sexual orientation, and promote work-life balance.
Training, Health & Safety	The <b>Training, Safety and Health subcategory</b> measures a company's effectiveness in providing a healthy and safe workplace. This subcategory includes accident and safety performance, as well as job training, safety standards and training, and employee-management safety teams. It includes programs to support the health, well-being and productivity of all employees. This subcategory includes workplace policies and programs that boost employee morale, workplace productivity, company policies and practices to engage employees, and worker development.

# Appendix 2 - CSRHub Data Schema Description (Continued)

#### Environment

The **Environment category** data covers a company's interactions with the environment at large, including use of natural resources, and a company's impact on the Earth's ecosystems. The category evaluates corporate environmental performance, compliance with environmental regulations, mitigation of environmental footprint, leadership in addressing climate change through appropriate policies and strategies, energy-efficient operations, and the development of renewable energy and other alternative environmental technologies, disclosure of sources of environmental risk and liability and actions to minimize exposure to future risk, implementation of natural resource conservation and efficiency programs, pollution prevention programs, demonstration of a strategy toward sustainable development, integration of environmental sustainability and responsiveness with management and the board, and programs to measure and engage stakeholders for environmental improvement.

Energy & Climate Change	The <b>Energy and Climate Change subcategory</b> measures a company's effectiveness in addressing climate change through appropriate policies and strategies, energy efficient operations, and the development of renewable energy and other alternative environmental technologies. The subcategory includes energy use, emissions to air of CO2 and other Greenhouse Gas Emissions (GHG).
Environment Policy & Reporting	The <b>Environmental Policy and Reporting subcategory</b> includes a company's policies and intention to reduce the environmental impact of a company and its value stream to levels that are healthy for the company and for the environment, now and in the future. The data includes the company's environmental reporting performance, adherence to environmental reporting standards such as the Global Reporting Initiative, and compliance with investor, regulatory and stakeholders' requests for transparency. Compliance data consists of breaches of regulatory limits and accidental releases.
Resource Management	The <b>Resource Management subcategory</b> covers how efficiently resources are used in manufacturing and delivering products and services, including those of a company's suppliers. It includes a company's capacity to reduce the use of materials, energy or water, and to find more efficient solutions by improving its supply chain management. This subcategory includes environmental performance relative to production size and is monitored by the production-related Eco Intensity Ratios (EIRs) for water and energy defined as resource consumption per produced or released unit. Resource materials include raw materials and packaging materials for production and related processes and packaging of products. Resource Manage- ment data also include waste and recycling performance. Recycling data is related to the proportion of waste recycled of the total waste. Data includes how the company manages operations to benefit the local airshed and watershed, and how the company impacts land use and local ecological stability. The water resource data includes consumption of drinking water, industrial water and steam.

# Appendix 2 - CSRHub Data Schema Description (Continued)

#### Governance

The Governance category covers disclosure of policies and procedures, board independence and diversity, executive compensation, attention to stakeholder concerns, and evaluation of a company's culture of ethical leadership and compliance. Corporate governance refers to leadership structure and the values that determine corporate direction, ethics and performance. This category rates factors such as: are corporate policies and practices aligned with sustainability goals; is the management of the corporation transparent to stakeholders; are employees appropriately engaged in the management of the company; are sustainability principles integrated from the top down into the day-to-day operations of the company. Governance focuses on how management is committed to sustainability and corporate responsibility at all levels.

Board	The <b>Board subcategory</b> covers a company's effectiveness in following best practices in corporate gover- nance principles related to board membership, independent decision making through experienced, diverse and independent board members, effectiveness toward following best practices related to board activities and functions, and board committee structure and composition. It includes how the company provides competitive and proportionate management compensation and its ability to incent executives and board members to achieve both financial and extra-financial targets.
Leadership Ethics	The <b>Leadership Ethics subcategory</b> measures how a company manages its relationships with its various stakeholders, including investors, customers, communities, and regulators. This subcategory measures a company's effectiveness in treating its shareholders equitably. Leadership ethics includes the company's culture of ethical decision making. It measures a company's commitment and effectiveness toward the vision of integrating social and environmental aspects into the overall core strategy and whether sustainability principles are integrated from the top down into the day-to-day operations of the company.
Transparency & Reporting	The <b>Transparency and Reporting subcategory</b> rates factors including are corporate policies and practices aligned with sustainability goals, is the management of the corporation transparent to stakeholders, are employees appropriately engaged in the management of the company, and do sustainability reports comply with standards such as the Global Reporting Initiative, AccountAbility (AA1000) and other standards, and are these reports made publicly available. This subcategory includes whether the company provides a list of its major stakeholders and how it engages with them. It also covers whether the company is a signatory of Global Compact and other leading global entities. It evaluates the assurance (3rd party audit) of the accuracy, completeness, and reliability of its Sustainability or Corporate Social Responsibility reports.

#### Appendix 3 - Canadian Listed Companies in our Sample

Company	Industry	Index
Aimia Inc.	Advertising, Public Relations, & Related Services	Broader Toronto Stock Exchange
Bombardier Inc	Aerospace & Defense	Broader Toronto Stock Exchange
CAE Inc	Aerospace & Defense	S&P/TSX Composite Index
Agrium Inc.	Agriculture & Mining	Broader Toronto Stock Exchange
Primero Mining Corp	Agriculture & Mining	Broader Toronto Stock Exchange
Saputo Inc	Agriculture & Mining	S&P/TSX Composite Index
Toromont Industries Ltd.	Agriculture, Construction, & Mining Mach. Mfg.	S&P/TSX Composite Index
Mullen Group Limited	Air Freight, Couriers & Moving Companies	S&P/TSX Composite Index
Pembina Pipeline Income Fund	Airport, Harbor Operations, & Logistics	S&P/TSX Composite Index

Company	Industry	Index
Ballard Power Systems Inc.	Alternative Energy	S&P/TSX Composite Index
INNERGEX RENEWABLE ENERGY INC.	Alternative Energy	S&P/TSX Composite Index
Badger Daylighting Ltd	Architectural, Engineering, & Related Services	S&P/TSX Composite Index
Calfrac Well Services Limited	Architectural, Engineering, & Related Services	Broader Toronto Stock Exchange
Enerflex Systems Income Fund	Architectural, Engineering, & Related Services	Broader Toronto Stock Exchange
Maxim Power Corp	Architectural, Engineering, & Related Services	Broader Toronto Stock Exchange
Secure Energy Services Inc.	Architectural, Engineering, & Related Services	Broader Toronto Stock Exchange
Stantec Inc.	Architectural, Engineering, & Related Services	S&P/TSX Composite Index
Trinidad Drilling Limited	Architectural, Engineering, & Related Services	Broader Toronto Stock Exchange
Wajax Corp	Architectural, Engineering, & Related Services	Broader Toronto Stock Exchange
WESTPORT FUEL SYSTEM	Architectural, Engineering, & Related Services	Broader Toronto Stock Exchange
Canadian Imperial Bank of Commerce	Banking	S&P/TSX Composite Index
Canadian Western Bank	Banking	S&P/TSX Composite Index
Laurentian Bank Of Canada	Banking	S&P/TSX Composite Index
National Bank of Canada	Banking	S&P/TSX Composite Index
Royal Bank of Canada	Banking	S&P/TSX Composite Index
Toronto-Dominion Bank	Banking	S&P/TSX Composite Index
Cott Corporation	Beverage Manufacturing	Broader Toronto Stock Exchange
ProMetic Life Sciences Inc	Biotechnology	Broader Toronto Stock Exchange
COGECO INC.	Broadcasting & Advertising	S&P/TSX Composite Index
Shaw Communications Inc.	Broadcasting & Advertising	S&P/TSX Composite Index
Alaris Royalty Corp	Brokerage & Capital Markets	Broader Toronto Stock Exchange
CI Financial Inc.	Brokerage & Capital Markets	S&P/TSX Composite Index
IGM Financial Inc	Brokerage & Capital Markets	S&P/TSX Composite Index

Company	Industry	Index
Onex Corporation	Brokerage & Capital Markets	S&P/TSX Composite Index
Power Financial Corporation	Brokerage & Capital Markets	Broader Toronto Stock Exchange
Canexus Income Fund	Chemicals, Plastics & Rubber Products Mfg.	Broader Toronto Stock Exchange
Methanex Corporation	Chemicals, Plastics & Rubber Products Mfg.	S&P/TSX Composite Index
Bank Of Montreal	Commercial Banking	S&P/TSX Composite Index
Bank of Nova Scotia	Commercial Banking	S&P/TSX Composite Index
Blackberry	Communications Equipment Manufacturing	S&P/TSX Composite Index
Sierra Wireless, Inc.	Communications Equipment Manufacturing	Broader Toronto Stock Exchange
Superior Plus Inc.	Conglomerates	S&P/TSX Composite Index
Aecon Group Inc	Construction	S&P/TSX Composite Index
SNC-Lavalin Inc.	Construction	S&P/TSX Composite Index
Norbord Industries	Construction Materials	S&P/TSX Composite Index
Home Capital Group Inc	Consumer Lending	S&P/TSX Composite Index
CCL Industries Inc	Containers & Packaging Manufacturing	S&P/TSX Composite Index
Maxar Technologies Ltd	Data Processing, Hosting & Related Services	Broader Toronto Stock Exchange
WSP Canada Inc	Diversified Consumer Services	S&P/TSX Composite Index
Canaccord Genuity Group Inc.	Diversified Financial Services	Broader Toronto Stock Exchange
Fairfax Financial Holdings Limited	Diversified Financial Services	S&P/TSX Composite Index
Great-West Lifeco Inc.	Diversified Financial Services	S&P/TSX Composite Index
Atco Limited	Electric & Gas Utilities	S&P/TSX Composite Index
Canadian Utilities Limited	Electric & Gas Utilities	S&P/TSX Composite Index
Emera Inc	Electric & Gas Utilities	S&P/TSX Composite Index
Enbridge Inc.	Electric & Gas Utilities	S&P/TSX Composite Index
Enbridge Income Fund Holdings Inc.	Electric & Gas Utilities	Broader Toronto Stock Exchange
Fortis Inc	Electric & Gas Utilities	S&P/TSX Composite Index

Company	Industry	Index
Northland Power Inc	Electric & Gas Utilities	S&P/TSX Composite Index
Savanna Energy Services Corp.	Electric & Gas Utilities	Broader Toronto Stock Exchange
ATS Automation Tooling Systems Inc.	Electrical Equipment Manufacturing	S&P/TSX Composite Index
Avigilon Corp	Electronic Equipment & Instrumentation	Broader Toronto Stock Exchange
Enercare Inc	Energy Equipment & Services	Broader Toronto Stock Exchange
Maple Leaf Foods Inc.	Food Products	S&P/TSX Composite Index
Weston (George) Limited	Food Products	Broader Toronto Stock Exchange
Canfor Corporation	Forestry & Fishing	S&P/TSX Composite Index
West Fraser Timber Co. Ltd.	Forestry & Fishing	S&P/TSX Composite Index
Western Forest Products Inc	Forestry & Fishing	Broader Toronto Stock Exchange
Great Canadian Gaming Corp.	Gambling Industries	S&P/TSX Composite Index
Stars Group Inc.	Games & Gaming	Broader Toronto Stock Exchange
Alimentation Couche-Tard Inc.	General Merchandise Stores	S&P/TSX Composite Index
Dollarama Inc	General Merchandise Stores	S&P/TSX Composite Index
North West Company Fund	General Merchandise Stores	Broader Toronto Stock Exchange
Russel Metals Inc	Hardware Manufacturing	S&P/TSX Composite Index
Advanz Pharma Corp	Health Care & Pharmaceuticals	Broader Toronto Stock Exchange
Jean Coutu Group (PJC) Inc.	Health Care & Pharmaceuticals	Broader Toronto Stock Exchange
Veresen Inc	Industrial Conglomerates	Broader Toronto Stock Exchange
Genworth MI Canada Inc	Insurance Carriers	S&P/TSX Composite Index
Intact Financial Corp.	Insurance Carriers	S&P/TSX Composite Index
Kingsway Financial Services Inc	Insurance Carriers	Broader Toronto Stock Exchange
Sun Life Financial Inc.	Insurance Carriers	S&P/TSX Composite Index
CGI Group Inc.	IT & Network Services	S&P/TSX Composite Index

Company	Industry	Index
Linamar Corp.	Machinery Manufacturing	S&P/TSX Composite Index
Martinrea International Inc	Machinery Manufacturing	S&P/TSX Composite Index
Pason Systems Inc	Machinery Manufacturing	S&P/TSX Composite Index
HORIZON NORTH LOGISTICS INC.	Management & Sales Consulting	Broader Toronto Stock Exchange
Newalta Corporation	Management & Sales Consulting	Broader Toronto Stock Exchange
5N Plus Inc.	Manufacturing	Broader Toronto Stock Exchange
Dorel Industries Inc	Manufacturing	Broader Toronto Stock Exchange
INTERTAPE POLYMER GROUP INC.	Manufacturing	S&P/TSX Composite Index
Corus Entertainment Inc	Media & Entertainment	S&P/TSX Composite Index
Thomson Reuters Corporation	Media & Entertainment	S&P/TSX Composite Index
Agnico-Eagle Mines Limited	Mining (except Oil & Gas)	S&P/TSX Composite Index
Alamos Gold Inc.	Mining (except Oil & Gas)	Broader Toronto Stock Exchange
B2Gold Corp.	Mining (except Oil & Gas)	S&P/TSX Composite Index
Barrick Gold Corp.	Mining (except Oil & Gas)	S&P/TSX Composite Index
Cameco Corporation	Mining (except Oil & Gas)	S&P/TSX Composite Index
Capstone Mining Corp	Mining (except Oil & Gas)	Broader Toronto Stock Exchange
Centerra Gold Inc	Mining (except Oil & Gas)	S&P/TSX Composite Index
China Gold Intl Res Corp Ltd	Mining (except Oil & Gas)	Broader Toronto Stock Exchange
Dundee Precious Metals Inc.	Mining (except Oil & Gas)	S&P/TSX Composite Index
Eastern Platinum Limited	Mining (except Oil & Gas)	Broader Toronto Stock Exchange
Eldorado Gold Corporation	Mining (except Oil & Gas)	S&P/TSX Composite Index
ENDEAVOUR MINING CORPORATION	Mining (except Oil & Gas)	S&P/TSX Composite Index
Endeavour Silver Corp.	Mining (except Oil & Gas)	Broader Toronto Stock Exchange
First Majestic Silver Corp.	Mining (except Oil & Gas)	S&P/TSX Composite Index
First Quantum Minerals Ltd.	Mining (except Oil & Gas)	S&P/TSX Composite Index

Company	Industry	Index
Fortuna Silver Mines Inc.	Mining (except Oil & Gas)	Broader Toronto Stock Exchange
Goldcorp Inc.	Mining (except Oil & Gas)	Broader Toronto Stock Exchange
Guyana Goldfields Inc	Mining (except Oil & Gas)	Broader Toronto Stock Exchange
Hudbay Minerals	Mining (except Oil & Gas)	S&P/TSX Composite Index
IAMGOLD Corp.	Mining (except Oil & Gas)	S&P/TSX Composite Index
Labrador Iron Ore Royalty Corp.	Mining (except Oil & Gas)	S&P/TSX Composite Index
Lundin Mining Corp.	Mining (except Oil & Gas)	S&P/TSX Composite Index
Midas Gold Corp	Mining (except Oil & Gas)	Broader Toronto Stock Exchange
New Gold Incorporation	Mining (except Oil & Gas)	Broader Toronto Stock Exchange
North American Palladium Ltd.	Mining (except Oil & Gas)	Broader Toronto Stock Exchange
Northern Dynasty Minerals Ltd.	Mining (except Oil & Gas)	Broader Toronto Stock Exchange
Pan American Silver Corp.	Mining (except Oil & Gas)	S&P/TSX Composite Index
Semafo Inc	Mining (except Oil & Gas)	S&P/TSX Composite Index
Silvercorp Metals Inc.	Mining (except Oil & Gas)	S&P/TSX Composite Index
SouthGobi Resources Ltd.	Mining (except Oil & Gas)	Broader Toronto Stock Exchange
Teranga Gold Corp.	Mining (except Oil & Gas)	S&P/TSX Composite Index
Torex Gold Resources Inc	Mining (except Oil & Gas)	S&P/TSX Composite Index
TransAlta Corporation	Mining (except Oil & Gas)	S&P/TSX Composite Index
Turquoise Hill Resources Ltd	Mining (except Oil & Gas)	Broader Toronto Stock Exchange
Westshore Terminals Investment Corp.	Mining (except Oil & Gas)	Broader Toronto Stock Exchange
Wheaton Precious Metals	Mining (except Oil & Gas)	S&P/TSX Composite Index
Yamana Gold Inc	Mining (except Oil & Gas)	S&P/TSX Composite Index
Alexco Resource Corp	Mining, Quarrying, & Oil & Gas Extraction	Broader Toronto Stock Exchange
Bankers Petroleum Limited	Mining, Quarrying, & Oil & Gas Extraction	Broader Toronto Stock Exchange

Company	Industry	Index
Birchcliff Energy Limited	Mining, Quarrying, & Oil & Gas Extraction	Broader Toronto Stock Exchange
Blackpearl Resources Incorporation	Mining, Quarrying, & Oil & Gas Extraction	Broader Toronto Stock Exchange
Freehold Royalties Limited	Mining, Quarrying, & Oil & Gas Extraction	Broader Toronto Stock Exchange
Kelt Exploration Ltd	Mining, Quarrying, & Oil & Gas Extraction	Broader Toronto Stock Exchange
Kinross Gold Corporation	Mining, Quarrying, & Oil & Gas Extraction	S&P/TSX Composite Index
Parkland Fuel Corp	Mining, Quarrying, & Oil & Gas Extraction	S&P/TSX Composite Index
Power Corporation of Canada	Mining, Quarrying, & Oil & Gas Extraction	S&P/TSX Composite Index
RAGING RIVER EXPLORATION INC.	Mining, Quarrying, & Oil & Gas Extraction	Broader Toronto Stock Exchange
Sabina Gold & Silver Corporation	Mining, Quarrying, & Oil & Gas Extraction	Broader Toronto Stock Exchange
Sherritt International Corporation	Mining, Quarrying, & Oil & Gas Extraction	Broader Toronto Stock Exchange
Touchstone Exploration Inc	Mining, Quarrying, & Oil & Gas Extraction	Broader Toronto Stock Exchange
Whitecap Resources Inc.	Mining, Quarrying, & Oil & Gas Extraction	S&P/TSX Composite Index
Cineplex Inc	Motion Picture & Sound Recording	S&P/TSX Composite Index
BRP INC	Motor Vehicle Manufacturing	S&P/TSX Composite Index
Magna International Inc.	Motor Vehicle Manufacturing	S&P/TSX Composite Index
NFI Group Inc	Motor Vehicle Manufacturing	S&P/TSX Composite Index
Husky Energy Inc.	Natural Gas Distribution	S&P/TSX Composite Index
Just Energy Income Fund	Natural Gas Distribution	Broader Toronto Stock Exchange
Keyera Corp.	Natural Gas Distribution	S&P/TSX Composite Index
Torstar Corporation	Newspaper, Periodical, & Book Publishers	Broader Toronto Stock Exchange
Advantage Oil & Gas Limited	Oil and Gas Extraction	Broader Toronto Stock Exchange
ARC Resources Ltd.	Oil and Gas Extraction	S&P/TSX Composite Index
Athabasca Oil Corporation	Oil and Gas Extraction	Broader Toronto Stock Exchange
BAYTEX ENERGY CORP.	Oil and Gas Extraction	Broader Toronto Stock Exchange
Bellatrix Exploration Ltd	Oil and Gas Extraction	Broader Toronto Stock Exchange

Company	Industry	Index
Bonterra Energy Corp	Oil and Gas Extraction	Broader Toronto Stock Exchange
Canadian Natural Resources Limited	Oil and Gas Extraction	S&P/TSX Composite Index
Cenovus Energy Inc	Oil and Gas Extraction	S&P/TSX Composite Index
Connacher Oil & Gas Limited	Oil and Gas Extraction	Broader Toronto Stock Exchange
Crescent Point Energy Corp.	Oil and Gas Extraction	S&P/TSX Composite Index
Crew Energy Inc	Oil and Gas Extraction	Broader Toronto Stock Exchange
EnCana Corporation	Oil and Gas Extraction	Broader Toronto Stock Exchange
Enerplus Corporation	Oil and Gas Extraction	S&P/TSX Composite Index
Ensign Energy Services Inc.	Oil and Gas Extraction	Broader Toronto Stock Exchange
Frontera Energy	Oil and Gas Extraction	Broader Toronto Stock Exchange
Gran Tierra Energy Inc	Oil and Gas Extraction	Broader Toronto Stock Exchange
Inter Pipeline Fund	Oil and Gas Extraction	S&P/TSX Composite Index
Iron Bridge Resources Inc	Oil and Gas Extraction	Broader Toronto Stock Exchange
Lightstream Resources Ltd	Oil and Gas Extraction	Broader Toronto Stock Exchange
Major Drilling Group Int'l Inc.	Oil and Gas Extraction	Broader Toronto Stock Exchange
MEG Energy Corp	Oil and Gas Extraction	S&P/TSX Composite Index
Niko Resources Ltd.	Oil and Gas Extraction	Broader Toronto Stock Exchange
Obsidian Energy Ltd.	Oil and Gas Extraction	Broader Toronto Stock Exchange
PAINTED PONY PETROLEUM LTD.	Oil and Gas Extraction	Broader Toronto Stock Exchange
Paramount Resources Ltd.	Oil and Gas Extraction	Broader Toronto Stock Exchange
Parex Resources Inc.	Oil and Gas Extraction	S&P/TSX Composite Index
Perpetual Energy Inc.	Oil and Gas Extraction	Broader Toronto Stock Exchange
Peyto Exploration & Development Corp.	Oil and Gas Extraction	Broader Toronto Stock Exchange
Precision Drilling Trust	Oil and Gas Extraction	Broader Toronto Stock Exchange
Seven Generations Energy Ltd	Oil and Gas Extraction	S&P/TSX Composite Index

Company	Industry	Index		
Suncor Energy Inc.	Oil and Gas Extraction	S&P/TSX Composite Index		
SURGE ENERGY INC.	Oil and Gas Extraction	Broader Toronto Stock Exchange		
TORC Oil & Gas Ltd	Oil and Gas Extraction	Broader Toronto Stock Exchange		
TOURMALINE OIL CORP	Oil and Gas Extraction	S&P/TSX Composite Index		
TRANSCANADA CORPORATION	Oil and Gas Extraction	Broader Toronto Stock Exchange		
TransGlobe Energy Corporation	Oil and Gas Extraction	Broader Toronto Stock Exchange		
Trican Well Service Ltd.	Oil and Gas Extraction	Broader Toronto Stock Exchange		
Vermilion Energy Trust	Oil and Gas Extraction	S&P/TSX Composite Index		
Finning International Inc.	Other Services	S&P/TSX Composite Index		
Transcontinental Inc.	Other Services	S&P/TSX Composite Index		
Cascades Inc	Paper Products	S&P/TSX Composite Index		
Catalyst Paper	Paper Products	Broader Toronto Stock Exchange		
Resolute Forest Products	Paper Products	Broader Toronto Stock Exchange		
Air Canada	Passenger Airlines	S&P/TSX Composite Index		
Chorus Aviation Inc	Passenger Airlines	Broader Toronto Stock Exchange		
WestJet Airlines Ltd.	Passenger Airlines	Broader Toronto Stock Exchange		
Canadian Oil Sands Trust	Petroleum Refineries	Broader Toronto Stock Exchange		
Imperial Oil Ltd	Petroleum Refineries	S&P/TSX Composite Index		
BAUSCH HEALTH COMPANIES INC.	Pharmaceutical & Medicine Manufacturing	S&P/TSX Composite Index		
Firstservice Corp.	Real Estate Financial Services	S&P/TSX Composite Index		
Black Diamond Group Ltd.	Real Estate Management & Development	Broader Toronto Stock Exchange		
Brookfield Asset Management Inc.	Real Estate Management & Development	S&P/TSX Composite Index		
DREAM Unlimited Corp.	Real Estate Management & Development	Broader Toronto Stock Exchange		
Empire Company Limited	Real Estate Management & Development	S&P/TSX Composite Index		
Artis Real Estate Investment Trust	REITs	S&P/TSX Composite Index		

Company	Industry	Index
Dream Office Real Estate Investment Trust	REITs	S&P/TSX Composite Index
Dundee Corp.	REITs	S&P/TSX Composite Index
AutoCanada Inc.	Retail	Broader Toronto Stock Exchange
First Capital Realty Inc	Retail	S&P/TSX Composite Index
Hudson's Bay Company	Retail	Broader Toronto Stock Exchange
LOBLAW	Retail	S&P/TSX Composite Index
lululemon athletica	Retail	Broader Toronto Stock Exchange
Ritchie Bros. Auctioneers Incorporated	Retail	S&P/TSX Composite Index
RONA Inc.	Retail	Broader Toronto Stock Exchange
Sears Canada Inc.	Retail	Broader Toronto Stock Exchange
Uni-Select	Retail	Broader Toronto Stock Exchange
Celestica Inc.	Semiconductor & Other Electronic Component Mfg.	S&P/TSX Composite Index
Constellation Software Inc.	Software & Internet	S&P/TSX Composite Index
Descartes Systems Group Inc	Software & Internet	S&P/TSX Composite Index
Open Text Corporation	Software & Internet	S&P/TSX Composite Index
Canadian Tire Corporation, Limited	Specialty Retail	S&P/TSX Composite Index
Reitmans (Canada) Limited	Specialty Retail	Broader Toronto Stock Exchange
Metro Inc	Supermarket, Food & Beverage Stores	S&P/TSX Composite Index
BCE Inc	Telecommunications	S&P/TSX Composite Index
Bell Aliant	Telecommunications	S&P/TSX Composite Index
Manitoba Telecom Services Inc.	Telecommunications	Broader Toronto Stock Exchange
Gildan Activewear Inc.	Textiles & Apparel	S&P/TSX Composite Index
Canadian National Railway Company	Trains, Trucks, Buses & Storage	S&P/TSX Composite Index
Canadian Pacific Railway Limited	Trains, Trucks, Buses & Storage	S&P/TSX Composite Index

Company	Industry	Index
Gibson Energy Inc.	Trains, Trucks, Buses & Storage	S&P/TSX Composite Index
Quebecor Inc	Trains, Trucks, Buses & Storage	S&P/TSX Composite Index
Transat A.T. Inc.	Travel, Recreation & Leisure	Broader Toronto Stock Exchange
Bonavista Energy Corporation	Trust, Fiduciary, & Custody Activities	Broader Toronto Stock Exchange
Pengrowth Corporation	Trust, Fiduciary, & Custody Activities	Broader Toronto Stock Exchange
Algonquin Power & Utilities	Utilities	S&P/TSX Composite Index
Altagas Limited	Utilities	S&P/TSX Composite Index
Detour Gold Corp.	Utilities	Broader Toronto Stock Exchange
Novagold Resources Inc	Utilities	S&P/TSX Composite Index
Shawcor Limited	Utilities	Broader Toronto Stock Exchange
Taseko Mines Limited	Utilities	Broader Toronto Stock Exchange
TELUS Corporation	Wired Telecommunications Carriers	S&P/TSX Composite Index
Rogers Communications Inc.	Wireless Telecommunications Carriers	S&P/TSX Composite Index

# Appendix 4 - Detailed Research Methodology

#### A4.1 Measuring Future firm performance

The future firm performance is measured by one of the commonly used measures in the literature, the buy-andhold abnormal return (BHAR). Following Farber (2005), we first calculate daily abnormal returns of a company relative to the S&P/TSX Composite Index. Annualized BHARs of a company are then calculated by summing the daily abnormal returns from one trading day to one calendar year after the date of the annual report.

#### A4.2 Measuring SPCR

We rely upon two SPCR measures that are widely used in the crash risk literature: i) negative coefficient of skewness; and ii) down-to-up volatility (Chen et al., 2001; Jin and Myers, 2006; Hutton et al., 2009). To calculate the crash risk measures, we first estimate firm-specific residual daily returns based on the following regression equation:

# (1) $r_{i,t} = a_i + \beta_{1,i}R_{M,t-1} + \beta_{2,i}R_{M,t} + \beta_{3,i}R_{M,t+1} + \varepsilon_{i,t}$

where  $r_{i,t}$  is the return of stock *i* on day *t*, while  $R_{M,t-1}$ ,  $R_{M,t}$ , and  $R_{M,t+1}$  are the market return on day *t*-1, day *t*, and day *t*+1, respectively. Market return is defined as the percentage return of the S&P/TSX Composite index in the Toronto Stock Exchange. We then measure the firm-specific daily return for stock *i* on day *t*,  $R_{i,t}$ , as the natural logarithm of one plus firm-specific residual daily return,  $\varepsilon_{i,t}$ :

(2) 
$$R_{i,t} = In(1 + \varepsilon_{i,t})$$

We estimate the first SPCR measure, "negative coefficient of skewness" ( $NCSKEW_{i,T}$ ), based on the following equation:

(3) NCSKEW<sub>*i*,*T*</sub> = 
$$\frac{-(n(n-1)^{3/2} \sum R_{i,t}^{3})}{((n-1)(n-2)(\sum R_{i,t}^{2})^{3/2})}$$

where *n* refers to the number of daily returns for stock *i* during year *T*. The second SPCR measure, "down-to-up volatility" ( $DUVOL_{i,T}$ ), is calculated as follows:

(4) 
$$DUVOL_{i,T} = log \left[ \frac{(n_u-1)}{(n_d-1)\sum_{u_p}R_{i,t}^2} \right]$$

where  $n_u$  and  $n_d$  denote the number of "up days" and "down days" for stock *i* during year *T*. For any stock *i* during year *T*, we categorize firm-specific daily returns into two groups. The first group, "up days", consists of daily returns that are above the mean during year *T*, while the second group, "down days", is composed of daily returns that are below the mean during the year. For both SPCR measures, a higher value indicates a higher level of crash risk.

As one of the research questions of this study examines the association between CSR and future SPCR, one-year ahead "negative coefficient of skewness" (NCSKEWi, T+1) and "down-to-up volatility" (DUVOLi, T+1) are used as the dependent variables in our regression analyses. This approach is also consistent with prior studies in the crash risk literature. (Chen et al., 2001; Jin and Myers, 2006; Hutton et al., 2009).

#### A4.3 Measuring CSR

CSR data for Canadian publicly listed companies are obtained from CSRHub. For each company, *CSR\_Overall* is used in the analysis of the first set of research questions in this study. In addition, *CSR\_Overall* is an aggregate score and composed of four main categories: i) Community (*CSR\_Community*), ii) Employees (*CSR\_Employees*), iii) Environment (*CSR\_Environment*), and iv) Governance (*CSR\_Governance*). The second set of research questions of this study involves the analysis of the scores for these four main categories. To better compare the CSR scores of an individual company with those of other Canadian companies, instead of using the raw CSR scores, we follow prior literature and standardize the scores for the CSR aggregate measure and each of the four main categories as follows (Kim et al., 2014):

#### (5) Standardized CSR score for firm i in year T =

(CSR score for firm i in year T-Min. CSR score among all firms in year T)

(Max.CSR score among all firms in year T-Min.CSR score among all firms in year T)

These standardized scores are used as explanatory variables in the regression analyses and denoted CSR\_Overall\_ Score, CSR\_Community\_Score, CSR\_Employees\_Score, CSR\_Environment\_Score, and CSR\_Governance\_Score.

#### A4.4 Model Specifications

#### A4.4.1 Relationship between Overall CSR Score and Future firm performance and SPCR

The first set of research questions examines the relationship between overall CSR score and future performance, as well as the relationship between overall CSR score and future SPCR, of Canadian publicly listed companies. We estimate the following ordinary least square regressions to answer our first set of research questions:

In (6), the buy-and-hold abnormal return ( $BHAR_{i,T}$ ) measure serves as the dependent variable, while the CSR

- (6)  $BHAR_{i,\tau} = a_i + \beta_1 CSR_Overall_Score_{i,\tau} + \beta_2 BM_{i,\tau} + \beta_3 MVE_{i,\tau} + \beta \Sigma_{\tau} YEAR + \beta \Sigma_{\tau} IND + \varepsilon_{i,\tau}$
- (7)  $SPCR_{i,T+1} = a_i + \beta_1 CSR_Overall_Score_{i,T} + \beta_2 MVE_{i,T} + \beta_3 MB_{i,T} + \beta_4 LEV_{i,T} + \beta_5 ROE_{i,T} + \beta_6 EM_{i,T} + \beta_7 DTURNOVER_{i,T} + \beta_8 SPCR_{i,T} + \beta_9 STDEV_{i,T} + \beta_{10} KUR_{i,T} + \beta_{11} RET_{i,T} + \beta_{\Sigma_T} YEAR + \beta_{\Sigma_T} IND + \varepsilon_{i,T}$

aggregate score (*CSR\_Overall\_Score*<sub>*i*,7</sub>) serves as the explanatory variable. Consistent with prior literature (Farber, 2005), we include two control variables,  $BM_{i,T}$  and  $MVE_{i,T}$ . The former refers to the book-to-market ratio of a firm, while the latter represents the natural log of the market capitalization of a corporation. In addition, the year and industry dummy variables are included to control for the year and industry fixed effects. A positive (negative) and statistically significant  $\beta_1$  in (6) signifies a positive (negative) association between overall CSR score and future firm performance.

In (7), the future SPCR measure serves as the dependent variable. Two measures of future SPCR are used: *NCSKEWi*, *T*+1 and *DUVOLi*, *T*+1. Similar to (6), the CSR aggregate score serves as the explanatory variable. Following prior studies in the crash risk literature (Callen and Fang, 2015; Andreou et al., 2016), we include several control variables.  $MVE_{i,T}$  is defined as the natural log of the market capitalization of a firm.  $MB_{i,T}$  refers to the market-tobook ratio of a company.  $LEV_{i,T}$  denotes leverage, which is defined as total liabilities divided by total assets of a firm.  $ROE_{i,T}$  represents the return on equity of a firm.  $EM_{i,T}$  is defined as the three-year moving sum of absolute discretionary accruals of a firm, which is used to capture earnings management.  $DTURNOVER_{i,T}$  refers to the difference between the average monthly stock turnover of a firm in a year and the average monthly turnover of the S&P/TSX Composite Index.  $SPCR_{i,T}$  is defined as the SPCR measure in the current year. Either the *NCSKEW*<sub>*i,T*</sub> or  $DUVOL_{i,T}$  measure is used, depending on the dependent variable.  $STDEV_{i,T}$  denotes the standard deviation of daily returns of a firm.  $KUR_{i,T}$  represents the kurtosis of daily returns of a firm.  $RET_{i,T}$  is defined as the cumulative daily returns of a firm. Additionally, the year and industry dummy variables are included to control for the year and industry fixed effects. A positive (negative) and statistically significant  $\beta_{T}$  in (7) signifies a positive (negative) association between overall CSR score and firm SPCR.

#### A4.4.2 Relationship between CSR Sub-Components and Future firm performance and SPCR

The second set of research questions studies the relationship between the scores of the four CSR sub-components and future performance, as well as the relationship between sub-component scores and future SPCR, of Canadian publicly listed companies. We estimate the following ordinary least square regressions to answer our first set of research questions:

- (8)  $BHAR_{i,T} = a_i + \beta_1 CSR\_Community\_Score_{i,T} + \beta_2 CSR\_Employees\_Score_{i,T}$ 
  - +  $\beta_3 CSR\_Environment\_Score_{i,\tau}$  +  $\beta_4 CSR\_Governance\_Score_{i,\tau}$  +  $\beta_5 BM_{i,\tau}$
  - +  $\beta_6 MVE_{i,\tau}$  +  $\beta \Sigma_{\tau} YEAR$  +  $\beta \Sigma_{\tau} / ND$  +  $\varepsilon_{i,\tau}$

(9)  $SPCR_{i,T+1} = a_i + \beta_1 CSR_Community_Score_{i,T} + \beta_2 CSR_Employees_Score_{i,T}$ 

- +  $\beta_3 CSR\_Environment\_Score_{i,\tau}$  +  $\beta_4 CSR\_Governance\_Score_{i,\tau}$  +  $\beta_5 MVE_{i,\tau}$
- +  $\beta_{6}MB_{i,T}$  +  $\beta_{7}LEV_{i,T}$  +  $\beta_{8}ROE_{i,T}$  +  $\beta_{9}EM_{i,T}$  +  $\beta_{10}DTURNOVER_{i,T}$  +  $\beta_{11}SPCR_{i,T}$
- +  $\beta_{12}STDEV_{i,T}$  +  $\beta_{13}KUR_{i,T}$  +  $\beta_{14}RET_{i,T}$  +  $\beta \Sigma_T YEAR$  +  $\beta \Sigma_T IND$  +  $\varepsilon_{i,T}$

In (8) and (9), the scores of the four CSR categories (*CSR\_Community\_Scorei,T, CSR\_Employees\_Scorei,T, CSR\_Environment\_Scorei,T,* and *CSR\_Governance\_Scorei,T*) serve as the explanatory variables. The independent variables and control variables are the same as those in (6) and (7). In (8) and (9), a positive (negative) and statistically significant  $\beta$ *1*,  $\beta$ *2*,  $\beta$ *3*, or  $\beta$ *4*, suggests a positive (negative) association between the respective CSR category and future firm performance and future SPCR, respectively.

# Appendix 5 - OLS Regression Results with Control Variable Values

Variables	Ν	Mean	Standard Deviation	Minimum	Maximum
Control Variables					
BMT	884	0.7842	0.8675	-0.5512	5.6716
MVET	884	22.0174	1.5081	18.0376	25.3213
MB <sub>T</sub>	884	2.5316	3.4238	-3.1312	25.2257
LEVT	884	0.5425	0.2274	0.0708	1.1475
ROET	884	0.0300	0.3559	-1.6201	1.7622
EM <sub>T</sub>	884	0.2960	0.8139	0.0000	6.1996
DTURNOVERT	884	0.0011	0.0229	-0.0833	0.0897
NCSKEWT	884	0.0534	1.1730	-6.7422	9.2813
DUVOLT	884	0.0374	0.4820	-2.1139	2.2146
STDEVT	884	0.0222	0.0149	0.0054	0.0897
KURT	884	5.5625	7.2235	0.1001	43.1596
RETT	884	-0.2194	0.4278	-1.8150	0.7508

#### Table 11 - Descriptive Statistics of Control Variables

	BHAR <sub>7</sub>		
Variables	Coefficient	t-stat	
Intercept	0.805***	2.67	
Explanatory Variable			
CSR_Overall_Score <sub>T</sub>	0.033	-0.60	
Control Variables			
MVET	-0.034***	-2.65	
BMT	0.0720***	3.78	
∑INDUSTRY	Yes		
∑YEAR	Yes		
N	884		
F-Sig	3.66***		
$R^2$	17.4 0%		

#### Table 12 - Relationship between Overall CSR Score and Future firm performance

#### Table 13 - Relationship between Overall CSR Score and Future SPCR

	NCSKEW	DUVOL <sub>T+1</sub>		
Variables	Coefficient	t-stat	Coefficient	t-stat
Intercept	-1.014	-0.80	-0.596	-1.23
Explanatory Variable				
CSR_Overall_Score <sub>T</sub>	-0.042	-0.21	0.019	0.25
Control Variables				
MVET	0.071	1.30	0.031	1.50
МВт	-0.016	-0.95	-0.005	-0.76
LEVT	0.667**	2.12	0.327***	2.72
ROET	-0.017	-0.10	0.058	0.94
EMT	-0.058	-0.75	-0.024	-0.83
DTURNOVERT	0.911	0.38	0.430	0.47
NCSKEWT	-0.002	-0.04		
DUVOLT			0.059	1.07
STDEVT	-9.113	-1.38	-2.854	-1.13
KURT	-0.009	-1.04	-0.001	-0.46
RETT	-0.012	-0.08	0.116*	1.72
∑INDUSTRY	Yes		Yes	
∑YEAR	Yes		Yes	
N	884		884	
F-Sig	1.67***		2.50***	
R <sup>2</sup>	10.20%		14.51%	

	BHAR	Т
Variables	Coefficient	t-stat
Intercept	0.785***	2.56
Explanatory Variables		
CSR_Community_Score <sub>T</sub>	0.077	0.81
CSR_Employees_Score <sub>T</sub>	0.008	0.09
CSR_Environment_Score <sub>T</sub>	-0.130*	-1.69
CSR_Governance_Score <sub>T</sub>	0.025	0.37
Control Variables		
MVET	-0.033**	-2.54
BMT	0.0732***	3.80
∑INDUSTRY	Yes	
∑YEAR	Yes	
Ν	884	
F-Sig	3.50***	
$R^2$	17.67%	

#### Table 14 - Relationship between Four CSR Categories and Future firm performance

#### Table 15 - Relationship between Four CSR Categories and Future SPCR

	NCSKEW	NCSKEW <sub>7+1</sub>			
Variables	Coefficient	t-stat	Coefficient	t-stat	
Intercept	-0.783	-0.61	-0.507	-1.03	
Explanatory Variable					
CSR_Community_Score⊤	-0.440	-1.24	-0.202	-1.49	
CSR_Employees_Score <sub>T</sub>	-0.075	-0.24	0.092	0.77	
CSR_Environment_Score <sub>T</sub>	0.654**	2.29	0.205*	1.88	
CSR_Governance_Score <sub>T</sub>	-0.336	-1.36	-0.118	-1.25	
Control Variables					
MVET	0.063	1.15	0.028	1.33	
MBT	-0.014	-0.82	-0.004	-0.59	
LEVT	0.636**	2.01	0.307**	2.54	
ROET	-0.013	-0.08	0.058	0.94	
EM <sub>T</sub>	-0.070	-0.90	-0.026	-0.88	
DTURNOVERT	0.634	0.27	0.341	0.37	
NCSKEWT	-0.002	-0.04			
DUVOLT			0.058	1.06	
STDEVT	-8.743	-1.32	-2.658	-1.04	
KURT	-0.009	-1.14	-0.002	-0.55	
RETT	0.005	0.03	0.120*	1.79	
∑INDUSTRY	Yes		Yes		
∑YEAR	Yes		Yes		
N	884		884		
F-Sig	1.71***		2.47***		
$R^2$	10.92%		15.03%		

# Appendix 6 - Results with Two Year Ahead Measures

	BHAR	BHAR <sub>T+2</sub>		NCSKEW <sub>7+2</sub>		DUVOL <sub>7+2</sub>	
Variables	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)	
Intercept	2.089*** (3.42)	* 2.010*** (3.26)	1.357 (0.97)	1.392 (0.99)	0.547 (1.49)	-0.540 (1.45)	
Explanatory Variables							
CSR_Overall_Score <sub>T</sub>	-0.247** (-2.30)	ĸ	-0.018 (-0.08)		0.010 (0.17)		
CSR_Community_Score <sub>T</sub>		0.188 (1.08)		-0.617* (-1.72)		-0.195** (-2.07)	
CSR_Employees_Score⊤		-0.181 (-1.15)		-0.236 (-0.73)		0.042 (0.49)	
CSR_Environment_Score <sub>T</sub>		-0.340** (-2.37)		0.903*** (3.07)		0.160** (2.06)	
CSR_Governance_Score <sub>T</sub>		0.015 (0.12)		-0.060 (-0.23)		-0.002 (-0.03)	
Control Variables							
MVET	-0.082*** (-3.12)	* -0.078*** (-2.93)	-0.050 (-0.83)	-0.052 (-0.86)	-0.024 (-1.48)	-0.023 (-1.45)	
BMT	0.0818** (2.44)	0.088*** (2.59)					
MBT			-0.021 (-1.18)	-0.020 (-1.11)	-0.009* (-1.98)	* -0.009** (-1.93)	
LEVT			1.083** (2.98)	1.076*** (2.96)	0.384*** (4.03)	0.369*** (3.85)	
ROET			-0.029 (-0.17)	-0.002 (-0.01)	-0.043 (-0.96)	-0.038 (-0.85)	
EM <sub>T</sub>			0.402 (1.37)	0.449 (1.54)	0.159** (2.06)	0.173** (2.26)	
DTURNOVERT			-0.626 (-0.32)	-1.228 (-0.62)	-1.428*** (-2.77)	-1.539*** (-2.98)	
NCSKEWT			0.494** <sup>;</sup> (10.60)	* 0.486*** (10.47)			
DUVOLT					0.704** <sup>,</sup> (14.06)	* 0.700*** (13.97)	
STDEVT			-14.709** (-2.08)	-13.641* (-1.93)	-1.491 (-0.79)	-1.153 (-0.61)	
KURT			0.006 (0.81)	0.005 (0.78)	-0.001 (-0.64)	-0.001 (-0.70)	
RETT			-0.153 (-1.31)	-0.115 (-0.98)	0.075** (2.11)	0.082** (2.31)	
∑INDUSTRY	Yes	Yes	Yes	Yes	Yes	Yes	
∑YEAR	Yes	Yes	Yes	Yes	Yes	Yes	
N	654	654	654	654	654	654	
F-Sig	3.45***	3.34***	6.88***	6.84***	12.73***	12.28***	
$R^2$	20.71%	21.33%	38.30%	39.55%	53.43%	54.00%	

# Table 16 - OLS Regression Results with Two Year Ahead Measures



# REPRICING RISK IN THE TIMES OF COVID-19

# REPRICING RISK IN THE TIMES OF COVID-19

# Thoughts and questions for the valuation community and interested stakeholders

Alana Geller, CPA, CA, CBV, CFF

# **Author's Foreword:**

This article was written over the course of the summer and completed in August 2020, before the second wave of pandemic impacted much of the developed world and before the 2020 US election.

We have not amended the article for these and other factors relevant at the date of printing. However, at the time of proofing this for publication in mid-October, the same valuation perspectives remain relevant, namely:

- Amplification and acceleration of pre-existing trends;
- Acceleration of growth in digital, internet and related businesses;
- Continued low interest rates and widening spreads for risky assets;
- The market's willingness to look ahead to a new normal at modest discount rates;
- Extraordinary dependence on subsidies and government stimulus;

- Gap between winners and losers continues to widen;
- Irrecoverable loss of value in various service, commercial and retail sectors;
- The implications of the disconnect between wall street and main street are unknown at this time;
- The timing and effective dissemination of a vaccine is closer now than in March 2020, and remarkable strides have been made, but timing remains unclear;
- The "new normal" remains undefined.

Considering these and other factors, there remains an important role for the valuation profession in these unprecedented times.

Warren Buffett said, "Risk comes from not knowing what you are doing". In volatile times like these, there are many unknowns and variables that give rise to significant valuation risks and opportunities.

Since March 2020, certain industries have been hit hard, some have demonstrated resilience and others have enjoyed accelerated growth. Industry and company-specific factors must be applied to more generic inputs to produce a sound valuation analysis. The discounted cash flow (DCF) method should be the primary approach during this period.

When markets are in turmoil, what is the meaning of "fair" in the definition of fair market value (FMV)? If markets were temporarily rendered illiquid and inefficient, should the prohibition against hindsight evidence be relaxed to help the valuator arrive at a better valuation conclusion?

We hope this article will help you explore these and related ideas - and as always help distinguish value from price.

# The COVID-19 Landscape

#### What was known or knowable and what did the market say?

Value is determined as at a point in time. Understanding how a company may have been impacted at the valuation date is a function of facts, known or knowable, and expectations only at that point in time. Table 1 maps out key events since the start of 2020 and illustrates the volatility of public stock indices and the spread of publicly traded BBB corporate bonds over US treasury notes:

#### Table 1: The COVID-19 Timeline



Sources: S&P Capital IQ, Yahoo Finance, Duff & Phelps, James R. Hitchner's Valuation Products and Services and CMAJ News.

At the time of writing, some indices had rebounded to pre-COVID levels, but a second wave and subsequent volatility remain a possibility. History has shown that private markets are not as volatile as public ones, and we believe this remains true during the pandemic. Public market data during COVID, as it applies to private company valuation, must therefore be used with greater caution and professional skepticism.

The rebound of the stock and credit markets following the low in March 2020 was meaningfully bolstered by remarkable government stimulus, particularly in Canada and the US. The level of funding provided and the impact on the economic environment could not have been predicted at the outset of the pandemic. Further, at the time of writing, it is difficult to predict the level of government stimulus that will persist and its impact on corporations, industries and the macro economic climate.

There were many pre-existing social, business, industry and technological trends occurring simultaneously

with the pandemic; many of these were accelerated or more pronounced as a result of the pandemic. Trends such as the continued shift and greater emphasis towards online shopping, remote working and learning, the concern for sustainable environmental practices and migration away from fossil fuels. Simultaneously, there were important world events which had a dramatic impact across virtually all industries and economies, including: the Saudi Arabia/Russian oil crisis, trade issues with China, low interest rates, increasing nationalism, and ballooning sovereign debt. During the height of the pandemic, North American and European equity and credit markets were in flux and private and public deal volume was down. There have been some signs of stabilization in recent months, and deal activity has also been picking up as of late. The Canadian dollar has also rebounded to pre-pandemic levels (Table 2).





#### Source: Bank of Canada

Are these trends and concerns temporary or permanent? How should a business valuator account for them? COVID-19 and other factors resulted in a sharp decrease in the GDP outlook, which is anticipated to rebound in 2021 and return to normalcy in 2022 (Table 3). Key lending rates all fell in March 2020 with no rebound to August 2020 (Table 4). At the same time, yields on corporate bonds have fallen since their high in March 2020. These factors, along with fears of a second wave of COVID-19 are real, and potential consequences of this wave and other trends and events need to be considered when determining FMV.

#### Table 3: GDP and Inflation Outlook



**INFLATION:** As a result of COVID-19 and other factors, Canadian and US inflation rates were forecasted to fall by 120bp and return to normalcy by 2022.

– Jan-20 Inflation Forecast

Aug-20 Inflation Forecast

Source: Bloomberg

**GDP:** COVID-19 and other factors resulted in a sharp decrease in the GDP outlook which is anticipated to rebound in 2021 and return to normalcy in 2022.

- Jan-20 GDP Forecast
- Aug-20 GDP Forecast

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Table 4: Canadian Prime and 30-Year US BBB Rates



Sources: S&P Capital IQ, Bank of Canada

#### Acceleration of pre-existing trends - temporary or permanent?

It's been discussed at length, but in short: depressed sales, supply chain upset, massive layoffs for some, while others are experiencing a surge in demand now more than ever and face new challenges as they try to scale up. We are seeing dramatically different sectoral performance and trends, but there are significant differences in how companies within the same industry have dealt with the challenges that they face. Whatever the result, there is often a significant impact to FMV which cannot be overlooked, and company-specific analysis remains important.

Is it a trend? Or here to stay? COVID-19 has impacted almost all aspects of our lives:

How we eat:	How we work:	How we interact and learn:
• Uber Eats vs. restaurant dining	• Zoom / WebEx vs. large office	• Virtual vs. live cocktail party,
How we shop:	footprint and business travel	sporting events, concerts
<ul> <li>Online vs. bricks and mortar</li> </ul>	Human operator vs. robotics	• "A surveillance society" vs. a private
	Paper vs. cloud storage	one
		<ul> <li>On-line vs. at school / work learning</li> </ul>

#### Where are we at? Where are we going?

Overall, based on market data: the number of transactions in Canada is down approximately 40% based on a yearover-year comparison from March 1 to July 31, 2020.<sup>1</sup>

1 S&P Capital IQ, based on announced and closed deals with value greater than \$5M, excluding real estate and resources.

The following insights are based on an informal survey of institutions, PE / VC Funds and family offices in May/June 2020 and our own observations:

#### Impact to transactions in-progress:

- Many deals on-hold or cancelled (some revived since late May)
- Highly strategic, high-quality deals completed as planned or slight price reduction (5-10% of EV) (exceptions for highly impacted companies)
- Increased use of non-cash consideration to bridge buyer / seller expectations or financing shortfall including longer-term earnouts
- In some cases, equity sponsor increasing investment to make up for less available financing and to increase resiliency and staying power
- Banks requesting to delay transaction want to see impact to cash flow for a few months before committing to financing

#### Impact to new deals:

- Key factors when assessing business: liquidity, flexibility, innovation, strong management team
- Only better-quality deals are happening, certain industries are being avoided due to poor visibility and upheaval
- More likely to do tuck-in than venture to new space better visibility, know the players
- Financing easier than Great Recession, but harder than pre-pandemic
- Discounted cash flow (DCF) scenario analysis is key to pricing / investment thesis

Table 5 illustrates how the S&P 500 performed during past crises – it has taken two to seven years to recover in the past, far longer than the time to crash, and there may be many waves up and down before the recovery is complete.



Source: S&P Capital IQ

# Industry: the Good, the Bad, and the Ugly

Not surprisingly, between mid-February to August 2020, pharma and biotech has more than recovered while energy and travel are still very depressed. It is important to remember though, that stats for any industry are just averages. Some companies will prevail through innovation, flexibility / ability to pivot, access to liquidity and other factors, while others will perform worse than their peers. Perhaps most importantly, the market is not a good proxy for intrinsic value. It does help with some directional impact, but company-specific analysis and an assessment of company-specific factors are of utmost importance.




### Source: Bloomberg

Table 7 summarizes the evolution of multiples by industry. By May 31, 2020, multiples for sectors impacted less by the pandemic had recovered and by August 31, 2020, multiples had recovered for almost all industries. That said, earnings were significantly down for many industries leading to overall lower valuations (with some exceptions). Trading multiples should be viewed with skepticism.

### Table 7: Impact on industries: Evolution of market multiples

					% Change		
S&P 500 Multiples (avg.)	29-Feb-20	31-Mar-20	31-Ma y-20	21- Aug-20	Mar vs. Feb	May vs. Feb	Aug vs. Feb
TEV/LTM EBITDA							
Technology	23.2x	20.6x	25.1x	25.9x	-11%	8%	11%
Hotels, Casinos & Cruises	11.3x	8.2x	11.1x	23.0x	-28%	-2%	103%
Real Estate	20.8x	18.1x	19.3x	20.2x	-13%	-7%	-3%
Pharma, Biotech & Life Sciences	17.4x	17.1x	18.9x	19.2x	-2%	9%	10%
Food Retail & Prod. and Household	13.9x	13.0x	15.4x	16.7x	-7%	11%	20%
Insurance	9.9x	8.3x	12.2x	13.9x	-16%	23%	40%
Banks (Market Cap/LTM EBT)	7.8x	5.5x	7.2x	9.5x	-30%	-7%	22%
Energy	8.0x	5.5x	6.2x	9.4x	-31%	-22%	17%
Airlines	3.6x	2.8x	3.4x	7.8x	-23%	-6%	115%
TEV/LTM Revenue							
Real Estate	12.5x	11.0x	11.7x	11.9x	-12%	-7%	-5%
Technology	6.3x	5.6x	6.9x	7.2x	-11%	9%	14%
Pharma, Biotech & Life Sciences	5.5x	5.5x	6.3x	6.4x	-1%	14%	16%
Hotels, Casinos & Cruises	4.4x	3.2x	3.9x	5.5x	-28%	-10%	25%
Food Retail & Prod. and Household	3.3x	3.1x	3.3x	3.6x	-7%	2%	10%
Banks (Market Cap/LTM Revenue)	3.0x	2.1x	2.5x	2.7x	-29%	-15%	-11%
Energy	2.4x	1.8x	2.1x	2.4x	-26%	-11%	-1%
Insurance	1.9x	1.6x	1.7x	1.8x	-16%	-8%	-5%
Airlines	0.9x	0.7x	0.8x	1.0x	-23%	-14%	11%

### Source: S&P Capital IQ.

For example: Table 8 shows the S&P Retail Index against Lululemon – which many of us have been sporting as our new remote working attire – versus Under Amour, a brand that was struggling pre-pandemic and has seen an accelerated negative trend:





### Source: S&P Capital IQ

This further exemplifies that the struggles companies experienced pre-pandemic were further exacerbated during/ after the pandemic.

### Value Definition and the Use of Hindsight

When markets are illiquid or inefficient, it is important to understand how 'fair' modifies the definition of FMV and whether there is legitimate use of hindsight beyond the testing of the reasonability of assumptions as permitted by the hindsight principle.

When the target business and the valuation date circumstances are more uncertain than normal, assumptions in notional valuations will be equally uncertain. The more risk in the business generating the cash flow, the more risk that the valuation result is flawed.

### What is 'fair'?

How does the word 'fair' modify 'market' and 'value' in times of turbulence and market volatility? Are quoted market prices indicative of a fair value and / or fair market? Case law certainly opens the door that quoted market prices and the volatility of the market are not necessarily equal to FMV or fair value. Several definitions of FMV suggest market data from consistent markets should be given much more weight than when drawn from markets in flux. One definition of FMV is "the value obtained in a normal market, that is, a market which is not disturbed by unusual economic factors and where vendors, ready but not too anxious to sell, meet with purchasers ready and able to purchase."<sup>2</sup> To further quote case law: "market price must have some consistency and not be the effect of a transient boom or a sudden panic on the market".<sup>3</sup>

<sup>2</sup> Withycombe Estate / Attorney-General of Alberta v. Royal Trust Co., 1945

<sup>3</sup> Estate of Isaac Untermeyer v. Attorney-General for the Province of B.C.,1928.

Will the pandemic's impact on stock prices be considered a "transient boom or sudden panic" on the market or a long-awaited correction? As earlier discussed, it is important to distinguish "transient boom or sudden panic" effects from more permanent effects for which the pandemic was only a catalyst. Price volatility alone does not preclude a market from being deemed consistent; a distinction can and should be drawn between normal volatility - say in the technology, pharma or mining industries as the result of a resource discovery or significant innovation in contrast to a "transient boom" based on fear mongering and emotions as might have been evident during the pandemic.<sup>4</sup> A global, panic driven sell-off may result in selling prices that are not equal to FMV.

### What does the case law say about hindsight?

"Hindsight or retrospective evidence is the consideration of facts and events occurring after a specific date in question, such as a valuation date or breach date".<sup>5</sup>

Jurisprudence validates the hindsight principle: "I expressly rejected the validity of hindsight as probative of fair market value at a given date and took nothing that occurred after Valuation Day into account."<sup>6</sup> In notional business valuations, courts have generally held that hindsight evidence cannot be used except to test the validity/ reasonableness of assumptions at the valuation date and / or obtain a better understanding of facts or conditions which were known or knowable at the valuation date – i.e. the "hindsight principle".

However, in the rare circumstances where there is no other data available, exceptions have been made: "Since the market for artwork experienced such significant changes within a short period of time before and after the financial crisis, the Court found that such factors must be taken into account in determining an appropriate value for the three paintings."<sup>7</sup>

When there is a lack of good quality data, is hindsight a means of mitigating an inefficient market? If so, its appropriate use might be limited. Consider the following:

- How long is the period, post-valuation date, during which it is appropriate to consider hindsight information? We believe a few months may be permissible. For example, for a March to May 2020 valuation / damages dates, the subsequent market rebound might be a permitted use of hindsight.
- When valuing a business at a Spring valuation date, could the valuator rely on hindsight data from the Fall to confirm "second wave" effects? It seems to us that in the Spring of 2020 the second wave was a real risk that has to be assessed as one could best do at that time. However, the occurrence (or not) of an actual second wave, is too long past the Spring valuation date to be considered in the valuation.

Other cases and commentary that address the use of hindsight are set out in the Appendix.

For the purposes of quantification of damages, facts and information related to the period after the alleged wrongdoing are generally admissible<sup>8</sup>. Damages are compensatory by nature and seek to place the injured party in the same position that it would have enjoyed but for the wrongdoing. Simplistically, the quantum reflects "what would have happened" less "what actually happened". What "actually happened" will reflect events that occurred after the damages date. Therefore, it is appropriate to consider hindsight data when determining "what would have happened." "Hypothesis should not replace history".<sup>9</sup>

<sup>4</sup> Henderson Estate v. Minister of National Revenue, 1975.

<sup>5</sup> CBV Institute

<sup>6</sup> The Queen v. National System of Baking Alberta Ltd., 1978. Other similar cases include Holt v. IRC, 1953, Dailley Recreational Services Ltd. V. MNR, 1984, Airst v. Airst, 1998.

<sup>7</sup> Estate of Bernice Newberger, et al., v. Commissioner of Internal Revenue.

<sup>8 &</sup>quot;Is Hindsight Admissible in Business Valuation?" (Wise, Blackman, LLP, 2006)

<sup>9 &</sup>quot;The Use of Hindsight in Damages Quantification - Beware a Valuation Approach" (Steger, 1999)

### Impact to Methodology and Cost of Capital During COVID-19

### Where to start?

A thoughtful discussion is a good place to begin, which will help the valuator assess the impact of the pandemic on the subject business:

- 1. The business plan how was it updated, who was involved, was it stress tested?
- 2. Customers and suppliers evaluate health, pipeline, and various risks and opportunities.
- 3. Products and services (availability, volumes, price) consider supply chain upset, impact to pricing, demand.
- 4. Operations changes to key overhead costs, impact of government assistance programs.
- 5. Liquidity cash runway, covenants, collateral assessment, working capital requirements.
- 6. Profitability when is the company expected to return to the pre-COVID-19 level of profitability? What is the expected impact on long-term profitability?

The answers to the above questions will help determine the appropriate valuation approach and point the analysis in the right direction.

### Selecting an approach

We believe a cash flow-based model accompanied by thoughtful sensitivity or scenario analysis is essential when preparing a valuation in a time of financial crisis. Consider the following:

- Income Approach:
  - DCF is a preferred approach but major pitfall is a lack of good quality projections.
  - Capitalized cash flow or income methods are suspect as the "normal/sustainable" cash flow or income to be capitalized may be difficult to determine. Relevance of trailing twelve months must be carefully considered and synchronized with the right multiple or discount rate. It is almost impossible to capture the potential volatility of the recovery to "normal" using capitalization rates or multiples.
  - Some analysts are assuming a return to 'normal profits' within six to 24 months and discounting back to the valuation date, specifically adjusting for interim profit / loss. While this approach seems reasonable, it introduces a further element of uncertainty.
- Market Approach is still appropriate in the current environment, however, anomalous inputs, the thin market and comparability must be very carefully considered.
- Asset approach often relies on historical data which may be outdated. Further, use caution with reliance on reports qualified due to the pandemic and related matters.

### Effects of depressed cash flow

Does one or two poor years matter? In a time where buyers are seeking discounts and quality sellers are holding firm on price, who has it right? Table 9 illustrates how one or two years of poor performance can have a significant downward impact on value. The impact on equity value would be much more significant if the business were levered.

### Table 9: Simplistic effects of depressed cash flow

Impact of Delayed or Depressed Cash Flow	Pre-Pandemic	Pandemic - most likely	Pandemic - worse
Year 0 (Pre-Pandemic)	100	100	100
Year 1	100	0	-50
Year 2	3% giowth	0	-50
Year 3	3% giowth	103	103
Terminal	3% glowth	3% gøwth	3% glowth
NPV	1,667	1,445	1,357
Change from Pre-Pandemic:			
\$ NPV Variance	-	(222)	(310)
% NPV Variance	0%	-13%	-19%

These are simple scenarios for illustrative purposes. Scenarios should thoughtfully contemplate various economic, industry and company-specific outcomes including access to liquidity to fund potential negative cash flows.

Access to liquidity is key and could have a significant impact on value. Access to financing was initially expected to be very constrained but governments have provided enormous liquidity to the debt markets and corporate lending to larger entities has been much easier than anticipated. Lending to smaller businesses has been and was predicted to be more sporadic and constrained.

### Impact on rates of return to be used in business valuations

Both sector and company-specific factors must be considered. Many thought leaders continue to use spot interest rates to determine rates of return but have offset this reduction with an increase to the equity risk premium (Table 10). Despite decreased spot interest rates, spreads have increased, resulting in a higher cost of debt. As a result, for some companies but not all, discount rates have trended higher.

Consider using a lower level of "optimal" debt to allow for a greater operational financing cushion. It is best practice to adjust both the cash flow and the rates of return and ensure that the two are properly calibrated to capture risk appropriately.

### Table 10 - Risk-Free Rate and Equity Risk Premium Survey

Source	Risk-Free Rate	Increase in ERP Jan 2020 to Aug 2020
Duff & Phelps	LT Bond	No change
Duff & Phelps	Normalized*	100bps
Damodaran	n/a	37bps**
Fernandez	n/a	Not updated
Chris Mercer	n/a	100bps
Informal Professional Survey	LT Bond	Obps - 150bps
Survey of PE/VC	LT Bond	0-100bps

\* Normalized risk-free rate decreased from 3.0% to 2.5% as at June 30, 2020.

\*\* 75bps as of May 2020.

### Marketability Discounts are Likely Impacted by Covid-19, at Least in the Short-Term

While each investment needs to be assessed using specific facts and, when assessing marketability discounts for minority interests, context is very important. Since February 2020, we believe, in general, that marketability discounts have increased as a result of the factors below – albeit partially offset by a lower risk-free rate of interest:

- Decreased access to financing for the underlying business and the purchase of the minority position itself.
- Decreased M+A activity and a reduced pool of willing buyers.
- Increased supply side of secondary investments as institutions seek to divest to rebalance and / or meet regulatory requirements.
- Reduced expected profitability, cash flow and longer realization timelines.
- Increased perceived risk and demand of higher returns.

Notwithstanding the above, over time, a prolonged period of low interest rates, a lack of investment opportunities, large amounts of investable cash available and comfort with risk may moderate the marketability discount range.

### **In Summary**

Whether for a notional or transaction-oriented valuation, companies and valuators should take the time to prepare and assess the company's projections to understand how the company is most likely to weather the pandemic. While market data may be directionally helpful, deep forward-looking company-specific analysis is key to arriving at a reasonable and thoughtful conclusion.

This article was written with contributions from Richter LLP's Business Valuation and Dispute Advisory Group.

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The opinions expressed in this article are solely those of the authors and not necessarily those of Richter or the CBV Institute. Richter does not guarantee the accuracy or reliability of the information provided herein and the views and opinions expressed herein may change. The information herein was compiled as of August 21, 2020 or as noted; some information may have changed since that date.

### Appendix: Fair Market Value Vs. Market Value

"Fair Market Value" ("FMV") is defined as "the highest price, expressed in terms of cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arm's length in an open and unrestricted market when neither is under compulsion to buy or sell and when both have reasonable knowledge of the relevant facts".

FMV is not specifically defined in the Income Tax Act.

"**Market Value**" refers to the current or most recently-quoted price for a market-traded security. It can also refer to the most probable price an asset, like a house, would fetch on the open market.

Bellow, we summarize definitions of FMV that can be found in jurisprudence.

### **Appendix: Additional FMV References in Jurisprudence**

- "Where there is a ready market for shares such as the stock exchanges provides for its listed shares, **the market price**, as revealed in regular market quotations, is probably the best but not necessarily the only indication of **value**." (*Minister of Finance v. Mann Estate*, 1972).
- "The expression "fair market value" is well known in law and, indeed, there is little dispute before me as to
  the definition of the term...I do not intend to quote at length from these authorities, but it is clear, from an
  examination of them, that the expression "fair market value" means the exchange value, the value an asset
  will bring in the market and, where no market exists, that value must be determined by other indicia of
  value." (Minister of Finance v. Mann Estate, 1972, Grimes v. The Queen, 2016 TCC 280, and others).
- "In determining the fair market value where there is no competitive market at the date as of which the value is to be ascertained, other indicia may be resorted to...There may be reasonable prospects of the return of a market, in which case it might not be unreasonable for the assessor to evaluate the present worth of such prospects and the probability of an investor being found who would invest his money on the strength of such prospects; and there may be other relevant circumstances which it might be proper to take into account as evidence of its actual capital value." (Smith v. Minister of National Revenue, [1950] S.C.R. 602, Montreal Island Power Co. v. Town of Laval des Rapides, and others).
- "Canadian Courts have generally considered the word "value" when it is contained in legislation, regulations, contracts and other legal documents to be synonymous with market value or fair market value." (Pocklington v. Alberta (Provincial Treasurer), 1998 ABQB 279).

### Appendix: Other Cases and Commentary that Support Use of Hindsight

- "For purposes of determining fair market value, we believe it appropriate to consider sales of properties occurring subsequent to the valuation date if the properties involved are indeed comparable to the subject properties'....Of course, appropriate adjustments must be made to take account of differences between the valuation date and the dates of the later-occurring events....When viewed in this light—as evidence of value rather than as something that affects value—later-occurring events are no more to be ignored than earlieroccurring events". (Estate of Jung v. Commissioner, 101 T.C. 412, 431-432 (1993)).
- "Courts have not been reluctant to admit evidence of actual sales prices received for property after the date of death, so long as the sale occurred within a reasonable time after death and no intervening events drastically changed the value of the property" (*First National Bank v. United States, 763 F2d 891 (7th Cir. 1985)*).
- "When a subsequent event such as the third sale before us is used to set the fair market value of property as of an earlier date, adjustments should be made to the sale price to account for the passage of time as well as to reflect any change in the setting from the date of valuation to the date of the sale...These adjustments are necessary to reflect happenings between the two dates which would affect the later sale price vis-a-vis a hypothetical sale on the earlier date of valuation. These happenings include: (1) Inflation, (2) changes in the relevant industry and the expectations for that industry, (3) changes in business component results, (4) changes in technology, macroeconomics, or tax law, and (5) the occurrence or nonoccurrence of any event which a hypothetical reasonable buyer or a hypothetical reasonable seller would conclude would affect the selling price of the property subject to valuation (e.g., the death of a key employee)". (Estate of Helen M. Noble, v. Commissioner (Noble), T.C. Memo 2005-2 (January 6, 2005)).
- "Referencing appropriate transactions is a critical facet of the Market Approach to valuations. Particularly when valuing the stock of closely held companies, guideline transactions can shed useful light on the value of the subject company. There is established legal precedent in the tax court for valuation practitioners to take into account certain events taking place following the valuation date; however, in such cases the amount of time that has passed matters. The decision in the referenced Noble v. Commissioner case stated that "in determining the value of unlisted stocks, actual sales made in reasonable amount at arm's length, in the normal course of business, within a reasonable time before or after the basic date, are the best criterion of market value". (*Flieger, S. (2016). Case In Point: Valuation Case: "Time Changes Everything"*).
- "While there were several court conclusions, with regard to the valuation issues the court found little merit in Sumner's expert's "engrafting method" arguing in particular that citing a reference transaction from 1984 was not particularly relevant to a valuation date of July 1972. The court found that not only had too much time passed in general, but too much had changed for NAI and the industry as a whole in the interim 12 years for reliance on a redemption price from 1984. The court agreed with the tax court's expert opinion that the June 1972 settlement agreement was the more relevant transaction". (Flieger, S. (2016). Case In Point: Valuation Case: "Time Changes Everything").

- "The Court extensively reviewed the issue of hindsight and American jurisprudence before ruling. Relying
  on a judgment by the Court of Appeal for the Eighth Circuit which held that, in determining the value of
  unlisted stocks, actual sales made within a reasonable time before or after the valuation date were the best
  criteria of market value. The Tax Court did not consider the two sales made prior to the valuation date to be
  comparable transactions due to the size of the shareholdings. The sale of the actual 11.6% interest subsequent
  to the valuation date was the most relevant comparable transaction since it was for the exact shares under
  consideration. The Court found no material changes in the circumstances of Glenwood between the
  valuation date and the subsequent sale, concluding that an "event occurring after the valuation date, even
  if unforeseeable as of the valuation date, also may be probative of the earlier valuation to the extent
  that it is relevant to establishing the amount that a hypothetical buyer would have paid a hypothetical
  willing seller for the subject property as of the evaluation date."" (Canadian Institute of Chartered Business
  Valuators, Valuation Casebook (2015). Noble Estate of Helen M. Noble v. Tax Commissioner of Internal
  Revenue 2005 T.C. Memo United States Tax Court (p.331).
- "Opening the door to the routine analysis of subsequent transactions as providing evidence of valuation at earlier dates would seem to fly in the face of the basic intent of the fair market value standard of value... The questions and issues raised by Estate of Noble are important for appraisers and for taxpayers. Regarding subsequent transactions, it would seem that appraisers and the Tax Court should focus on events known or reasonably foreseeable as of the valuation date as the basic standard for fair market value determinations. Any other approach would seem to raise more questions than can be answered, and would seem to place at least one party in a valuation dispute at a distinct disadvantage." (Mercer Capital, When Is Fair Market Value Determined? Estate of Helen M. Noble v. Commissioner.).

### **Appendix: Scope of Review**

We reviewed and relied upon, as appropriate, information contained in the following documents and interviews:

### COVID-19 Landscape

COVID-19 Timeline: Impact to S&P 500 and Debt Spreads, What Was Known or Knowable at the Valuation Date?:

- Duff & Phelps's webinar "Coronavirus: Cost of Capital Considerations in the Current Environment" presented by Carla S. Nunes, Managing Director, and James P. Harrington, Director, on April 16, 2020;
- Valuation Products and Services LLC's "COVID-19: A timeline of Significant Events, Including the Pandemic's Effect on the U.S. Stock Market" prepared by James R. Hitchner, CEO and Karen A. Warner, Managing Editor; and
- 3. CMAJ News's "COVID-19: Recent Updates on the Coronavirus Pandemic", Lauren Vogel and Laura Eggertson, May 29, 2020.

### Value Definitions and the Use of Hindsight

Fair Market Value vs. Market Value:

- 1. Withycombe Estate / Attorney-General of Alberta v. Royal Trust Co., 1945 CanLII 22 (SCC), [1945] SCR 267;
- 2. Untermeyer Estate v. Attorney General for British Columbia, 1928 CanLII 43 (SCC), [1929] SCR 84; and
- 3. Henderson v. Minister of National Revenue, 1973 CarswellNat 189, [1973] C.T.C. 636, 73 D.T.C. 5471 (Federal Court—Trial Division).

Use of Hindsight - General Application in Valuation and Damages:

- 1. The Canadian Institute of Chartered Business Valuators (CBV Institute) Valuation Casebook, 2015;
- Wise, Blackman LLP's Value Wise, Volume 1, No. 1, "Is Hindsight Admissible in Business Valuation?", April 2006; and
- 3. CBV Institute, Business Valuation Digest "The Use of Hindsight in Damages Quantification Beware a Valuation Approach", by Peter Steger (Steger, 1999).

Use of Hindsight in FMV During COVID-19, What Can be Learned From Case Law?:

- National System of Baking of Alberta Limited v. Her Majesty The Queen (1978 DTC 6018 Federal Court, Trial Division, 1980 DTC 6178 – Federal Court of Appeal);
- 2. Holt v Inland Revenue Commissioners 1 W.L.R. 1488 (25 November 1953);
- 3. Dailley Recreational Services Ltd. v. Minister of National Revenue (1984 D.T.C. 1680 Tax Court of Canada);
- Canadian Institute of Chartered Business Valuators, Valuation Casebook (2015): Airst v. Airst (1998 O.J. No.
   2629 Ontario Court of Justice) (p.12);
- 5. Estate of Jung v. Commissioner, 101 T.C. 412, 431-432 (1993); and
- 6. Flieger, S. (2016). "Case In Point: Hindsight in Valuation? No. Yes. Maybe".

### Impact to Methodology and Cost of Capital During COVID-19

Marketability Discounts Are Likely Impacted by COVID-19, at Least in the Short-Term:

 Chris Mercer Useful Business Valuation Information & Insights "What is the Impact of the COVID-19 Crisis on Marketability Discounts (DLOMs)?", by Chris Mercer, May 18, 2020.

Cost of Equity - Risk Free Rate is Down, Other Factors are Case Specific:

- 1. "Implied ERP by Month for Previous Months" as of June 2020 by Aswath Damodaran at www.pages.stern.nyu.edu;
- IESE Business School, "Survey: Market Risk Premium and Risk-Free Rate used for 81 Countries in 2020" by Pablo Fernandez, Professor of Finance, Eduardo de Appelaniz, Research Assistant and Javier F. Acin, Independent Researcher, March 25, 2020;
- 3. Chris Mercer Useful Business Valuation Information & Insights "What is the Impact of the COVID-19 Crisis on Marketability Discounts (DLOMs)?", by Chris Mercer, May 18, 2020; and
- KPMG's "Survey Results: Valuation Inputs and Assumptions Amid COVID-19 Uncertainty (Q1 2020)", May 12, 2020.

### Appendices

Appendix: Additional FMV References in Jurisprudence:

- 1. Minister of Finance v. Mann Estate, 1972;
- 2. Grimes v. The Queen, 2016 TCC 280;
- 3. Smith v. Minister of National Revenue, [1950] S.C.R. 602 and Montreal Island Power Co. v. Town of Laval des Rapides; and
- 4. Pocklington v. Alberta (Provincial Treasurer), 1998 ABQB 279.

Appendix: Other Cases and Commentary that Support Use of Hindsight:

- 1. Estate of Jung v. Commissioner, 101 T.C. 412, 431-432 (1993);
- 2. First National Bank v. United States, 763 F2d 891 (7th Cir. 1985);
- 3. Estate of Helen M. Noble, v. Commissioner (Noble), T.C. Memo 2005-2 (January 6, 2005);
- 4. Flieger, S. (2016). "Case In Point: Valuation Case: Time Changes Everything";
- Canadian Institute of Chartered Business Valuators, Valuation Casebook (2015): Estate of Helen M. Noble v. Tax Commissioner of Internal Revenue 2005 T.C. Memo – United States Tax Court (p.331); and
- 6. Mercer Capital, When Is Fair Market Value Determined? Estate of Helen M. Noble v. Commissioner.

We also reviewed other publicly available information such as S&P Capital IQ, Yahoo Finance, Bloomberg, Bank of Canada, Federal Reserve, The Conference Board of Canada and CEIC Data.

Lastly, we conducted interviews with several Canadian PE / VC Firms, private family offices, banks, pension funds and professional firms.



# 2020 SHARPENING YOUR VISION – LITIGATION SUPPORT FOR COVID-19 VALUATIONS

## 2020 SHARPENING YOUR VISION – LITIGATION SUPPORT FOR COVID-19 VALUATIONS

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### Introduction

The underlying objective of notional business valuations is to mirror open market transactions. Nonetheless, notional valuations face unique challenges and circumstances when compared to their open market counterparts. One of the most prevalent challenges faced by Chartered Business Valuators ("valuators") in today's economic climate is the application of hindsight as it relates to the COVID-19 pandemic. More specifically, in the family law context, how should a valuator approach a valuation engagement with a valuation date in the early part of 2020?

On the face of the issue, there appears to be a direct contradiction with business valuation theory. On one hand, since real world pricing decisions typically are not made with the benefit of hindsight, it is often inappropriate to consider hindsight in a notional market valuation. On the other hand, fair market value definitions incorporate the assumption that both the buyer and seller act prudently and exercise reasonable and appropriate due diligence when assessing issues relevant to the transaction.

How then are valuators expected to reconcile these two conflicting viewpoints when dealing with notional valuations in 2020 (*i.e.,* following the onset of the COVID-19 pandemic)? How should valuators approach the issue of COVID-19 as it relates to their practice? How do valuators assist counsel and the Court in resolving litigation issues amidst a global pandemic?

Notional valuations are the stock in trade in litigation, particularly in family law, where there has likely been no open market transaction. While valuators have an ultimate duty to act impartially and assist the Court, they are often engaged by one party. The adversarial nature of Ontario's "common law" system will often result in two different valuations, one from each side, being put before the judge/arbitrator. The valuators are the witnesses of the parties, not of the Court, as is the case in "civil law" jurisdictions. Cross-examination of the valuator lies with counsel for the opposing party. It is, therefore, important that the counsel who retained the valuator understands the fundamentals and build-up of the valuation, how it differs from that of the opposing party and why.

Other global and industry-specific events (recessions, dot-com bust and sub-prime market meltdown) have been addressed by valuators in the past. However, the effects of COVID-19 on business valuation might appear to be a different animal given the lack of uniform global response (both health and economic) to the pandemic and relative speed among management teams to pivot and adapt, sometimes within their own industries and even sometimes beyond. It may not be the use of hindsight where valuators will run afoul of valuation principles, rather where they are asked to use the benefit of "foresight" in a situation where some will say there is no similar global circumstance in modern history to use for comparison.

### **COVID-19 and the Global Economy**

The coronavirus disease 2019, commonly referred to as COVID-19, is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It was first identified in December 2019 in Wuhan, China, and spread globally in the early part of 2020.

The global outbreak of COVID-19 represented a major destabilizing threat to the global economy. One estimate from an expert at Washington University in St. Louis estimated a \$300+ billion USD impact on the world's supply chain that could last up to two years<sup>1</sup>.

Lloyd's of London has estimated the global insurance industry will absorb losses in excess of \$200 billion USD, exceeding the losses from the 2017 Atlantic Hurricane season and 9/11, suggesting the COVID-19 pandemic may go down in history as the costliest disaster in human history<sup>2</sup>.

On February 28, 2020, due to mounting worries about the coronavirus outbreak, U.S. stock indices posted their sharpest falls since 2008, and all three major indices ended the week down more than 10%. The Canadian economy did not bode any more favourably. Over one million Canadians lost their jobs in March<sup>3</sup>, and by May unemployment reached an all-time record high of 13.7%<sup>4</sup>.



### Canadian Unemployment Tables, January 1976 to July 2020

1 https://source.wustl.edu/2020/02/washu-expert-coronavirus-far-greater-threat-than-sars-to-global-supply-chain/

2 https://www.marketwatch.com/story/global-insurers-face-losses-of-204-billion-from-coronavirus-more-than-911-and-2017-hurricanessays-lloyds-of-london-2020-05-14

3 https://nationalpost.com/pmn/news-pmn/canada-news-pmn/newsalert-canada-lost-1011000-jobs-in-march-unemployment-raterises-to-7-8

4 Table 14-10-0287-01 Labour force characteristics, monthly, seasonally adjusted and trend-cycle, last 5 months: https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410028701

### The approximate timeline for COVID-19 is as follows:

- December 31, 2019 the World Health Organization reported the first case of pneumonia-like illness in Wuhan, China.
- January 11, 2020 the first COVID-19 death is reported in Wuhan, China.
- January 21, 2020 the first case of COVID-19 is reported in the United States.
- January 30, 2020 American authorities reported their first case of person-to person transmission, and the World Health Organization determined that the novel coronavirus outbreak constitutes a Public Health Emergency of International Concern.
- February 20, 2020 global equity markets began to show evidence of a 2020 stock market crash from the impact of COVID-19.
- February 25, 2020 lockdowns in Italy restricted the movement of around 100,000 people.
- February 28, 2020 S&P 500 Index recorded the fastest stock correction on record, falling more than 10%.
- March 11, 2020 World Health Organization declared COVID-19 a pandemic.
- March 13, 2020 State of Emergency declared in the United States.
- March 17, 2020 State of Emergency declared in Ontario.
- June 12, 2020 Most Ontario cities entered Stage 2 recovery.
- June 18, 2020 Canada reached 100,000 COVID-19 cases.
- July 17, 2020 Most Ontario cities entered Stage 3 recovery.

#### A Brief Comparison of the 2008 and 2020 Recessions

Without a crystal ball, valuators have to draw lessons from past experiences. It is tempting to compare the 2020 recession with its predecessor in 2008. While both economic events share some major similarities, there are also some notable differences.

The following are some of the major similarities between the recessions:

- Uncertainty Both economic crises share uncertainty as a key factor that emerged from a leading economy (United States in 2008 and China in 2019) and spread globally.
- Collapse of the Stock Market The uncertainty resulted in initial declines of stock exchanges of major countries (up to one-fourth of their valuation), and both recessions have been named as the largest since the Great Depression<sup>5</sup>.
- Government Reaction To limit the impact of the shock, monetary and fiscal policies were adopted to provide support to persons and industries impacted.

5 https://www.atlanticcouncil.org/blogs/new-atlanticist/can-we-compare-the-covid-19-and-2008-crises/

The following are some of the major differences between the recessions:

- Speed and Shape of Recovery The 2020 recession thus far appears to have a sharper but shorter "V-shaped" recovery, compared to the longer "U-shaped" recovery of the 2008 recession. At the time of writing, there is admitted uncertainty regarding the economic future trajectory of the 2020 recession, and some analysts predict there may be a second wave, leading to more of a "W-shaped" recovery.
- Timing of Policies In 2020, public authorities and policy makers reacted to the pandemic by providing financial relief and implementing policy measures significantly faster than in 2008.
- Social Impacts The 2020 recession has unique social and societal impacts, none of which were experienced by its 2008 counterpart.

### A Moment in Time - COVID-19 - Known or Knowable?

The concept of fair market value is foundational to business valuation theory, because it provides the essential structure on which valuation opinions are reached.

Although not explicitly stated in the traditional fair market value definition, and perhaps even self-evident, one of the basic principles of business valuation theory is that notional valuations must be done at a specific point in time. The Canadian Institute of Chartered Business Valuators has an explicit requirement of identifying the effective valuation date in the introductory paragraph of business valuation reports<sup>6</sup>.

As stated previously, since real world pricing decisions typically are not made with the benefit of hindsight, it is often inappropriate to consider hindsight in a notional valuation.<sup>7</sup> In notional valuations, the hypothetical purchaser and vendor have only knowledge of existing and past events. However, it is commonplace for parties to estimate, on the basis of facts present at the time of the hypothetical transaction, possible future occurrences. Both purchasers and vendors, for example, may forecast cash flows based on strategic initiatives, industry trends and general economic forecasts.

Given the timeline of events noted previously, it may be difficult to determine to what extent COVID-19 was known or knowable to a specific business, industry or geographical region. While there is no single or simple solution, valuators may find the following considerations helpful:

### **Geography and Supply Chain**

One potential consideration for valuators relates to the business' geographical region or territory. Since different countries and regions were impacted by, and responded to COVID-19 at different times, this may provide strong evidence to support how much knowledge was available to the public as it relates to economic and social considerations.

For example, the Chinese government placed Hubei province under quarantine in January 2020; the Italian government placed the country under quarantine in early March 2020; and the Ontario government declared a state of emergency in mid-March 2020. Businesses operating in each of these geographic regions would have experienced the impacts of COVID-19 at different times.

<sup>6</sup> Practice Standards No. 110 and 210.

<sup>7</sup> The general principle that emerges from the case law is that hindsight is generally admissible in Court. In preparing a business valuation, the valuator should take into account only facts known or reasonably foreseeable on the valuation date. An exception to this general principle is that events that occurred after the valuation date can be used to test the reasonableness of the assumptions made by valuators. See *Ross v Ross*, 2006 CarswellOnt 7786 (CA) at para 39; *Debora v Debora*, 2006 CarswellOnt 7633 (CA) at paras 46-47.

By extension, the composition of a business' supply chain may also be an important consideration. A restaurant that sources ingredients from local producers would have very likely experienced the impacts of COVID-19 at different times than a wholesaler that relies heavily on imports from China.

### **Stock Market**

Another measure by which valuators may assess the timing of the impacts of COVID-19 is to look to the stock market for an indication of when and how investors reacted to the pandemic.



### Change in S&P 500 Index, January though August 2020





Lawyers can use the notion of "uncertainty" to make their opponent's case/valuation seem weak or ambiguous. In family law cases, in particular, because the parties will often have a continued financial interdependence through ongoing support based on income derived from the business, "hindsight" information will be available to the valuator. To address the uncomfortableness of the judge/arbitrator with regard to "uncertainty", it may well be a comforting exercise (or sensitivity analysis) to apply the benefit of hindsight to the valuator's conclusions for the "moment in time" to test same (especially where discounted cash flow approach is being used).

### If the COVID-19 Pandemic Results in a Post-Valuation Date Decline in the Value of a Party's Business, What Tools are Available to Family Law Counsel?

In Ontario, the "valuation date" is fixed, and is typically the date the parties separate with no reasonable prospect that they will resume cohabitation. The valuation date is used to determine each party's net family property and the resulting equalization payment (the equalization payment being half the difference between the parties' net family properties). The design of the equalization payment scheme is to promote the goals of certainty, predictability and finality.

Under s. 5(6) of the *Family Law Act*,<sup>8</sup> a Court may award a party "an amount that is more or less than half the difference between the net family properties if the court is of the opinion that equalizing the net family properties would be unconscionable", having regard to the factors listed in sections 5(6)(a) through (h). Section 5(6)(h) of the *Family Law Act* directs the Court to consider "any other circumstance relating to the acquisition, disposition, preservation, maintenance or improvement of property."

In *Serra v. Serra*,<sup>9</sup> the Court of Appeal for Ontario considered whether a market-driven, post-valuation date decline in the value of a party's assets may be taken into account in determining whether an equalization of net family properties is unconscionable under s. 5(6) of the *Family Law Act*. This legal question had not previously been decided by the Court of Appeal.

In *Serra*, the value of the husband's textile business declined significantly between the 2000 valuation date and the 2006 trial, due primarily to the removal of tariffs and quotas in the textile industry, and China's entry into the World Trade Organization. The result was that the equalization payment owing from the husband to the wife exceeded the total value of the husband's assets. The husband argued that an equalization of net family properties would be unconscionable and that the Court should adjust the equalization payment owing.

The Court of Appeal found that a market-driven, post-valuation date decline in the value of a party's assets may be considered as a factor in determining whether an equalization of net family properties is unconscionable under s. 5(6) of the *Family Law Act*. However, an Order for an unequal division of net family properties is exceptional, and may only be made where the circumstances giving rise to the decline in value relate to the acquisition, disposition, preservation, maintenance or improvement of property, and where an equalization of net family properties would be "unconscionable", having regard to those circumstances.

In the family law context of equalization, the term "unconscionable" is described as being a result that is "shocking to the conscience of the court" or "repugnant to anyone's sense of justice".<sup>10</sup> In determining whether an equalization of net family properties would be unconscionable, the Court will consider factors such as whether the asset's value is likely to recover in the near future (in *Serra*, the Court of Appeal suggested that a post-valuation date decline in value caused by a temporary recession may not amount to an unconscionable result) and whether the party could have disposed of the asset to preserve at least some of its value.

In *Serra*, the Court of Appeal ultimately found that an equalization of net family properties would be unconscionable, and made an order for an unequal division of net family properties.

<sup>8</sup> Family Law Act, RSO 1990, c F 3, s 5(6).

<sup>9 2009</sup> ONCA 105.

<sup>10</sup> Serra v Serra, 2009 ONCA 105 at para 48.

In *Jayawickrema v. Jayawickrema*,<sup>11</sup> Justice Jarvis considered the application of s. 5(6)(h) of the *Family Law Act* in the context of the COVID-19 pandemic. In the months following the conclusion of the November 2019 trial, the COVID-19 pandemic had upended the global economy. Justice Jarvis determined the equalization payment owing from the wife to the husband to be \$66,200, but was not prepared to order that the equalization payment be made without further submissions from the parties on the issue of unconscionability. Justice Jarvis directed the parties to consider whether the Court of Appeal's decision in *Serra* and the COVID-19 pandemic should impact the Court's determination of unconscionability under s. 5(6)(h) of the *Family Law Act*.

In his additional reasons, Justice Jarvis acknowledged that the COVID-19 pandemic was likely having an impact on the wife's business, but he was not persuaded that she had met the "exceptionally high evidentiary onus for unconscionability required by s. 5(6)(h) of the *Act.*"<sup>12</sup> Justice Jarvis distinguished the facts in *Jayawickrema* from the facts in *Serra*: "The difference between *Serra* ... and this case is that the impact of the market-driven declines in asset values post-separation was tested at trial and did not involve, as here, post-trial events, the temporary or long-term consequences of which cannot be reliably predicted at this time."<sup>13</sup>

In light of the Court of Appeal's decision in *Serra*, and Justice Jarvis' decision in *Jayawickrema*, and the uncertainty surrounding the long-term impacts of the COVID-19 pandemic, it still remains to be seen for the time being whether a party will be successful in meeting the *Serra* threshold of unconscionability under s. 5(6)(h) of the *Family Law Act* for post-COVID-19 effects. The permanence of any COVID-19 effects on the party's particular business or industry, such as shuttering of an otherwise healthy business pre-COVID-19 with little prospect of adaptation, may well attract a *Serra* remedy. Family law counsel should also consider whether *Serra* might be used by the non-owner party if the business is one of those which significantly "zoomed" in value post-COVID-19.

In the event a party makes a claim under s. 5(6)(h) of the *Family Law Act*, they may require business valuations as of the valuation date *and the date of trial*, if it is a business that declined in value. The valuator should identify in their valuation report the factors that caused the business to decline in value and, if possible, apportion responsibility for the decline between those factors.

### Valuation Approaches during COVID-19

### Market Approach

Valuators should be cautioned when using market approaches to assess fair market value during times of economic uncertainty. A market approach is predicated on the assumption that publically available multiples, whether publically-traded companies or precedent transactions, can provide useful insights and benchmarks to assess value. One of the inherent limitations of such approaches is that significant economic events, such as the COVID-19 pandemic, may disrupt the market by changing the risk profile of the transaction and increased use of earn outs could make transactions less comparable and transparent.

Precedent transactions and public-company trading data that existed prior to the COVID-19 pandemic may not be reflective of current Canadian transaction multiples. As a result, the implied transaction multiples may not be meaningful. In the same vein, transaction data related to post-market declines may also have their own inherent limitations.

Even in the best of economic times, many valuators face challenges associated with finding sufficiently comparable financial data for private companies, and when the markets cool down, these challenges are only exacerbated.

<sup>11 2020</sup> ONSC 2492, additional reasons at 2020 ONSC 4444.

<sup>12</sup> Jayawickrema v Jayawickrema, 2020 ONSC 4444 at para 18.

<sup>13</sup> Jayawickrema v Jayawickrema, 2020 ONSC 4444 at para 17.

### **Discounted Cash Flow Approach**

The determination of fair market value, both notional and actual transactions, is predicated on the future earnings prospects of a business, and the risk associated with achieving them. Accordingly, the discounted cash flow approach has a long and widely used history within the business valuation community and a strong theoretical backing.

In a pragmatic sense, obtaining reliable forecasts presents its own set of unique challenges, and is often dependent on the experience and sophistication of the management team preparing them. The discounted cash flow approach is also well-positioned to address short-term and medium-term economic impacts, in situations such as COVID-19. We will explore some of these options below:

### Multi-Probability Based Discounted Cash Flow

Commonly used by venture capitalists to value start-ups and early stage companies, but equally applicable for companies impacted by COVID-19, the multi-probability based discounted cash flow involves preparing multiple discounted cash flow scenarios, each with different assumptions ranging from worst-case to best-case scenario. The risk associated with achieving each scenario is addressed through the probability weighting applied to the particular scenario.

### Application of Different Discount Rates

One possible alternative method to approach COVID-19 is to apply a higher risk factor to the cash flows. This approach has an advantage when using discounted cash flow approaches as the valuator may apply different risk rates to different periods.

If the short-term and medium-term risks are thought to be different, a discounted cash flow approach can easily adopt different discount rates for each period. A historical capitalized approach, on the other hand, is forced to use a single capitalization rate and may not have the same luxury.

When incorporating a non-market discount rate, practitioners should be cautious to avoid double-counting risks. Earnings and cash flow approaches, whether capitalized or discounted, fundamentally rely on two inputs – the expected earnings/cash flow, and the risk associated with achieving them.

If the two inputs are impacted simultaneously (for example, if cash flows are forecast to *decrease* and risks associated with achieving the cash flows are simultaneously forecast to *increase*), the valuator should be careful not to double count the associated risks.

### **Capitalized Earnings and Cash Flow Approach**

While the determination of fair market value is predicated on the future earning potential of a business, there are often practical limitations that restrict the ability of valuators to obtain reliable financial projections. Capitalized earnings/cash flow approaches adopt the assumption that historical earnings and cash flows are indicative of future earning potential, and may be used in scenarios where a business is expected to have relatively consistent earnings and cash flows.

Capitalized earnings/cash flow approaches, however, have their limitations. In times of economic uncertainty, such as during the COVID-19 pandemic, the assumption that historical earnings and cash flows are indicative of future earning potential may be called into question. Valuators who adopt a capitalized earnings/cash flow approach, because the business is minimally impacted by COVID-19 in the short term, or for case-specific reasons, may be able to address this short-coming by separately quantifying any impacts of COVID-19 and adjusting for them in the valuation approach. In order to separately quantify the impacts of COVID-19, a valuator may need to identify and isolate additional working capital requirements and/or a loss of cash flow attributable to the pandemic.

A business valuation in the time of COVID-19 would benefit from the inclusion of narrative about how the above

models were considered, which models were not pursued, discarded or deemed not appropriate and why. This is the place to, again, inject some certainty into the reflexive response that valuation in COVID-19 times is an uncertain exercise.

It is for counsel and their clients to weigh the pros and cons of settling their case without the strict reliance on a valuation figure and counsel should well consider being more creative about structuring a settlement which is perhaps driven by meeting the assumptions set out in the valuation about cash flow or working capital availability. The risks may be too large for one side to bear.

### **Income for Support**

Changes to an individual or household's financial circumstances may be magnified within the context of a relationship breakdown. This is particularly the case with respect to child and spousal support obligations.

In the wake of the COVID-19 pandemic, employees across all sectors and professions are facing job losses, temporary layoffs, and reduced shifts as employers are scrambling to overhaul their operations and strategic direction.

Self-employed individuals may experience a different set of challenges altogether. Declining sales, disruptions with supply chains and procurement, challenges collecting accounts receivable, among others, may lead to reduced profits. Even if a business remains profitable during the COVID-19 pandemic, cash flow issues may persist, meaning the business owner may not have the funds available to draw from the business.

On the other hand, certain businesses may react positively to the COVID-19 pandemic. Some industries, such as healthcare product manufacturers, videogame developers, technology companies and telecommunication companies may experience an uptick in profitability and cash flows as a direct result of the pandemic. For example, Zoom has benefitted significantly from the increase in the number of people working and learning from home. Other businesses may experience reduced operating expenses as more employees work from home. Furthermore, industry restructuring, such as the loss of a competitor, may improve the competitive landscape for the businesses that remain.

### **Financial Relief and COVID-19**

Individuals and households who face a decline in their financial circumstances amidst the COVID-19 pandemic may be required to take steps to mitigate their loss of income. On March 18, 2020 and subsequently, the Government of Canada announced a series of measures designed to support taxpayers impacted by the pandemic – including temporary wage subsidies, small business financing, special GST credits, among others.

Individuals and households facing a decline in their financial circumstances amidst the COVID-19 pandemic may mitigate their loss of income by taking advantage of various government benefits available to them, or by seeking alternative employment. Support payors may also be wise to contact their legal counsel to discuss alternative arrangements (such as seeking to vary their support obligations in court, or proposing a temporary deferral of their support payments).

### Projecting Income for Support - 2020 and Beyond

A valuator tasked with projecting a payor's income for support in 2020 and beyond may face a myriad of unique circumstances. As discussed above, self-employed individuals may face both operational and strategic challenges that impact their ability to draw income.

Valuators may wish to address income projections in the following ways:

- Prepare multiple scenarios ranging from best-case to worst-case scenario; and
- If the business is temporarily shut down, the owner may need to mitigate their losses by seeking alternative employment and filing for government assistance. A valuator may assist in helping to determine what a market-rate would be for the owner.

Projecting income for support, of course, has certain inherent limitations. For one, it may be unclear what the impacts of COVID-19 may be on the business, and how long they may persist. If a going concern issue is present, a valuator may need to consider the business owner's ability (or inability) to obtain financing or restructure operations. Reviewing a business or strategy plan may be the first step in assessing this.

If the income projections for the business owner are difficult to formulate with any certainty, this will presumably be reflected in a business valuation, if one has also been done. Thus, the narrative in the business valuation report can also inform the income analysis.

Longer-term income projections in family law are less critical given the ability to "review" support arrangements and counsel should consider building in shorter-term reviews into support orders and agreements to avoid making "bad" deals which may have overestimated or underestimated the resilience of the business post-COVID-19 or in the event of extended COVID-19 effects.



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