FINANCE AND FINANCIAL MANAGEMENT COLLECTION

John A. Doukas, *Editor*

Redefining Shareholder Value

Demystifying the Valuation Myth

Mariana Schmid
Milan Frankl

BEP BUSINESS EXPERT PRESS

Redefining Shareholder Value

Redefining Shareholder Value

Demystifying the Valuation Myth

Mariana Schmid and Milan Frankl

BEP BUSINESS EXPERT PRESS

Redefining Shareholder Value: Demystifying the Valuation Myth

First published in 2015 by
Business Expert Press, LLC
222 East 46th Street, New York, NY 10017
www.businessexpertpress.com

ISBN-13: 978-1-63157-166-4 (paperback)
ISBN-13: 978-1-63157-167-1 (e-book)

Business Expert Press Finance and Financial Management Collection

Collection ISSN: 2331-0049 (print)
Collection ISSN: 2331-0057 (electronic)

Cover and interior design by Exeter Premedia Services Private Ltd., Chennai, India

First edition: 2015

10 9 8 7 6 5 4 3 2 1

Printed in the United States of America.

To Radu, Aspazia, and Kern

Abstract

Measuring shareholder value has become crucial in the current economic environment, especially following the consistent pressure from institutional shareholders on companies to create shareholder value in an adverse economic environment. Maximizing the company's value will make the company less appealing to hostile takeovers. Takeovers are a capital market mechanism designed to control the conflicts of interest between shareholders and managers of the company.

In this study, we will examine the best methods used in measuring shareholder value and, furthermore, explore the process of shareholder value creation in the years prior and following the creeping takeover of Ivanhoe Mines by Rio Tinto Plc. We have based our study on data and ratio analytics from ThomsonONE (Reuters), information that is publicly available through press releases, analyst coverage, and financial news. Our study includes an in-depth analysis of the creeping takeover of Ivanhoe Mines by Rio Tinto Plc.

Ivanhoe Mines' discovery of Oyu Tolgoi Project will leave a most impressive legacy to the Mongolian people. Ever since the discovery of Oyu Tolgoi, the city of Ulan Bator has been growing and Mongolia has posted increasing annual gross domestic product with a growth rate of 11.50 percent for the year 2013 alone.

Keywords

added shareholder value, cost of equity, created shareholder value, equity market value, Ivanhoe Mines, optimal capital structure, Oyu Tolgoi, required return, Rio Tinto Plc, shareholder return, valuation using multiples

Contents

Acknowledgments.....xi

Chapter 1 Shareholder Value—A Review of Best Valuation Methods 1

Chapter 2 Prevalence of Themes in the M&A Literature 21

Chapter 3 Case Study—Turquoise Hill Resources, Previously Known as Ivanhoe Mines.....39

Chapter 4 Conclusions and Recommendations 103

References.....107

Bibliography.....115

Index.....119

Acknowledgments

I would like to express my deepest gratitude to my thesis supervisor, Dr. Milan Frankl, for always finding time to support my research efforts, for his precious guidance, caring, unlimited patience, and countless revisions and advice. This book would have not been possible without his support.

I would also like to acknowledge my second thesis supervisor, Dr. Erik Korolenko, for his comments and feedback.

I am happy to have this wonderful opportunity to thank my husband, Kern Schmid, and our families for their continuous support and love.

Most of all, I would like to acknowledge the staff of Turquoise Hill Resources, previously known as Ivanhoe Mines, who have worked on creating such an inspiring story and legacy. I would like to thank Bob Williamson, Vice President, Corporate Communications, for his kind comments and feedback.

I would also like to extend my heartfelt thanks to our publisher, Business Expert Press, for making this dream come true.

CHAPTER 1

Shareholder Value—A Review of Best Valuation Methods

Introduction to Valuation

In a potentially overvalued market (Damodaran 2010), in the current economic climate characterized by bubbles (Shiller 2014), and arguments in favor of and against the theory of efficient market hypothesis (EMH), we need to understand how we create and measure shareholder value and how shareholder value affects all the stakeholders of a company.

In 2014, three researchers won Noble prize in economics thanks to their work and complementarity on the EMH theory.

According to Damodaran, efficient markets should allow market prices to be unbiased estimates of the true value of the investment, meaning that any errors in the market price valuation should be equitable, and considered random deviations from the true value. These deviations in the market price are the ones that make a stock overvalued or undervalued. At the same time, if these deviations from true value were random, this would mean that no investor would be able to find consistently under- or overvalued stocks, because stock value (share price) itself is changing as new material information is publicly available.

The Efficient Market Hypothesis

The EMH claims that financial markets are informationally efficient, and as a consequence, returns in excess of the average market returns cannot be achieved on a risk-adjusted basis.

The three forms of EMH are the weak, semistrong, and strong. The *weak EMH form* states that traded assets' value is based on past publicly available information, and, therefore, using historical prices would not be as reliable as it should be when looking for undervalued stocks. Under the *semistrong EMH form*, the market corrects traded prices instantly to reflect new public information and past historical prices as well. According to the *strong EMH form*, market prices reflect instantly available insider information, private and public, making it impossible to find continually undervalued stocks.

Valuation itself starts with bias. Finding where the true focus of valuation lies is going to indicate the underlying biases whether we are looking for value or growth. The bias in valuation starts with the companies you choose to value and continues with how you collect the information you need for the valuation process (i.e., analyst coverage).

The psychology of the valuation process is going to be constrained or magnified by the psychology of the market, viewed as the collective of all individual perceptions of the market itself and of the value of a company or stock in particular. In 1983, *Emile Durkheim* defined the collective consciousness as the "shared beliefs, attitudes, and moral judgements" specific to a certain time (Jones 1986).

Shareholder Value Creation and Measurement

According to the *intrinsic stock valuation* method, the value of an asset is a function of its expected cash flows. Assets with high and predictable cash flows should be worth more than assets with low and volatile cash flows.

According to the *relative stock valuation* method, assets are valued according to the perception of how the market values similar assets. This process may not always be accurate.

Various types of investors and therefore various types of valuation assumptions (biases) exist. Market timers will predict market movements, value the market as a whole on intrinsic or relative basis, and compare it with current market levels. Fundamentalists can be both value and growth investors who believe in choosing the right stocks based on

the true value of the company, as reflected by the available financial information.

Chartists (technical analysts using charts) believe that prices are driven by investor psychology and underlying financial variables. A chartist will analyze the price movements, trading volumes, short sales, and other metrics, which capture an investor's behaviors and possible future price movements. The main assumption of the chartist is that prices move in predictable patterns as a result of an investor's perception, which is driven by emotion rather than by rationality.

As a rule of thumb, value creation is significantly about exceeding investor expectations. A company creates shareholder value when the stockholder return exceeds the required return to equity (cost of equity).

Fernandez's model on measuring shareholder value starts with the equity market value (value of all the company's shares, also known as market capitalization) and then quantifies the increase of equity market value (Fernandez 2002).

Shareholder value added (SVA) is the first indicator that a company has created value. All-shareholder return can be calculated using the SVA or simply by finding the increase in the market share's price at the end of the year and comparing it with the share price at the end of the previous year.

Equation 1.1 All-Shareholder Return

All-shareholder return = SVA in one year *divided by* the equity market value at the end of the previous year

All-shareholder return = Increase in the share's price + dividends, rights and other payments (discounts on par value, special payments, etc.) *divided by* share price at the beginning of the year

Source: Fernandez (2013b)

The required return to equity (Ke) will be assessed based on the return of long-term treasury bonds (5 to 10 years) and the risk premium of the country where the operations are taking place.

Finding the Created Shareholder Value

Increase of equity market value (not an increase of shareholder value added) happens when shareholders subscribe to new shares and pay cash to the company, or by conversion of a convertible debenture. A decrease of equity market value (not a decrease of SVA) happens when a company pays cash to all the shareholders (dividends), or when a company buys back stock shares on the market. Buybacks increase shareholder value.

Equation 1.2 Shareholder Value Added

SVA = Increase of equity market value (issuance of new shares or conversion of debenture)
plus dividends paid during the year, other payments to shareholders, discounts on par value, share buy-backs (less the decrease of equity market value)
less outlays for capital increases, exercise of options, and warrants (payments from shareholders)
less conversion of convertible debentures

Source: Fernandez (2013b)

SVA is defined as the sum of the equity market value increase, dividends paid during the year, and other payments to shareholders, less the outlays for capital increases, and less the conversion of convertible debentures.

Shareholder return is the SVA in one-year divided by the equity market value at the beginning of the year.

Required return to equity, known as equity cost, is the minimum return shareholders expect to gain. It is defined as the sum between the return of long-term treasury bonds and the risk premium.

Created shareholder value (CSV) is quantified as the product between the equity market value in one year and the difference between the shareholder return and required rate of return.

Harbula points out that because of consolidation rules in most accounting policies, minority shareholders (the percentage of subsidiaries that are not owned by the parent company) are not considered at a company's EBITDA (*earnings before interest, taxes, depreciation, and amortization*) level (2009).

For consistency's sake, pensions, nondebt obligations, environmental liabilities, and restructuring provisions should be included in the valuation process.

Equation 1.3 Created Shareholder Value

CSV = Equity market value *multiplied by* (shareholder return *less* Ke)

or

CSV = SVA *less* (equity market value *multiplied by* Ke)

Source: Fernandez (2013b)

The *return on equity* (ROE), an indicator of CSV, is calculated by dividing the net income by the shares' book value. ROE is different from the shareholder return and can be negative while shareholder return can be positive.

Fernandez (2013c) has completed a survey of 82 countries with 7,192 answers for the market risk premium used in 2012.

Benchmarking the Shareholder Return

While the added shareholder value can be compared to zero, we can compare the shareholder return with various benchmarks, such as the

Table 1.1 Benchmarks for the shareholder return

	Benchmark	If the shareholder return is greater than the benchmark
Shareholder return	Zero	SVA
	Long-term treasury bond return	The shareholders have obtained an additional return because of greater risk
	Required return to equity (Ke)	CSV
	Expected return to equity	Company outperforms expectations
	Return for shareholders in companies in the same industry	Company outperforms its industry
	Market return	Company outperforms its market

Source: Fernandez (2013b)

long-term Treasury bond returns, required return to equity, industry benchmark, and market return.

Shareholders of a company can be defined as those that held their shares since inception and those that did not hold the shares continuously.

Usually, the data provided by public databases refer to shares that have been held since the inception of the company.

Main Valuation Methods Used in a Company's Analysis

Understanding the valuation process of a company presents us with the opportunity of identifying sources for creation of economic value.

The company's net worth is the value of a shareholder's equity as it is stated in the balance sheet, and it represents capitals and reserves.

Cash flow is a fact. Net income is just an opinion.

Table 1.2 Comparable analysis of main valuation methods

Balance sheet	Income statement	Mixed (goodwill)	Cash flow discounting	Value creation	Options
Book value	Multiples	Classic	Free cash flow (FCF)	Economic value added (EVA)	Black and Scholes
Adjusted book value	PER (price–earnings ratio)	Union of European Accounting Experts	Equity cash flow (ECF)	Economic profit (EP)	Investment options
	Sales		Dividends	Cash value added (CVA)	Expand the project
Liquidation value	Price to earnings before interest, taxes, depreciation, and amortization	Abbreviated income	Capital Cash Flow		Delay the investment
Substantial value	Other multiples	Others	Adjusted Present Value	Cash flow return on investment (CFROI)	Alternative uses

Source: Fernandez (2002)

Discounting Cash Flows

General cash flow discounting methods are valuation methods by which ECF, FCF, and debt cash flow (DCF) are determined, using weighted average cost of capital (WACC), required return to equity (Ke), and required return to debt (Kd), respectively, as a discount rate. The WACC is defined as the rate at which FCFs must be discounted to obtain the same valuation as in the discounting the ECFs at the Ke.

The discounted cash flow theory (model) uses future FCF projections and discounts them at the WACC to obtain the present value or net present value (PV or NPV), according to which the opportunity for investment is validated.

If the NPV is higher than the cost of the investment, the opportunity may be profitable.

The FCF hypothesis was formulated by Jensen (1987) and states that managers with positive FCF will rather invest it in negative NPV projects than paying it to shareholders.

Jensen has defined FCF as the cash flow remaining once the company has invested in all available positive NPV projects (Lang, Stulz, and Walkling 1991).

Goodwill represents the value of a company's intangible assets, which often do not appear on the balance sheet. Goodwill may represent a competitive advantage with respect to other companies in the industry, such as customer portfolio, industry leadership, brands, and strategic alliances. However, goodwill is not to be confused with brand value and intellectual capital because it can be quantified as a capital gain that the company will report in its future earnings.

Table 1.3 Cash flows analysis

Cash flows	Appropriate discount rate
FCF	WACC
ECF	Required return to equity (Ke)
DCF	Required return to debt (Kd)

Source: Fernandez (2013c)

Table 1.4 includes primary stages of an accurate appraisal by cash flow discounting. In summary, the following steps are necessary to understand how shareholder value is created.

Historic and Strategic Analysis of the Company and the Industry

Table 1.4 Determination of the Required Return

1. Historic and strategic analysis		
A. Financial analysis		**B. Strategic and competitive analysis**
Evolution of income statements and balance sheets		Industry evolution
Evolution of cash flows generated by the company		Company's competitive position evolution
Evolution of the company's investments		Value chain identification
Evolution of the company's financing		Main competitors' position
Analysis of the financial health		Value drivers identification
Analysis of the business's risk		
2. Projection of future flows		
A. Financial forecasts		**B. Strategic and competitive forecasts**
Income statements and balance sheets		Industry's evolution forecast
Cash flows generated by the company		Company's competitive position forecast
Investments		Main competitors' position forecast
Financing		
Terminal values		**C. Consistency of cash flow forecasts**
Forecast of various scenarios		Financial consistency between forecasts
		Comparison forecasts with historic figures
		Consistency of cash flow with strategic analysis
3. Determination of the cost (required return) of capital		
For each business unit and the company as a whole		
Cost of the debt, required return to equity, and weighted cost of capital		
4. NPV of future flows		
NPV of the flows and their corresponding rate.		
Present value of the terminal value.		
Value of equity		

5. Interpretation of results
Benchmarking of the value obtained: comparison with similar companies
Identification of the value creation.
Sustainability of the value creation (time horizon)
Strategic and competitive justification of the value creation

Source: Fernandez (2013c)

Valuation Using Multiples

Multiples are used in the second stage of the valuation process, as a comparison with the multiples of comparable. PER, EBITDA, and profit after tax (most commonly used parameters for multiples) are more volatile than the equity value. Multiples are mainly used by financial analysts, and Fernandez (2013c) has provided evidence that less than 15 percent of the analysts' recommendations are to sell. Furthermore, most used valuation methods by analysts are captured in Figure 1.1.

Only 7 percent of the 34,787 earnings estimates done by analysts on U.S. companies during 1993 to 1999 included cash flow forecasts. The proportion of earnings estimates that included cash flow forecasts increased from 1 percent in 1993 to 15 percent in 1999 (Defond and Hung 2001).

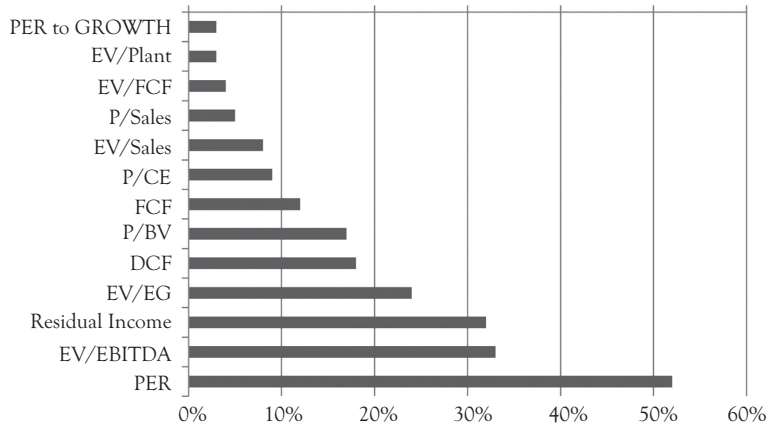

Figure 1.1 Most widely used valuation methods by analysts (%)

Source: Fernandez (2013c)

Multiples Based on Capitalization and Value

Most commonly used multiples are based on capitalization, company's value, and growth multiples.

- *Multiples based on capitalization* are PER, price to cash earnings (P/CE), price to sales (P/S), price to levered free cash flow (P/LFCF), price to book value (P/BV), price to customer, price to units, price to output, and price to the potential customer.
- *Multiples based on the company's value* are enterprise value to EBITDA (EV/EBITDA), enterprise value to sales (EV/Sales), and enterprise value to unlevered free cash flow (EV/FCF).
- *Growth-referenced multiples* are P/EG or price earning to growth ratio (PEG), PER to EPS growth, and EV/EG (enterprise value to EBITDA growth)

Equation 1.1 Enterprise Value

Enterprise value = market capitalization + preferred shares + minority interests + financial debt

The PER is the most common parameter used in the stock market and is calculated as follows:

Equation 1.2 Price–Earnings Ratio

PER = equity market value/profit after tax
PER = price per share/earnings per share (EPS)
EPS = profit after tax/number of shares outstanding

EV/EBITDA is most commonly used multiple in the base materials industry, for the metal and mining subsector. In this case, for the multiples based on the company's value, the amount of the company's market capitalization and financial debt represent the enterprise value.

According to Fernandez (2013c), EBITDA has a number of limitations, since it does not include changes in the working capital requirements and does not consider capital investments.

Most Commonly Used Multiples by Industry and Subsector

Table 1.5 Most commonly used multiples

Industry	Subsector	Most commonly used multiples
Automobiles	Manufacturers Components	P/S P/CE relative and P/S
Banks		P/BV
Base materials	Paper Chemicals Metals and mining	P/BV EV/EBITDA, EV/S, P/CE P/LFCF and EV/EBITDA
Building and construction		P/LFCF, EV/FCF, PER, and EV/EBITDA
Business services		EV/EBITDA, ROCE (return on capital employed), P/LFCF, PER, and PER to growth
Capital goods	Engineering Defense	PER, EV/EBITDA, and EV/S PER, EV/EBITDA, and EV/S
Food, drink, and tobacco	Food producers Brewers and pubs Alcoholic beverages Tobacco	EV/EBITDA ROCE, PER to growth, and PER relative EV/EBITDA ROCE
Health care		PER, PER relative to S&P, and EV/EBITDA
Insurance		Price/accounting value
Leisure		EV/EBITDA
Media		PER relative and EV/EBITDA
Oil and gas	Integrated	PER
Real estate		EV/EBITDA and price/net asset value
Retail and consumer goods	Clothing Food Luxury goods	PER relative to market and sector, EV/EBITDA PER to growth, EV/S, and enterprise value/equity to EBITDA growth
Technology	Software, equipment, and semiconductors	PER AND PER relative
Telecoms		Enterprise value/equity to EBITDA growth, EV/S, and price/customer
Transport	Air Road travel	EV/EBITDA P/S
Utilities		PER and P/CE

Source: Fernandez (2002)

Table 1.6 Fernandez's findings on the average volatility of multiple valuations

	Equity Value	Profit after tax	EBITDA	Dividends	Book value	ROE	ROA (return on assets)	PER
Average volatility	41%	49%	59%	20%	18%	4%	2%	76%

It is noticeable to pay attention to Fernandez' findings on the average volatility of multiple valuations performed on 26 Spanish companies between 1991 and 1999 (Fernandez 2002). According to Table 1.6, PER, EBITDA, profits after tax were most volatile when compared to equity value.

Valuation Errors

Harbula (2009) has provided evidence on the valuation errors (mean, median) of the multiples valuation used in certain industry sectors in the European markets. The valuation error mean is quite significant (≥14 percent) for most of the following industries: real estate, building

Table 1.7 Valuation errors of multiples valuation by industry sectors

Industry	Valuation multiples	Valuation error (mean)	Valuation error (median)
Real estate	Price/Book Value, Price/ Earnings current	14%	11%
Building materials	EV/EBITDA, Price/ Gross Capital Formation prospective or current	15%	14%
Banking and insurance	Price/Book Value, Price/ Earnings current	17%	14%
Food and beverages	EV/EBITDA, P/E prospective or current	17%	18%
Services	EV/EBIT, P/E prospective or current	19%	20%

Energy	EV/EBITDA, EV/IC current	21%	17%
Technology	EV/EBITDA, EV/EBIT prospective or current	21%	18%
Telecommunications	EV/EBITDA, P/E prospective	23%	22%
Distribution	EV/EBITDA, EV/EBIT prospective or current	25%	28%
Manufacturing	EV/EBITDA, P/FCF prospective	31%	27%
Construction	EV/EBITDA, P/E current	32%	29%
Life sciences	Healthcare EV/Sales, EV/EBITDA prospective	34%	29%
Capital goods	EV/EBITDA, EV/EBIT prospective or current	35%	28%
Media	EV/EBITDA, EV/EBIT prospective or current	20%	21%

Source: Harbula (2009)

materials, banking and insurance, food and beverage, services, energy, technology, telecommunications, distribution, manufacturing, construction, life sciences, capital goods, and media.

Multiples derived from forward earnings explain stock prices remarkably well with pricing errors within 15 percent of stock prices for about half of the studied samples (Fernandez 2013c).

Value-Based Measures What Drives Enterprise Value?

According to a study by Deloitte on planning, budgeting, and forecasting Kavanagh (2013), driving up enterprise value is possible through four basic value drivers: revenue growth, operating margin, asset efficiency, and, meeting shareholders' expectations. If any three basic value drivers mentioned here are held constant, there is an opportunity for the other value driver to create shareholder value.

For example, when the operational margin, assets, and shareholders' expectations do not change, a growth in revenue will create shareholder value. Revenue growth can be achieved by acquiring new customers

(marketing and sales channeling) and by retaining and growing the number of current customers (through continuous product and service innovation, account management, and cross-selling). Revenue growth is the result of price realization, demand and supply management, and price optimization. The operating margin (after taxes) and, mainly, the analysis of cost of goods sold will contribute to the improvement and development of the production efficiency, and to supply chain management.

Asset efficiency represents the value of assets used in running a business (property, plant, equipment, and inventory of fixed assets) compared to its current level of revenues, measured by the ratio of ROA. It is essentially a measurement of investment efficiency.

Shareholders' expectations are synonymous with the confidence of shareholders and analysts in the company's ability to perform well in the future.

In Table 1.8, the factors affecting the value of equity, otherwise called value drivers, such as projections of cash flows, required return to equity, and market response, are presented.

Defining the Value of Equity

Akerlof and Shiller (2009) have redefined the market perception and response from a behavioral economics perspective on the Keynesian theory on *animal spirits*.

Table 1.8 Value of Equity Table

<table>
<tr><th colspan="7">Value of equity</th></tr>
<tr><td colspan="2">Expectations of future cash flows</td><td colspan="4">Required return to equity</td><td rowspan="5">Market response (perception)</td></tr>
<tr><td>Expected return on investment</td><td>Expected company growth</td><td>Risk–free interest rate</td><td>Market risk premium</td><td>Operating risk</td><td>Financial risk</td></tr>
<tr><td colspan="2">Competitive advantage</td><td colspan="3" rowspan="3"></td><td>Industry and countries laws</td></tr>
<tr><td colspan="2">Assets</td><td>Control of operations</td></tr>
<tr><td colspan="2">Profit margin</td><td>Buyer versus target</td></tr>
</table>

Regulatory framework		Risk perceived by the market	
Taxes		Financing	
Managers, people, corporate culture		Liquidity	
Business barriers to entry a (new) market		Size	
Acquisitions/ divestitures		Risk management	
Industry competitive structure			
New business and products			
Technology			
Real options			

Source: Adapted from Fernandez (2002)

Weissenrieder (1997) categorizes four major frameworks within value based management (VBM): EVA, CVA, CFROI, and shareholder value analysis.

The choice of any company of one of the four categories will have an effect on management resources, strategy choices, and stock market appraisal. Table 1.9 underlines the threshold between business reality, financial simulation, and financial market's reality. The financial simulation of the business reality is based on discounted cash flow analysis.

The Company's Golf Course

Alfred Rappaport was the first to introduce the term shareholder value in 1986. This term has become highly popular and is associated with the success of Jack Welch in his role as the CEO of General Electric. Shareholder value refers mainly to market capitalization and to the increase in the share price and the equity of shareholders.

Table 1.9 CVA value drivers

Business reality CVA value drivers	Financial simulation of business reality based on discounted cash flow (DCF)	Financial markets reality
Customer loyalty	Operating cash flow	Value creation
Customer satisfaction	Economic life	Prestrategy value
Intellectual capital	Capital cost	Simulations
Marketing	Strategic investments	Strategy value
Logistics		Simulations
Product mix		Real options
Pricing strategy		Investment
R&D		Behavior
Total quality management		Capital allocation
Productivity improvement		Capital structure
Flexibility improvement		
Operating efficiency		

Source: Adapted from the Company's Golf Course by Frederik Weissenrieder (1997)

Shareholder's Value Network

Table 1.10 Alignment of corporate goals with shareholder value

Corporate goals	Shareholder value					Dividends price gains
Valuation components	Operative cash flow			Discount rate	Debt	
Value drivers	Duration of value increase	Revenue growth operative margin tax rate	Investment in current and fixed assets	Cost of capital		
Leadership decisions		Operating	Investment	Financing		

Source: Adapted from the *Shareholder's Value Network*, Rappaport (1998)

Debt and Equity

Despite the criticism that shareholder value model has received over the past years, creating shareholder value through capital structure optimization is possible (Morris 2014).

The correlation between debt and equity is the key to understanding shareholder value.

The value of a firm is equal to the NPV of future cash flows a company expects to generate. If cash flows were held constant, the value of the firm would be increased by minimizing the rate used to discount its future cash flows to a present value. This rate is the cost of capital, otherwise called WACC. Undertaking a project should have a positive NPV or an internal rate of return higher than the cost of capital. An optimal capital structure is dependent on three major factors: the asset allocation, debt to equity mix (ratio), and the dividend payout policy.

According to sound financial risk management, *debt* should account only for one-third of *equity*.

Review of VBM Measures

Consulting firms use VBM measures such as EVA, EP, or CVA to quantify the shareholder return and return on investment, along with other ratios—ROA, ROE, CFROI.

Based on a study by Stern Stewart and Co. on 582 American companies, only 28 companies presented a significant correlation of the EVA with the increase in the MVA (market value added).

The correlation between the increase in the MVA and EVA, net operating profit after tax (NOPAT), and WACC is presented in Table 1.11 (Stewart 1991). we can not help but to reflect on Ehrbar's (1998) question: "How would the NPV of cash flows, which truly are at the heart of

Table 1.11 Correlation of the EVA with MVA increase

	Number of companies					
Correlation of MVA with:	**EVA**	**NOPAT**	**WACC**	**D EVA**	**D NOPAT**	**D WACC**
Between 80% and 100%	28	53	0	22	39	2
Between 60 and 80%	68	81	13	72	72	18

(*Continued*)

Table 1.11 Correlation of the EVA with MVA increase (Continued)

	Number of companies					
Correlation of MVA with:	**EVA**	**NOPAT**	**WACC**	**D EVA**	**D NOPAT**	**D WACC**
Between 40 and 60%	94	98	20	94	89	51
Between 20 and 40%	96	72	44	101	105	68
Between 0 and 20%	86	80	79	108	114	124
Between −20 and 0%	83	73	94	74	79	126
Between −40 and −20%	59	70	144	60	50	94
Between −60 and −40%	44	42	111	36	24	71
Between −80 and −60%	22	12	67	13	9	24
Between −100 and −80%	2	1	10	2	1	4
Total	582	582	582	582	582	582
Average	16.0%	21.0%	−21.4%	18.0%	22.5%	−4.1%
Standard deviation	41.7%	43.6%	35.0%	39.3%	38.4%	35.1%

Source: Fernandez (2013a)

market valuation, become the driving and integrating force of the financial management system?"

EVA will increase if operating profits can grow without tying up more capital and debt. When debt is larger than the equity of a company, the balance is thrown off, even though the higher the debt the greater the market capitalization of a company could be. The shareholder value model chosen by any company should include healthy ratios between long-term debt, total debt, and capital (Ehrbar 1998).

Comparable Analysis Among Value Based Measures

Table 1.12 presents a comparable analysis between EVA, EP, CVA, and CSV based on most commonly used formulas.

Table 1.12 EVA, EP, CVA, CSV comparable analysis

	EVA	EP	CVA	CSV
Measure of shareholder value creation	EVA = NOPAT − (D + Ebv) WACC EVA = (D + Ebv) (ROA − WACC)	EP = PAT − Ebv × Ke EP = Ebv (ROE − Ke)	CVA = NOPAT + DEP − EDEP – (D + Ebv) WACC CVA = (D + Ebv) ×(CFROI − WACC)	CSV = SVA – (Equity × Ke) CSV = EMV × (shareholder return − Ke)
Measure of shareholder return	ROA = NOPAT/(D + Ebv)	ROE = PAT/ Ebv	CFROI = (NOPAT + DEP− EDEP)/(D + Ebv)	Shareholder return = SVA/ EMV
Assets in place	D + Ebv = adjusted book value of debt and equity	Ebv = adjusted book value of equity	D + Ebv = working capital requirements + fixed assets + cumulative depreciation + inflation adjustment	EMV = equity market value

Note: DEP = Depreciation; EDEP = Economic Depreciation; PAT = Profit after tax; D = Debt; CFROI = cash flow return on investment; shareholder value creation (SVA) = equity market value × (shareholder return – Ke).
Source: Fernandez (2013c)

Shareholder Value Creators of S&P 500

From 1991 to 2010, the Standard & Poor's index destroyed value for the shareholders at an estimated loss of USD 4.5 trillion. In the years 1991 to 1999, the S&P 500 list generated value, approximately USD 5.1 trillion, while in the years 2000 to 2010, it destroyed a cumulative wealth of USD 9.6 trillion. The market value of the S&P 500 was USD 2.8 trillion in 1991 and USD 11.4 trillion in 2010.

According to the CSV of the best 500 companies during the 18-year period of 1993 to 2010, top shareholder value creators for this timeframe have been Apple (USD 212 billion), Exxon Mobil (USD 86 billion), IBM (78 billion), Altria Group (70 billion), and Chevron (67 billion). The top shareholder value destroyers during the same timeframe have been American Intl. Group (USD –217 billion), Pfizer (USD –188 billion), General Electric (USD –183 billion), Bank of America (USD –170 billion), Citigroup (USD –169 billion), and Time Warner

(USD –130 billion). Furthermore, 41 percent of the companies included in the S&P 500 index in 2004 or 2010 created value during 1993 to 2010 for their shareholders, while 59 percent destroyed value (Fernandez, Aguirreamalloa, and Avendaño 2013).

CHAPTER 2

Prevalence of Themes in the M&A Literature

Introduction—The Economic Role of Mergers, Acquisitions, and Takeovers

Mergers and acquisitions (M&A) are strategic transactions between two companies for the purpose of creating a new entity. The new entity will strategically develop new synergies, such as control over a significant project, shared talent and workforce, and reduction of costs through consolidation and divestures (Andrade and Stafford 1999). Economies of scale, shared technology, and cross-fertilization, such as joint customer database information, could be other benefits of M&A. However, operational integration through integrated production and forecasting of systems' logistics represents the most crucial part of the postmerger integration (Deloitte 2009).

The dual economic role of mergers at both firm and industry levels is significant, because production capacity excess will lead to consolidation through mergers. At the same time, the opposite is true: Peak capacity utilization is characteristic of nonmerger investment. Mergers enable industry restructuring through exit, divestiture, consolidation, and expansionary strategy.

Takeovers are expected to increase the combined market value of the merged firms, and the shareholders of the target companies expect to earn some positive returns. The premiums paid in hostile takeovers have historically exceeded 30 percent, with some averaging 50 percent. However, the acquiring company's shareholders have earned only 4 percent in hostile takeovers and roughly zero in mergers. Historically, the combined

returns for both acquiring and target shareholders were 8.4 percent of the total value of both companies.

The Bargaining Power Hypothesis

The bargaining power hypothesis* states that takeover defenses may be used to increase shareholder returns, as the company becomes a takeover target. A bidding war may occur as a result of differences in valuation.

Shareholders' Rights Plan (the Plan)

On April 5, 2010, the Board of Ivanhoe Mines decided to implement a shareholder's rights plan (the *plan*), which would have delayed Rio Tinto's attempts to start an unsolicited takeover. The plan was effective immediately and consistent with the company's goal to increase shareholder value.

"The Plan was structured along the same lines as other shareholders' rights plans that have been adopted by a number of leading Canadian companies" (Ivanhoe Mines 2010a). The main purpose of shareholders' rights plan was meant to evaluate the takeover bid and explore alternative transactions that would increase shareholder value. It was intended to prevent any shareholder from increasing their holdings beyond 20 percent or in the case of Executive Chairman Robert Friedland and Rio Tinto, beyond their current or contractually agreed levels (Ivanhoe Mines 2010a). "The Plan was not meant to affect the rights of Rio Tinto to increase its present 22.4 percent interest in Ivanhoe Mines through the exercise of warrants, convertible bond, and secondary market purchases during the current, five-year standstill agreement." The standstill agreement between Ivanhoe and Rio Tinto was in effect until October 27, 2011 (Ivanhoe Mines 2010a).

As a response to the plan, on June 29, 2010, Rio Tinto (Plc) purchased shares worth USD 393 million to increase its ownership in Ivanhoe Mines from 22.4 to 29.6 percent. The proceeds were used to advance

**Bargaining power* is the relative ability of parties in a situation to exert influence over each other.

the construction of the Oyu Tolgoi copper–gold mining complex in Mongolia, the core project of Ivanhoe Mines (Ivanhoe Mines 2010c).

Rio Tinto increased its ownership to 29.6 percent by early exercise of warrants and claimed in a filing for arbitration on July 9, 2010 that the Ivanhoe shareholders' rights plan had breached some of Rio Tinto's rights under the October 2006 private placement agreement between Rio Tinto and Ivanhoe Mines (Ivanhoe Mines 2010c).

Did the Ivanhoe Shareholders' Rights Plan Cause the Investor's Stock Price to Fall Below the Initial Purchase Price?

The plan was approved by all members of the Ivanhoe Board on April 5, with the exception of the Rio Tinto appointee who opposed it. The plan had been overwhelmingly approved by 95 percent of Ivanhoe's minority shareholders on May 7 (Ivanhoe Mines 2010a).

On July 13, 2010, Vancouver-based Ivanhoe Mines and its chairman, Robert Friedland, declared war on its biggest shareholder, Rio Tinto Plc (Hoffman 2010). Ivanhoe Mines advised Rio Tinto of the termination of restrictions on potential new strategic investors, by exercising its contractual right and giving 60 days advance notice to Rio Tinto of a forthcoming change in the agreement governing Rio Tinto's investment in Ivanhoe Mines (Ivanhoe Mines 2010b). The Ivanhoe Mines' board of directors authorized the termination of the *Strategic Purchaser Covenant* that has restricted the ability of Ivanhoe to issue shares to strategic investors since October 2007 (Ivanhoe Mines 2010b).

Ivanhoe Mines was going to issue more than 5 percent of its outstanding common shares to third party strategic investors. As a result, Ivanhoe's shares soared 14.3 percent on the Toronto Stock Exchange on speculations that the mining company might entertain the availability of a White Knight (Hoffman 2010).

On September 13, 2010, Rio Tinto's ownership of Ivanhoe Mines increased to 34.9 percent upon the conversion of USD 350 million credit facility into common shares. On October 18, 2010, Ivanhoe Mines initiated a strategic rights offering open to all shareholders on a dilution-free, equal participation basis to support the progress toward the early start-up of Oyu Tolgoi copper–gold complex in Mongolia (Ivanhoe Mines 2010d).

On January 27, 2011, Ivanhoe Mines announced successful completion of rights offering, with a successful estimate of 99 percent of available rights exercised, generating approximately USD 1.18 billion in gross proceeds for the company. Robert Friedland and Rio Tinto, Ivanhoe Mines' two largest shareholders, exercised all of their respective rights. Following the completion of the rights offering, Robert Friedland's estimated ownership stake in Ivanhoe Mines was 15.5 percent, while Rio Tinto maintained its ownership at 40.3 percent (Ivanhoe Mines 2011a).

Trading Volume of Ivanhoe Shares—April 5, 2010 to January 31, 2011

Based on the stock price trading volume, during the period from the first announcement of the shareholders' rights plan on April 5, 2010, to the successful completion of the rights offering, on January 27, 2011, the peak was reached on December 31, 2010, seven days after the first trading day. On December 18, 2010, Ivanhoe Mines filed the final prospectus for the strategic rights offering opened to all shareholders on a dilution-free, equal participation basis.

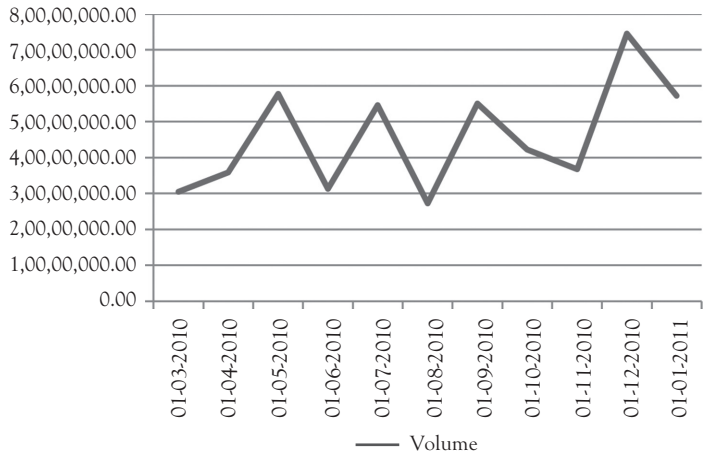

Figure 2.1 Trading volume during April 5, 2010 to January 31, 2011

Source: Adapted from Ivanhoe Mines Stock Price Chart, retrieved from http://www.thomsonreuters.com

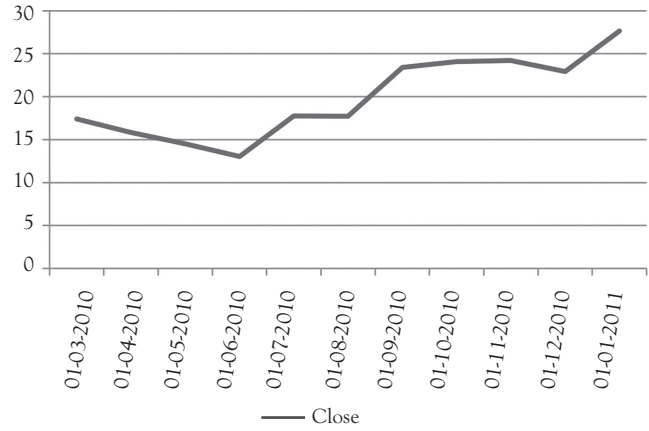

Figure 2.2 Ivanhoe Mines' share price change between April 5, 2010 and January 31, 2011

Source: Adapted from Ivanhoe Mines Stock Price Chart, retrieved from http://www.thomsonreuters.com, and Thomson Reuters (2014a)

Furthermore, according to Figures 2.1 to 2.3, Ivanhoe Mines were most successful at maintaining the share price high. Their amazing performance prior to completion of takeover is consistent with the academic literature review.

White Knights

The appearance of white knights* may complicate the situation for the acquirer. The valuation of target companies' resources remains difficult, especially during a takeover process.

For example, Goldcorp Inc. has refused to pay more than USD 3.9 billion for its target takeover company, Osisko Mining Corp, a Montreal-based company, and, therefore, abandoned its hostile attempt to buy the company. The latter had reached a deal with Yamana Gold Inc. and Agnico Eagle Gold Inc., through the completion of a friendly takeover agreement, that offered to pay USD 7.86 per share price compared with Goldcorp's offer of USD 7.38 per share (Atkins 2014).

* In business, a *white knight* is a friendly investor that acquires a corporation at a fair consideration with the support from the corporation's board of directors and management.

The Bargaining Power Theory

The Bargaining Power Theory* states that takeover defenses would create an opportunity for the target to increase added value in a negotiated acquisition, giving the bidder the no-deal option, and furthermore creating the layout for a hostile bid (Subramanian 2003). Market corrections usually follow the completion of a takeover or acquisition for two main reasons differences in valuation, like overvaluation or undervaluation of the target company, or the perception that a bad deal is taking place.

Takeover defenses are increasing with the presence of both target and bidder in competitive industries, as well as agency costs and managerial entrenchment (Cremers, Nair, and Peyer 2007). Fewer takeover defenses will lead to higher value and higher accounting profitability by reducing agency costs and managerial entrenchment (Gompers, Ishii, and Metrick 2003).

The dollar return associated with the acquisition will reflect both the net present value of the acquisition, as well as what the acquisition shows about the acquiring firm, like buyer reputation and history (Moeller, Schlingemann, and Stulz 2004). Price does not equal value and, most likely, will reflect the premium paid. Speed and secrecy of due diligence process may lead to overpayment (Bruner 2004).

Corporate governance includes interactions among shareholders, managers, boards of directors, external auditors, and analysts, as well as the laws and regulatory framework surrounding M&A (DePamphilis 2012).

Takeover strategies are used to minimize agency costs and to transfer power to those who can efficiently manage the acquired companies, as it was the case in the very hostile takeover of Inmet Mining by First Quantum Minerals Ltd., for USD 5.1 billion.

**Power*, according to Samuel Bacharach and Edward Lawler in *Bargaining: Power, Tactics, and Outcomes* (1981), is a central feature of bargaining and negotiation. They regard *bargaining* as a process of managing impressions and manipulating information. Bacharach and Lawler have developed a provocative and comprehensive theory of power in bargaining and negotiation.

The shareholder theory* "serves the monetary interests of the owners of the company" (Friedman 1970). The stakeholder theory refers to all stakeholders of the company, including the employees, customers, competitors, investors, governments, suppliers, and communities (Martirosyan and Vashakmadze 2013). Managers of a company will work on creating and maintaining profits for the company.

Managerial entrenchment happens when managers obtain so much power that they are able to turn this influence around, to serve their own interests rather than the interest of the company's shareholders. Toward the end of each cyclical wave, takeovers are usually driven by nonrational, frequently self-interested managerial decision making (Martynova and Renneboog 2008).

Acquiring Companies' Losses

From 1998 to 2001, research shows that acquiring companies have lost 12 cents per dollar spent on acquisition, around the acquisition announcement date, for a total loss of USD 240 billion. During the 1980s, purchasing companies have lost 1.6 cents per dollar spent on acquisition, with a total loss of USD 7 billion.

For the shareholders of acquiring companies, the increase in the dollar loss for the years 1998 to 2001 was mainly due to an insignificant number of acquisitions that did not achieve *financial and operational synergy postintegration*. These companies had extremely high valuations and performed poorly postacquisition (Moeller, Schlingemann, and Stulz 2004).

All options must be considered thoroughly before committing to a transaction, and the implementation must happen with a solid *vision of postmerger integration* in mind. Due diligence has become more than just analyzing economic issues; the focus should be on the early integration of future organizational needs. A McKinsey survey of 90 M&A professionals conducted in 2009 showed that the due diligence can overlook

*From a shareholder point of view, only the owners or stockholders of a company are important, and the company has a binding fiduciary duty to put their needs first and to increase value for them (Freeman 1984).

50 percent of the potential merger value and has proven to be inadequate in over 40 percent of the transactions. Many deals will have to find new sources of value and synergies, beyond the preassumed value of the transaction (McKinsey & Company.com 2010). The economic value of the target company may reside in specific resources, intangible assets, distinctive processes, or in corporate or governance values (Madhavan 2005).

Another hypothesis is that managers protected by more antitakeover provisions will face weaker discipline from the market for corporate control and, thus, are more likely to indulge in empire-building acquisitions, which destroy shareholder value. Acquirers lose industry-adjusted intrinsic value in the three years following the merger.

Firms with high valuation ratios (i.e., current ratio, return on equity (ROE), the debt-equity ratio, the dividend payout ratio, and the price–earnings [P/E] ratio), and low book-to-market ratios have poor abnormal returns and make acquisitions that destruct intrinsic value (Ma et al. 2009). The *book-to-market ratio* is the ratio that compares the accounting book value with the market capitalization value of the firm.

When the book value of the firm is less than its market value, the stock is overvalued (overpriced). These are the best stocks to sell before the market correction of the value of the stock. When the investor sells a stock, the difference between the selling price (market value) and the book value is the capital gain (loss) from the investment. The intrinsic value includes the value of all business units, including both tangible and intangible factors (Investopedia.com 2014).

Fernandez defines the market-to-book ratio (E/Ebv) by the following formula:

Equation 2.1 Market-to-Book Ratio

$$E/Ebv = \text{price–earnings ratio (PER)} \times ROE$$

Source: Fernandez (2002)

If the acquiring firm overpays for the target, the buyer's share price is deemed to fall at the announcement date. The buyer's share price will vary depending on the relationship between price and the value of the target.

Merger Momentum Performance

Growing through acquisitions and acquisitive growth strategies has revealed merger momentum performance and market response, as well as investor sentiment and stock market response to merger announcements.

Acquisition Programs

There are higher chances for synergy performance in related acquisitions programs, even though the performance of the acquisition programs results in higher premiums paid for the first deals.

Tobin's Q

Managerial performance and Tobin's Q* have been associated with gains from successful tender offers (Andrade and Stafford 1999; Lang, Walkling, and Stulz 2011).

Frequent Acquirers

Based on a study of 12,476 completed U.S. acquisitions, during the 1990s, frequent acquirers outperformed the infrequent ones, and the outperformance was based on the superior stock performance that happened before and not after the announcement (Bradley and Sundaram 2006). Diversification and performance are highly correlated with the pre and postmerger integration culture. In the vast majority of cases, a statistically and economically significant positive market reaction to the acquisition announcement proves that M&A activity is consistent with shareholder value maximizing behavior.

---

*Nobel Laureate James Tobin has developed the *Q Ratio (Tobin's Q)* as a method of estimating the fair value of the stock. It represents the total price of the market divided by the replacement cost of all its companies. The Q Ratio is a very laborious calculation. Fortunately, the Federal Reserve of the United States provides the numbers needed for this calculation, on a quarterly basis (Short 2015).

M&A Issues

M&A are plagued by overpayments, agency problems, CEO hubris, lack of top management complementarity, lack of experience with acquisitions, employee distress, conflicting cultures, greenmails, ethical issues, and postmerger integration barriers.

Hubris

Investment opportunities, leverages, and wealth gains from acquisition program decisions as well as *repetition, reputation, and raiding* of continuing bidders draw attention to the executive management behavioral biases and hubris theories. Hubris is most encountered from CEOs who have experienced a success period. These CEOs display a complicated behavior in team settings and are overcome with confidence and arrogance. Undertaking value destroying acquisitions can be explained by the desire of executives to build *empire* fortunes, agency problems, and behavioral factors like hubris and overconfidence hypotheses.

CEO compensation increases with the size of the business; therefore, CEOs may pursue M&A to increase their bonuses and compensation. For the same reason, investment bankers of the acquiring company have an incentive to negotiate the highest price possible because their payment is correlated with the value of the transaction (Bruner 2004). Companies controlled by substantial owners will tend to create positive returns from their M&A transactions; whereas, companies managed by nonowners will experience negative returns.

Retention of Top Management by Publicly Held Companies

Turnover is higher in companies that have merged than in companies that have not merged.

Retention of top management is critical to postmerger (postacquisition) performance. On April 18, 2012, Robert Friedland stepped down from the CEO role of Turquoise Hill Resources Ltd. (previously Ivanhoe Mines), as part of a USD 3.3 billion settlement agreement meant to provide funding of the Oyu Tolgoi project. This agreement set the stage for the transition of Oyu Tolgoi to a major mining operation. "The measure

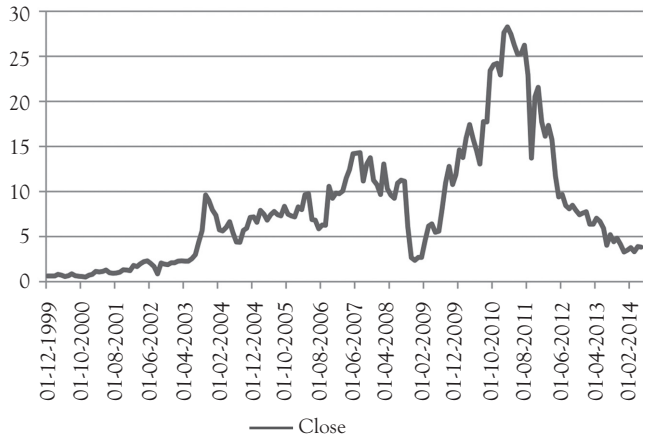

Figure 2.3 Turquoise Hill (previously known as Ivanhoe Mines) closing share price since inception

Source: Adapted from Ivanhoe Mines Stock Price Chart, retrieved from http://www.thomsonreuters.com, and Thomson Reuters (2014a)

of certainty that Rio Tinto's financial resources and global business leadership bring to the achievement of our long-cherished Oyu Tolgoi dream is reassuring for the people and government of Mongolia, and for Ivanhoe's shareholders" (Jamasmie 2012).

Based on this settlement agreement, Rio Tinto could nominate 11 of the company's 13 board members. Six other board directors from Ivanhoe Mines have stepped down. Kay Priestly, Rio Tito's chief financial officer (CFO) and director of Ivanhoe, was appointed Ivanhoe's Interim CEO. Management changes occurred as soon as Rio Tinto had acquired 51 percent ownership in Ivanhoe.

For example, when Ivanhoe Mines announced the partnership with Rio Tinto in 2006, one may speculate that a bidding war would follow, such as the case of the discovery of the nickel-rich Voisey's Bay deposit by Diamond Fields Resources. Voisey's Bay discovery was sold to Inco Limited for $4.3 billion in 1996.

However, the three major financings and credit facilities needed for the development of the Oyu Tolgoi Project resulted in the ownership of 46.5 percent market share of Ivanhoe Mines (TRQ) by Rio Tinto Plc. The high percentage of ownership acquired by Rio Tinto Plc led to the creeping takeover of Ivanhoe Mines in the beginning of 2012.

Employee Distress

Other prevalent themes characteristic to M&A are employees' distress as a result of merging conflicting cultures. Employees' distress levels increase during a merger and postmerger integration process. M&A bring fears about job security, hierarchical (authoritative) loss of power, loss of resources, changes in reward systems, and fear of the unknown. Cultural differences could increase distress levels of employees, and if managed correctly, these differences could contribute to the effective integration of the merged companies.

Employee satisfaction is positively correlated with shareholder returns (Edmans 2008).

Premiums Paid

Acquiring companies will tend to pay the premium with their own stock, when they overvalue the target company. This, usually, leads to post-merger decline in the market share price, as a result of the correction in the market's valuation of the acquiring company. In mergers, where the target market value represented 10 percent or more of the buyer's market value, the return to the buyer was 4.1 percent, if the target value was less than 10 percent, the return was only 1.7 percent (Bruner 2004).

The M&A business is mostly advertised when large transactions occur, ignoring the small and mid-market deals. When stakeholders' interests are taken into consideration, the value of the acquiring company is increasing significantly. This suggests that the profits from acquisitions are not isolated to shareholders (Bruner 2004).

Greenmails, Corporate Raids, and Leveraged Buyouts

Greenmail is the strategy of purchasing enough shares into a target company. This may signify a takeover threat, thereby forcing the target company to buy those shares back at a premium to avoid the takeover threat. Takeover activity is a response to time-varying changes in the acquiring company's growth program.

Corporate raids and leveraged buyouts were particularly common in the United States in the 1970s and 1980s. By the end of the 1980s,

management of many large publicly traded corporations had adopted the legal structure to protect themselves from potential hostile takeovers. Since then, corporate raiders became activist shareholders. Once greenmail has been paid, stock prices usually fall and cause frantic selling by arbitrageurs.

Whereas corporate raiders and arbitrageurs look for annualized rates of return above 50 percent, corporate raids can be a sign of fundamental problems in the management of the targeted business. For example, Disney had to deal with two corporate raids in 1984. Following these raids, Disney decided to change its management team. This change in strategy resulted in a 34 percent annual growth in the stock price, from June 1984 to May 1993.

Review on Shareholder Value Creation

Measuring shareholder value has become crucial in the current economic environment, especially following the consistent pressure from institutional shareholders on companies to create stock value in an adverse economic environment. Maximizing the company's value will make the company less appealing to hostile takeovers. The market for corporate control is essential to producing wealth and positive risk-adjusted NPV investments. Takeovers are a capital market mechanism designed to control the conflicts of interests between shareholders and managers of the company (St-Pierre, Gagnon, and Saint-Pierre 1996).

CEO Retention by Private Equity Funds Acquirers

Shareholders of the companies targeted for takeover can benefit from the retention of their CEO and sustain improved performance. This can lead to a negotiation for an increased premium that the acquirer would have to pay. Bargeron et al. (2013) support the view that CEO retention is not harming shareholders involved in the acquisitions of private equity firms. Target shareholders are gaining an additional 7 to 23 percent of preacquisition value of the company.

The target company's value is not diluted prior to a private equity acquisition and removal of the CEO. Furthermore, the shareholders of

the target company receive 55 percent more if a publicly owned entity is making the acquisition. Companies with a large number of shareholders (diffuse ownership) are paying much more than they should for an acquisition (Bargeron et al. 2013).

Value of the Company, Net Profit Margin, and ROE

The value of the company is affected by financial risks, such as unexpected changes in foreign exchange rates, interest rates, and fluctuations (volatility) of commodity prices. "Because of realistic capital market imperfections, agency costs, transaction costs, taxes, and increasing costs of external funding, risk management at the firm level represents a mean to increase firm value to the benefit of the shareholders" (Bartram 2001).

A study of the impact of good corporate governance on the valuation of the business and the relationship between the corporate governance and its performance found no correlation between net profit margin and ROE (Bauer, Guenster, and Otten 2003).

Shareholder Intervention

Shareholders should have the power to intervene in *game-ending decisions*, regarding a merger, assets sales, dissolution of a company, and distribution of stock options or other incentives. Shareholders should be able to shape and change the governance of the organization, by achieving the required support in two consecutive annual general meetings (AGMs) (Bebchuck 2005).

Encountered Ethical Issues in the M&A Review

Sustainable and ethical negotiations are the foundation of the future entity. Companies with low shareholder value tend to make statements that copy on businesses with higher value. Misreporting is illegal and managers should not distort the financial performance of a company to raise capital for new projects or acquisitions.

Classes of Tests of M&A Profitability

M&A profitability is a measure of its success. The following methods have been used to assess what profitability is and how can it be quantified:

- M&A profitability weak form: According to the weak form, M&A pays if the company's share price improves after the deal. This method is unreliable and may lead to the misunderstanding of events and market results. Companies that have a higher deviation from the stock price high are more likely to perform better and close an excellent deal, even though they will never be able to reach the same price high after the closure of the deal (Kill 2013).
- M&A profitability semistrong form: This form compares the returns of the company with a viable benchmark based on large samples of observations. Useful benchmarks are cash flows, quality of new products and services, expansion opportunity into new markets, revenues, and stock price of the combined entity. Upcoming drivers of M&A profitability are the desire for specific assets, achievement of financial and operational technology, know-how, cost cutting, economies of scale and scope, enhanced shareholder value, and geographic expansion.
- M&A profitability strong form: According to the strong form of M&A profitability, the return on the company's shares exceeds what the outcome would have been without the deal, otherwise said the opportunity cost.

"Expected Synergies" Research on Drivers of Wealth Creation

Part of the potential future value generated in the consolidation strategy is present from the very beginning. Statistically, more than 50 percent of all mergers do not achieve synergies (Martirosyan and Vashakmadze 2013).

Most of the time, the lack of synergy is the result of the failure of the postmerger integration process. According to Madhavan, *the M&A*

manager needs to manage seven sets of stakeholder expectations, such as employees' perceptions (cultural change), customers integration, competitor threats, investor returns, government regulations, suppliers, and involvement in communities. Madhavan states that all the stakeholders are equally important, and 3 to 10 percent customers are lost during the postmerger integration timeframe by poor stakeholder relationship management (Madhavan 2005).

"Synergy is so rarely delivered in acquisitions because it is incorrectly valued, inadequately planned for and much more difficult to create in practice than it is to compute on paper" (Damodaran 2005).

The valuation of synergies (VSynergies) can be quantified as the sum between the *value of the synergies in place and the value of real options synergies*.

Equation 2.2 Valuation of Synergies

VSynergies in place = the sum of free cash flow discounted at the weighted average cost of capital.

Source: Bruner (2004)

The acquiring company's share price will change according to the valuation of the targeted company cumulated with the valuation of synergies to be achieved. Table 2.1 presents a theoretical model of change in the acquiring company's share price:

The stock market seems to discount the value of the future entity's cost saving benefits, following a merger or acquisition and gives a larger

Table 2.1 Buyer's share price

Buyer's share price will:	
Rise	Price target is *less* than (stand alone value of the company targeted + value of synergies)
Not change	Price target equals the stand alone value of the company targeted + value of synergies
Fall	Price of the company targeted *is higher* than (stand alone value of the targeted company + value synergies)

Source: Bruner (2004)

discount to revenue-enhancing forecasted synergies (Houston and Ryngaert 1997).

Bank mergers have proven to be successful when one partner was inefficient, and the merger focused on geography, activity, and earnings.

Acquiring for Value

Acquiring for value pays off in acquisitions focused on creating long-term value, while *glamour* acquiring does not. Companies with high book-to-market value ratios (overvalued) underperform after acquisition, when compared to value-oriented buyers (low book-to-market ratios companies). "Value acquirers earn significant abnormal returns of 8 percent in mergers and 16 percent in tender offers. Glamour acquirers earn a significant –17 percent in mergers and insignificant +4 percent in tender offers" (Vermaelen and Rau 1998).

Diversification in M&As

Restructurings, divestitures, spin-offs, and carve-outs prove to pay off. The sale of underperforming businesses is greeted positively by investors. It is uncertain if diversification *helps or hurts*, and most studies are in favor of continuous *reshaping* of the business to respond to or differentiate from the competing environment.

CHAPTER 3

Case Study—Turquoise Hill Resources, Previously Known as Ivanhoe Mines

Introduction

Turquoise Hill Resources (TRQ: TSX, NYSE & NASDAQ), previously known as Ivanhoe Mines, is an international mining company focused on copper, gold, and coal mines in the Asia Pacific region. The main asset of the company consists of 66 percent interest in Oyu Tolgoi, one of the world's largest copper–gold–silver mines. In 1999, the exploration project at Oyu Tolgoi was discontinued by BHP Billiton because of budget cuts, and the Oyu Tolgoi exploration concession was offered for joint venture. Furthermore, in May 2000, Ivanhoe Mines signed an option agreement with BHP Billiton for 100 percent interest in the Oyu Tolgoi Concession (Turquoise Hill Resources 2014a). See Table 3.1, the history of the acquisition of Oyu Tolgoi in 2000.

Mergers and Acquisition Deal Structuring—Tactics and Defenses

The structure of a mergers and acquisitions (M&A) deal should include the resources, opportunities, and constraints under which an M&A operates. Forces that shape an M&A deal are economics of opportunity, equitable distribution of costs and revenues, consolidation strategies, reputation and impact of acquiring company, enhanced due diligence, and takeover regulatory framework.

Table 3.1 Acquisition of Oyu Tolgoi Project in 2000 by Ivanhoe Mines

Date	Counterparty	Acquisitions	Cost of acquisition	Exploration costs	Other
Early 2002	Ivanhoe Mines	100% ownership of Turquoise Hill project	USD 5 M	USD 6 M	2% net smelter royalty for BHP Billiton
Nov 2003	Ivanhoe Mines	2% royalty from BHP Billiton	USD 37 M		

Source: Turquoise Hill Resources (2014), "Oyu Tolgoi (copper-gold), Mongolia," Projects. http://www.turquoisehill.com/s/Oyu_Tolgoi.asp

Takeover defenses are designed to slow down an unwanted offer or to persuade the acquiring company to raise the bid. The acquiring company will exercise further pressure through tender offer* and litigation on the targeted company's board to revoke the antitakeover provisions.

Once the bidder's friendly approach to the targeted company's board expires, the acquiring company will adopt a more aggressive (hostile) approach, such as the Bear Hug,† proxy fight,‡ open market purchase, and tender offer. Main objectives of the acquiring company are to gain control of the target company, reduce the premium and the cost of the transaction, and facilitate the postacquisition integration. No poison pill provides any protection against a proxy fight (DePamphilis 2012).

---

*A *tender offer* happens when one company will make a friendly or unfriendly offer to purchase shares in another company. It usually includes a premium above the market price. Any corporation or individual acquiring more than 5 percent of a company's shares is required by the Securities and Exchange Commission's (SEC) laws to disclose this purchase to them, the target company, and the stock exchange (Investopedia 2014).

†*Bear hug* refers to the offer made by one company to buy the shares of the targeted company at a much higher price per share than what that company is worth. Bear Hug is most common when there is doubt that the target company's management will be willing to sell. Since management's fiduciary duty includes their responsibility to look out for the best interests of the shareholders, management is legally bound to accept this generous offer (Investopedia 2014).

‡A *proxy fight* happens when the majority of shareholders join forces and vote out the current management of the company. It is supposed to facilitate the takeover (Investopedia 2014).

Post-tender offer defenses consist of greenmails, standstill agreements, white knights, employee stock ownership plans, leveraged recapitalizations, share repurchases or buybacks, corporate restructurings, and litigations.

A poison pill is adopted before or after a hostile takeover has been declared. They can be issued as a dividend, without a shareholder vote, unless otherwise specified in the bylaws, and their main purpose is to dilute the bidder's (acquirer's) ownership in the targeted company. Poison pills are known to raise the cost of the acquisition process (DePamphilis 2012).

Friendly takeovers will facilitate the transition once the acquisition has been completed.

Current Takeover Defense Profile of Turquoise Hill Resources

Ivanhoe Mines had adopted a poison pill as an antitakeover measure on May 7, 2010 by the approval of the board of directors and canceled the possibility to grant pre-emptive rights to existing shareholders in 2012. The company had entitled the supermajority of qualified majority voting shareholders to amend charters and bylaws in 2012 (Thomson Reuters 2014c).

Ivanhoe Mines had adopted the golden parachute as a benefit to top executives, in case of change of control of the company, such as a hostile takeover. Golden parachutes represent an antitakeover measure and require payment of additional benefits, such as stock options, cash bonuses, and generous severance pay, in case of takeover or merger. Since most acquirers will want to run the newly acquired company in their own style, most of the times they will terminate previous leadership employment and pay the cost of the golden parachutes. Tables 3.2 and 3.3 present the takeover defense provisions and the Board Structure of TRQ and its competitors. It is noticeable that only 36 percent of basic materials companies have adopted the staggered boards structure.

The ability to grant pre-emptive rights to existing shareholders refers to the privilege offered to selected shareholders to purchase additional shares in the company, before the general public. A pre-emptive right

should be included in the shareholders' agreement and will allow the founders to maintain their ownership percentage undiluted, in case of future offerings (Investopedia.com 2014).

Cross-shareholding refers to a public company owning shares in another public company. Cross holding can lead to double counting and confusion in the valuation process, where securities are counted twice, once for the issuing company and once for the holder of security (Investopedia.com 2014).

Table 3.2 Turquoise Hill Resources, previously known as Ivanhoe Mines—takeover defense provisions in force

	2012	2011	2010	2009
Poison pill	Yes	Yes	Yes	No
Adoption date	04/05/10	04/05/10	04/05/10	n/a
Expiration date	04/05/13	04/05/13	04/05/13	n/a
Ability to grant pre-emptive rights to existing shareholders	No	Yes	Yes	Yes
Unlimited authorized capital or a blank check	Yes	Yes	Yes	Yes
Golden parachute	Yes	Yes	Yes	Yes
Significant company cross-shareholding	n/a	n/a	n/a	n/a
Limited shareholders' right to call special meetings	n/a	n/a	n/a	n/a
Limitations on director removal	Yes	Yes	Yes	n/a
Limitation of director liability	Yes	Yes	Yes	Yes
Permit actions by written consent	n/a	n/a	n/a	n/a
Advance notice deadlines for shareholder proposals	n/a	n/a	n/a	n/a
Advance notice period (days)	n/a	n/a	n/a	n/a
Fair price provision (through by-laws and state statutes)	n/a	n/a	n/a	n/a
Expanded-constituency provision	n/a	n/a	n/a	n/a

Source: Adapted from *Turquoise Hill Resources—takeover defense* provisions in force, retrieved from http://www.thomsonreuters.com

Table 3.3 Turquoise Hill Resources, previously known as Ivanhoe Mines—board structure of TRQ and its key competitors

	Company	Key competitors					Thomson Reuters business classification (TRBC)* economic sector	Indexes†		
	Turquoise Hill Resources Ltd.	Freeport-Mcmoran Copper & Gold Incorporated	Southern Copper Corporation	Hudbay Minerals Inc.	BHP Billiton Limited	Thompson Creek Metals Company Inc.	Basic Materials	S&P 500	NASDAQ 100	RUSSELL 1000
Board size	13	12	12	9	13	7	8	11	10	10
Classified board structure‡	No	No	No	No	No	No	1%	0%	0%	0%
Staggered board structure§	No	No	No	No	No	No	36%	29%	28%	37%

*TRBC classifies the primary business activity of over 72,000 listed companies from 130 countries into a five level hierarchy (Thomson Reuters 2014).

†S&P 500 is based on 500 stocks chosen for market size, liquidity, and industry classification. The S&P 500 is a market value weighted index—each stock's weight is proportionate to its market value (Investopedia 2014). Nasdaq or Nasdaq Composite is an index of more than 3,000 stocks listed on the Nasdaq exchange, and includes the world's foremost technology and biotech giants such as Apple, Google, Microsoft, Oracle, Amazon, Intel, and Amgen (Investopedia 2014). Russell 1000 is a market capitalization-weighted index, meaning that the largest companies constitute the largest percentages in the index and will affect performance more than the smallest index members (Investopedia 2014).

	Company	Key competitors					Thomson Reuters business classification (TRBC)* economic sector	Indexes†		
	Turquoise Hill Resources Ltd.	Freeport-Mcmoran Copper & Gold Incorporated	Southern Copper Corporation	Hudbay Minerals Inc.	BHP Billiton Limited	Thompson Creek Metals Company Inc.	Basic Materials	S&P 500	NASDAQ 100	RUSSELL 1000
Nomination committee	**Yes**	Yes	Yes	Yes	Yes	No	58%	75%	84%	81%
Compensation committee	**Yes**	Yes	Yes	Yes	Yes	Yes	68%	96%	100%	96%
Corporate governance committee	**Yes**	Yes	Yes	Yes	Yes	Yes	41%	95%	90%	93%
Audit committee	**Yes**	Yes	Yes	Yes	Yes	Yes	79%	100%	100%	100%
Is the company's CEO also a board member?	**Yes**	Yes	Yes	Yes	Yes	Yes	91%	99%	98%	98%

Source: Adapted from Turquoise Hill Resources (TRQ)—board structure and its key competitors, retrieved from http://www.thomsonreuters.com

‡Classified board structure—A structure for a board of directors in which a portion of the directors serve for different term lengths, depending on their particular classification. Staggered boards need not be classified, but classified boards are inherently staggered (Investopedia 2014).

§Staggered board structure—are specific to a classified board because of the different classes involved.

Current Takeover Defense Profile of Rio Tinto Plc

Rio Tinto Plc did not have a poison pill in place, as of May 2014.

Poison pills are most common to companies which fight a hostile takeover threat. Classified board structures are powerful antitakeover measures and should enhance continuity and preservation of skills. Shareholders have criticized this type of board structure, since it would encourage complacency. Staggered boards are inherently classified boards, because of their structure, by staggering the board in a few classes. During elections, only one class would be open for elections, and, therefore, classified boards would be a powerful tool against takeovers since it would be more difficult to establish relationships with management (Investopedia.com 2014).

There have been no changes to the preceding profile of Rio Tinto since 2009, except for the unlimited authorized capital (blank check) that has been in place since 2011 and the advance notice deadlines for shareholder proposals.

Thomson Reuters provided a comparable analysis between Rio Tinto's takeover defenses and its competitors, benchmarked by industry indexes, such as TRBC economic sector, S&P 500, Nasdaq, and Russell 1000 (Thomson Reuters 2014f).

The ability to grant pre-emptive rights to existing shareholders refers to the right of not being able to issue new shares without first offering them to the existing shareholders who have pre-emptive rights (Morawetz 1928). Furthermore, there are no confidential voting policies, reduced or eliminated cumulative voting, in board member elections for either Rio Tinto or the previously mentioned competitors (Thomson Reuters 2014f).

Tables 3.4 to 3.6 present the takeover defense profile of Rio Tinto Plc, and a comparable analysis of its the board structure with the ones of its competitors. Rio Tinto's board structure is very similar to its competitors.

Table 3.4 Rio Tinto Plc—takeover defense profile as of May 14, 2014 at 06:09 p.m.

Company:	Rio Tinto Plc
TRBC economic Sector:	Basic materials
TRBC business Sector:	Mineral resources
Fiscal year end:	12/31/13
Auditor:	Price Waterhouse Coopers

Takeover defense provisions in force		Voting provisions	
Poison pill	No	Confidential voting policy	No
Adoption date	n/a	Reduced or eliminated cumulative voting in board member elections	No
Expiration date	n/a	Supermajority or qualified majority voting requirements to amend charters and bylaws	Yes
Ability to grant pre-emptive rights to existing shareholders	No	Supermajority or qualified majority voting requirements to approve significant company transactions	n/a
Unlimited authorized capital or a blank check	Yes		
Golden parachute	No	**Board structure**	
Significant company cross shareholding	No	Board size	13
Limited shareholders' right to call special meetings	Yes	Classified board structure	No
Limitations on director removal	No	Staggered board structure	No
Limitation of director liability	Yes	Nomination committee	Yes
Permit actions by written consent	n/a	Compensation committee	Yes
Advance notice deadlines for shareholder proposals	Yes	Corporate governance committee	No
Advance notice period (days)	45	Audit committee	Yes
Fair price provision (through by-laws and/or state statutes)	n/a	Is the company's CEO also a board member?	Yes
Expanded-constituency provision	n/a		

Source: Adapted from *Current Rio Tinto Plc—takeover defense profile*, retrieved from http://www.thomsonreuters.com

Table 3.5 Rio Tinto Plc—takeover defense provisions in force compared with its competitors

	Company	Key competitors							TRBC economic sector	Indexes		
	Rio Tinto Plc	Anglo-American Plc	BHP Billiton Plc	Glencore Xstrata Plc	Kazakhmys Plc	Antofagasta Plc	Vedanta Resources Plc	Vale S.A.	Basic materials	S&P 500	NASDAQ 100	RUSSELL 1000
Poison pill	**No**	No	No	n/a	No	No	No	n/a	23%	10%	11%	16%
Ability to grant pre-emptive rights to existing shareholders	**No**	Yes	Yes	Yes	No	No	No	Yes	17%	3%	5%	2%
Unlimited authorized capital or a blank check	**Yes**	Yes	No	No	No	No	No	No	47%	94%	90%	94%
Golden parachute	**No**	No	No	No	No	No	No	No	56%	96%	94%	96%
Significant company cross-shareholding	**No**	No	No	n/a	No	No	No	n/a	0%	0%	0%	0%
Limited shareholders' right to call special meetings	**Yes**	No	No	n/a	Yes	Yes	No	Yes	81%	100%	99%	99%
Limitations on director removal	**No**	No	No	No	No	No	No	n/a	43%	56%	43%	58%
Limitation of director liability	**Yes**	Yes	Yes	Yes	Yes	Yes	Yes	n/a	93%	100%	99%	100%

(*Continued*)

Table 3.5 Rio Tinto Plc—takeover defense provisions in force compared with its competitors (Continued)

	Company	Key competitors							TRBC economic sector	Indexes		
	Rio Tinto Plc	Anglo-American Plc	BHP Billiton Plc	Glencore Xstrata Plc	Kazakhmys Plc	Antofagasta Plc	Vedanta Resources Plc	Vale S.A.	Basic materials	S&P 500	NASDAQ 100	RUSSELL 1000
Permit actions by written consent	**n/a**	n/a	n/a	n/a	n/a	n/a	n/a	n/a	75%	56%	59%	58%
Advance notice deadlines for shareholder proposals	**Yes**	Yes	Yes	No	Yes	Yes	n/a	n/a	100%	100%	100%	100%
Advance notice period (days)	**45**	7	40	7	7	7	n/a	n/a	65	89	87	88
Fair price provision (through by-laws and state statutes)	**n/a**	n/a	n/a	n/a	n/a	n/a	n/a	n/a	73%	93%	91%	96%
Expanded-constituency provision	**n/a**	n/a	n/a	n/a	n/a	n/a	n/a	n/a	100%	100%	100%	98%

Source: Adapted from *Current Rio Tinto Plc—takeover defense profile*, retrieved from http://www.thomsonreuters.com

Table 3.6 Board structure of Rio Tinto Plc and its competitors

	Company	Key competitors							TRBC economic sector	Indexes		
	Rio Tinto Plc	Anglo-American Plc	BHP Billiton Plc	Glencore Xstrata Plc	Kazakhmys Plc	Antofagasta Plc	Vedanta Resources Plc	Vale S.A	Basic materials	S&P 500	NASDAQ 100	RUSSELL 1000
Board size	**7**	11	13	8	9	10	8	14	8	11	10	10
Classified board structure	**No**	No	No	No	No	No	No	No	1%	0%	0%	0%
Staggered board structure	**No**	No	No	No	No	No	No	Yes	36%	29%	28%	37%
Nomination committee	**Yes**	Yes	Yes	Yes	Yes	Yes	Yes	No	58%	75%	84%	81%
Compensation committee	**Yes**	Yes	Yes	Yes	Yes	Yes	Yes	No	68%	96%	100%	96%
Corporate governance committee	**No**	No	Yes	No	No	No	No	Yes	41%	95%	90%	93%
Audit committee	**Yes**	Yes	Yes	Yes	Yes	Yes	Yes	No	79%	100%	100%	100%
Is the company's CEO also a board member?	**Yes**	Yes	Yes	Yes	Yes	n/a	Yes	No	91%	99%	98%	98%

Source: Adapted from Rio Tinto Plc, company overview, retrieved from http://www.thomsonreuters.com, and Thomson Reuters (2014b)

Significant Developments of Ivanhoe Mines Prior to the Creeping Takeover by Rio Tinto Plc

On October 18, 2006, Ivanhoe Mines announced a strategic partnership with Rio Tinto to develop Mongolian copper–gold resources. The first requirement was that Rio Tinto will invest USD 303 million in the equity of Ivanhoe Mines, an amount that would have increased to approximately USD 1.5 billion via two private placements. Following the first investment, Rio Tinto had gained 9.95 percent ownership in the Ivanhoe Mines stock. The two private placements, and an additional top-up right, gave Rio Tinto a cumulative ownership of up to 19.9 percent of Ivanhoe's issued shares, the equivalent of a minimum of USD 691 million in Ivanhoe's equity. In addition to the two private placements, Rio Tinto had been granted warrants over approximately 92 million shares of Ivanhoe's stock. When exercised, the warrants should provide additional funding of a minimum of USD 808 million and a 33.35 percent stake in Ivanhoe's fully diluted share capital (Ivanhoe Mines 2006).

"This partnership with Rio Tinto is the most significant strategic step in Ivanhoe's 13-year history," Robert Friedland said. The agreement fulfills Ivanhoe's vision to fund a partnership that will lead to the completion of the successful mining complex—Oyu Tolgoi—the world's largest undeveloped copper–gold resource. Tom Albanese, Rio Tinto's director of the group resources has joined the board of directors of Ivanhoe Mines (Ivanhoe Mines 2006).

The Standstill Agreement—was set to expire on October 18, 2011*

Following the closing of the first private placement, the standstill agreement was set to expire on October 18, 2011. The agreement was meant to prevent Rio Tinto Plc from exceeding 40 percent ownership in Ivanhoe' stock, without prior board approval.

---

*A *standstill agreement* is a contract that delays or stops a hostile takeover, by asking the acquirer to limit its holdings (Investopedia 2014).

On September 11, 2007, John Macken, president and CEO of Ivanhoe Mines, and Peter Meredith, deputy chairman, announced that Ivanhoe Mines has secured access to a nonrevolving, credit convertible* facility of up to USD 350 million. This line of credit has modified the terms of the initial standstill agreement, by increasing Rio Tinto's total investment in Ivanhoe to USD 2.3 billion, the equivalent of 46.65 percent ownership in Ivanhoe. Rio Tinto has also gained the right of first offer on future equity placements (Ivanhoe Mines 2007b).

On August 24, 2011, Rio Tinto raised its ownership stake in Ivanhoe Mines to 48.5 percent by exercising its subscription right to acquire additional 27,896,570 common shares of Ivanhoe Mines. This acquisition has generated total proceeds of CAD 529,476,898 for Ivanhoe Mines, and raised Rio Tinto's interest in Ivanhoe Mines from 46.5 to 48.5 percent. The subscription right exercise was made in accordance with the terms of the December 2010 heads of agreement between Ivanhoe Mines and Rio Tinto (Ivanhoe Mines 2011b).

Following the exercise of this subscription right, Ivanhoe Mines' cash position has increased to approximately USD 1.7 billion. Rio Tinto's maximum level of ownership in Ivanhoe Mines has been capped at 49 percent until the current standstill limitation expired on January 18, 2012. Rio Tinto announced in a press release that they were reinforcing their commitment to the Oyu Tolgoi Project, "which is a natural fit with its strategy of focusing on cost-competitive, long-life assets with significant growth potential" (Ivanhoe Mines 2012b).

At this time, Ivanhoe Mines owned 66 percent of the Oyu Tolgoi copper–gold–silver project, and the government of Mongolia owned the remaining 34 percent. Rio Tinto's combined investment in Ivanhoe Mines, since their strategic partnership in October 2006, has increased to more than USD 4 billion through the purchase of shares, the exercise of warrants, and converted debt facilities.

---

*_Convertibles_ are securities, usually bonds or preferred shares, which can be converted into common stock. Convertibles are ideal for investors who demand greater potential for appreciation than bonds provide and higher income than common stocks offer. Convertible bonds will offer a lower coupon than a standard bond. However, the availability of converting a bond into common stock adds value to the bond holder (Investopedia 2014).

Shareholders' Rights Plan

Ivanhoe Mines adopted a plan to protect shareholders' rights at the Annual General Meeting on May 7, 2010, to "ensure fair treatment of all shareholders, during a takeover bid or any other transaction that would lead to change of control of the company. The Plan did not affect the rights of Rio Tinto to increase its present 22.4 percent interest in Ivanhoe Mines" during the five-year standstill agreement between Ivanhoe and Rio Tinto (Thomson Reuters 2014c).

The Investment Agreement

On October 6, 2009, Rio Tinto Plc announced that Ivanhoe Mines, Rio Tinto International Holdings, and the government of Mongolia have signed the investment agreement for the development of the Oyu Tolgoi, the largest undeveloped copper–gold project in the world. Consequently, the Government of Mongolia owned 34 percent ownership of Ivanhoe Mines Mongolia Inc. LLC who was the permits holder of the Oyu Tolgoi Project. At this time, Rio Tinto Plc had the right to acquire up to 43.1 percent of Ivanhoe's shares through fixed price options and the possibility to increase ownership stake to 46.65 percent through open market purchases (Thomson Reuters 2014c).

Legacy of Ivanhoe Mines

On April 18, 2012, Robert Friedland resigned from the CEO position of Ivanhoe Mines and left behind a billion dollar company that he built from scratch. Tom Albanese was considered successful for this creeping takeover, after the criticism he had received for overpaying the premium for the acquisition of Alcan Inc. in 2007.

According to Ivanhoe, Rio Tinto had breached a joint venture agreement which was signed for the development of the USD 13.2 billion Oyu Tolgoi project, one of the largest untapped copper–gold mines at the time. According to the independent ruling, Rio Tinto did not breach any of the contracts in place. Following an agreement signed in December 2010, the Group was going to invest USD 1.3 billion in Ivanhoe via shareholders' rights offering and USD 1.8 billion in the interim financing, for the funding and oversight of the development of Oyu Tolgoi project in Mongolia.

Ivanhoe Mines' discovery of the Oyu Tolgoi project will leave a particular legacy to the Mongolian people. Ever since the discovery of Oyu Tolgoi, the city of Ulan Bator has been growing, and Mongolia has posted increasing annual gross domestic product (GDP) with a growth rate of 11.50 percent for the past year (Trading Economics 2014). According to Cameron McRae, former President and CEO of Oyu Tolgoi, the effect of the copper–gold mine on the Mongolian economy is going to boost the GDP of the entire country, at a rate of 33 percent by 2020.

Turquoise Hill Resources, Previously Known as Ivanhoe Mines

Strategic Company Analysis

The consolidated market capitalization of TRQ was USD 7,811 million as of April 30, 2014, with a one-year total return of 21.64 percent. The company's value was an estimated USD 9,573 million on April 30, 2014. Rio Tinto Plc is the principal shareholder of TRQ, owning 50.79 percent of its issued and outstanding shares, with a float* of 46 percent (Thomson Reuters 2014a). See Tables 3.7 and 3.8 for the capital structure of TRQ.

Table 3.7 TRQ capital structure as of April 30, 2014

TRQ capital structure (in USD million)			
Consolidated market cap*	7,811.00	Total shareholder's equity	4,965.00
− cash and short term	78.00	Total capital	—
+ short term debt	2,129.00	Debt to equity	44.84
+ long term debt	97.00	Debt to capital	104.56
+ preferred stock	(173.42)		
+ minority interest	(368.58)		
= enterprise value (EV)	9,573.00		

*Consolidated market cap refers to the equity market value.
Source: Adapted from Turquoise Hill Strategic Company Analysis, retrieved from http://www.thomsonreuters.com (accessed on April 30, 2014), and Thomson Reuters (2014e)

*Float refers to a company's shares trading without restrictions on stock exchanges (Investopedia 2014).

Table 3.8 TRQ financial summary as of April 30, 2014

TRQ financial summary (USD million)	Last 12 months as of 12/31/13	12/31/13 (actual)	12/31/14 (estimate)	12/31/15 (estimate)
Sales	108.00	110.00	2,061.00	2,200.00
Growth	(14.70)	46.20	1,808.20	6.80
Gross profit	111.00	(98.00)	–	–
EBITDA	(137.00)	(140.00)	442.00	475.00
EBIT	(198.00)	(202.00)	332.00	307.00
Net income	(110.00)	(112.00)	157.00	73.00
Earnings per share (EPS)	(0.08)	(0.08)	0.70	0.06
Growth	(82.50)	(82.50)	(177.80)	(13.40)
Free cash flow	(1,438.00)	(1,467.00)	–	–

Source: Adapted from Turquoise Hill Strategic Company Analysis, retrieved from http://www.thomsonreuters.com (accessed on April 30, 2014)

Industry Benchmark

We have used Damodaran's* metals and mining value multiple as a benchmark for our study. For the years 2014 and 2015, the estimated enterprise value to EBITDA (EV/EBITDA) ratio of Turquoise Hill Resources is out of range, when compared to Damodaran's value multiple of 8.75 for the metals and mining sector. Other financial databases show a multiple of 23.17 for the ratio of EV/EBITDA at March 31, 2014, and a multiple of 8.44 for EV/EBITDA at December 31, 2014. His study is based on 7,766 companies in 96 industries and covers the United States, Australia, New Zealand, Canada, Europe, emerging markets, and Japan (Damodaran 2014). See Table 3.9 for TRQ value multiples as of April 30,

*Aswath Damodaran is a professor of finance at the Stern School of Business at New York University, where he teaches corporate finance and equity valuation. He is best known as author of several widely used academic and practitioner texts on valuation, corporate finance, and investment management. Damodaran is widely quoted on the subject of valuation, with "a great reputation as a teacher and authority" (http://pages.stern.nyu.edu/~adamodar/).

Table 3.9 TRQ—key ratios as of April 30, 2014

TRQ—key ratios	Last 12 months as of 12/31/13	12/31/13 (actual)	12/31/14 (estimate)	12/31/15 (estimate)
Enterprise value/sales	91.60	47.40	4.60	4.30
Enterprise value/EBITDA*	neg	neg	21.60	20.10
Enterprise value†/EBIT	neg	neg	28.70	31.00
Total debt/enterprise value	0.20	0.40	—	—
Total debt/EBITDA	neg	neg	4.90	4.50
EBITDA/interest expense	(2.20)	(2.20)	7.50	8.10
EBITDA—capital expenditure/interest expense	(19.50)	(19.50)	(9.70)	(9.20)
EBIT/interest expense	(3.20)	(3.20)	5.60	5.20
Price/earnings (PER)‡	neg	neg	55.90	64.60
Price/sales	37.60	31.00	3.80	3.60
Price/cash flow	neg	neg	18.60	18.80
Price to book value (P/BV)§	0.80	0.70	0.90	1.10
ROA (return on assets)	−0.60	−0.60	4.50	5.00
ROE (return on equity)	−2.10	−2.10	4.20	4.30
Return on invested capital	−1.00	−0.70	—	—

Source: Adapted from Turquoise Hill Strategic Company Analysis, retrieved from http://www.thomsonreuters.com (accessed on April 30, 2014)

*EV/EBITDA *multiple* is a ratio that normalizes accounting differences, such as capital structure, taxation, and fixed asset accounting. It is a measurement of operational efficiency and it is used to compare companies within an industry (Investopedia, 2014).

†Enterprise value (EV) refers to the aggregate value of a company rather than its market capitalization (Investopedia 2014).

‡PER is a price–earnings ratio, which increases with growth, when the return on the company's investments is greater than the cost of capital, therefore, when shareholder value is created (Fernandez 2002).

§P/BV ratio compares a stock market value to its book (accounting) value. It is calculated by dividing the current closing price of the stock by the latest quarter's book value per share. A lower ratio may be a sign that the company is undervalued (Investopedia 2014).

Table 3.10 Value multiples by sector as of January 5, 2014

Industry name	Number of firms	EV/ EBITDA	EV/ EBIT	EV/EBIT (1–t)
Cable TV	16	9.01	14.27	21.05
Computers/peripherals	66	8.61	10.65	14.20
Electronics (consumer and office)	26	8.95	13.06	16.11
Health care facilities	47	9.15	13.14	17.58
Insurance (general)	26	9.00	11.94	14.18
Insurance	53	8.97	8.77	11.80
Metals and Mining	**134**	**8.75**	**13.94**	**21.06**
Oilfield svcs and equip.	163	8.63	11.21	15.57
Packaging and container	24	9.12	12.86	17.04
Reinsurance	3	8.81	12.32	16.13
Retail (general)	21	9.12	13.61	20.98
Total market	**7766**	**11.45**	**17.93**	**24.15**

Source: Value multiples by sector. Retrieved from http://www.damodaran.com

2014. Table 3.10 is an extract of Damodaran's value multiples, including mining and metals, as of January 2015.

American Appraisal's valuations in energy, mining, and utilities fell in 2012 from 2011, because of a decreasing demand from China. A *continuous* slowdown in the natural resource sector could raise goodwill impairment risk and charges for the acquisitions completed in the recent years (American Appraisal.com 2015).

The EBITDA and EV/EBITDA for the nonferrous metals main competitors of TRQ are shown in the following table. The EV/EBITDA is much closer to Damodaran's industry standard for four of its competitors. The total market EV/EBITDA is 11.45. As a general rule of thumb, the smaller the ratio of EV/EBITDA the better it is. A low ratio may indicate that the company is undervalued. If this ratio is above the total market and, specifically, above 8.75 for the mining sector, it implies that the company has a lot of debt. Table 3.11 presents a comparable analysis of EV/EBITDA of TRQ and its competitors.

Managers focused on creating and maximizing shareholder value are using discounted-cash-flow methods to accurately evaluate projects,

Table 3.11 EV/EBITDA competitor analysis

Name	Consolidated market cap	Sales (million)	EBITDA	Enterprise value/ EBITDA
Erdene Resource Development Corp.	9.66	–	–	–
Amogear Inc.	6.84	–	–	–
Southern Copper Corp.	25,123.18	5,953.00	49.8	9.6
Freeport-Mcmoran Copper & Gold Inc.	35,690.41	–	–	6.1
BHP Billiton Limited	180,014.77	64,713.00	48.6	6.5
Hudbay Minerals Inc.	1,644.38	486.00	4.8	–
Capstone Mining Corp.	1,002.30	326.00	23.8	5.5
Turquoise Hill Resources Limited	**7,810.96**	**108.00**	**(127.1)**	**21.7**

Source: Adapted from Turquoise Hill Strategic Company Analysis, retrieved from http://www.thomsonreuters.com (as of April 30, 2014)

divisions, and companies. However, these valuations are as valid as the underlying forecasts are. Differences in multiple valuations between competitors can suggest different interpretations according to different expectations for growth, return on invested capital (ROIC), forward-looking multiples, and the adjustment of enterprise value for the nonoperating items.

Turquoise Hill Resources (TRQ)—Debt Structure

Tables 3.12 and 3.13 present the debt structure of TRQ (Thomson Reuters 2014h).

The company has USD 8.25 billion debt compared to the enterprise value of USD 9.57 billion. The nine credit facilities are maturing in 2020 and 2025, and the repayment terms are based on LIBOR* rates (Thomson Reuters 2014h).

*LIBOR (Intercontinental Exchange London Interbank Offered Rate) rate is an international benchmark rate used to calculate loan interest rates around the world (Investopedia 2014).

Table 3.12 Turquoise Hill Resources—debt overview as of April 30, 2014

Debt overview			
Turquoise Hill Resources Ltd.			
Issuer description			
Description:		Turquoise Hill Resources Ltd.	
Immediate parent:		Rio Tinto Plc	
Ultimate parent:		Rio Tinto Plc	
Debt structure			
Name	#	Amount issued	Amount outstanding
Loans	3	8,250,000,000	–
Bonds			
Total	3	8,250,000,000	–

Source: Adapted from *Turquoise Hill Debt Overview*, retrieved from http://www.thomsonreuters.com (accessed on April 30, 2014)

On September 30, 2014, the aggregate outstanding balance of loans extended by subsidiaries of Turquoise Hill Resources to Oyu Tolgoi was $7.3 billion, including accrued interest of $1.3 billion (Turquoise Hill Resources 2014a).

Turquoise Hill Resources had consolidated cash of USD 580.6 million, a consolidated working capital deficit of USD 1.4 billion. The company had an accumulated deficit of USD 4.7 billion and an approximate USD 1.8 billion interim funding facility from Rio Tinto Plc maturing in December 31, 2013. On April 17, 2012, Turquoise Hill Resources signed a memorandum of agreement with Rio Tinto, with Rio Tinto supporting the funding of the Oyu Tolgoi mine for up to USD 4 billion.

The boards of the European Bank of Reconstruction and Development (EBRD) and of the International Finance Corporation (IFC) approved their respective participation in project financing in February 2013. Furthermore, on April 17, 2013, Rio Tinto signed commitment letters with 15 global banks at fixed pricing and terms (MD&A Q1 2013). At the end of the first quarter (Q1) of 2014, the deficit has increased to $5.79 billion (MD&A Q1 2014).

Table 3.13 Turquoise Hill Resources—debt overview detail

Issue date			Purpose			Amount		Facilities
2011/01/01 Ivanhoe Mines Ltd.			**Project finance**			**$1,800,000,000**		**1**
Facility type	Maturity date	Facility amount (USD)	Country	Currency	Issue date	Base rate/spd	Discounted spread (bps)	
Term loan		1,800,000,000	Mongolia	USD	01-Jan-2011	–	–	
2013/02/25 Turquoise Hill Resources Ltd.			**Project finance**			**$2,000,000,000**		**1**
Facility type	Maturity date	Facility amount (USD)	Country	Currency	Issue date	Base rate/spd	Discounted spread (bps)	
Undisclosed		2,000,000,000	Mongolia	USD	25-Feb-2013	–	–	
2013/05/06 Ivanhoe Mines Ltd.			**Project finance**			**$4,449,999,872**		**7**
Facility type	Maturity date	Facility amount (USD)	Country	Currency	Issue date	Base rate/spd	Discounted spread (bps)	
Term loan	06-May-2020	1,000,000,000	Mongolia	USD	06-May-2013	LIBOR+265	–	
Other loan		750,000,000	Mongolia	USD	06-May-2013	–	–	
Other loan		100,000,000	Mongolia	USD	06-May-2013	–	–	
Term loan B	06-May-2025	1,500,000,000	Mongolia	USD	06-May-2013	LIBOR+340	–	
Other loan		400,000,000	Mongolia	USD	06-May-2013	–	–	
Other loan		400,000,000	Mongolia	USD	06-May-2013	–	–	
Other loan		300,000,000	Mongolia	USD	06-May-2013	–	–	
Total loans						**$8,249,999,872**		**9**

Source: Adapted from *Turquoise Hill Debt Overview*, retrieved from http://www.thomsonreuters.com (accessed on April 30, 2014)

In the third quarter (Q3) of 2014, Turquoise Hill Resources recorded a net loss of USD 38.6 million (USD 0.02 per share), compared with a net loss of $94.0 million (USD 0.09 per share) in the third quarter of 2013, with an improvement of $55.4 million. The results from continuing operations were positive, USD 1.8 million for Q3 of 2014 compared with a net loss in Q3 of 2013 of $117.8 million. The improvement of USD 119.6 million is the result of sales at Oyu Tolgoi in late 2013, with a gross margin of USD 86.2 million, combined with reductions in operating, exploration, and corporate expenses of USD 6.1 million (Turquoise Hill Resources 2014a).

Operating cash flows from continuing operations were USD 250.2 million in the Q3 of 2014, compared with a USD 301.6 million use of cash in Q3 '13, an improvement of 183 percent, primarily as a result of sales at Oyu Tolgoi (Turquoise Hill Resources 2014a).

Turquoise Hill Resources, Previously Known as Ivanhoe Mines—Company Deals

Turquoise Hill Resources has completed 41 deals over the past 10 years with a cumulative value of USD 5,489.80 million. Seventy-nine percent of these transactions are representative to Canada, and 90 percent of the deals involve basic materials. See Tables 3.14 and 3.15 for TRQ' deals and statistics during the past 10 years. Table 3.16 outlines the largest Ivanhoe Mines deals for the past 10 years.

Table 3.14 Turquoise Hill Resources—company deals during the past 10 years

Company deals 05/02/14 12:42 a.m.		
Thomson Reuters deals		
Company:	Turquoise Hill Resources Ltd., prev. known as Ivanhoe Mines	
Source:	ThomsonONE.com—company deals	
Date:	05/01/14 23:42 GMT	
Product:	M&A	
Time Period:	2004–2014	
Currency:	USD	
Deals included:	League table eligible	
Note:	Deal list is limited to 1000 deals.	

Deal summary			
Year	**Ranking value net debt ($ million)**		**Number of deals**
2004	50.67		4
2005	196.45		4
2006	844.59		3
2007	400.72		3
2008	219.27		2
2009	554.11		8
2010	1,755.24		9
2011	815.39		3
2012	304.00		3
2013	349.36		2
2014	–		0
Total	5,489.80		41
Filter: M&A, 2004 to 2014, USD, league table eligible			

Source: Adapted from *Turquoise Hill Resources, Company Deals*, retrieved from http://www.thomsonreuters.com (accessed on May 02, 2014)

Table 3.15 Turquoise Hill Resources—deal statistics

Banking relationships				
Rank	**Financial advisors**	**Ranking value net debt($ million)**		**Number of deals**
1	CIBC World Markets Inc.	3,310.84		6
2	Citi	2,877.90		7
3	Macquarie Group	515.71		3
4	UBS	114.36		1
Total		**5,489.80**		**41**
Filter: M&A, 2004 to 2014, USD, league table eligible				
Deal statistics				
Deal sizes($ million)				
Largest deal		1,300.00		
Smallest deal		1.54		
Average deal		166.36		
Median deal		24.12		
Top countries		**By value**	**By #**	
1	Canada	79%	29%	
2	Australia	7%	37%	
3	South Africa	5%	7%	
4	Kazakhstan	4%	2%	
5	Mongolia	4%	15%	
6	Indonesia	0%	7%	
7	China	0%	2%	
Top industries		**By value**	**By #**	
1	Basic materials	90%	88%	
2	Energy	10%	12%	
Filter: M&A, 2004 to 2014, USD, league table eligible				

Note: Adapted from *Turquoise Hill Resources, Company Deals*, analysis is based on the target and excludes unknown and zero value deal sizes, retrieved from http://www.thomsonreuters.com (as of May 02, 2014)

Table 3.16 Ivanhoe Mines—top company deals

Rank date	Target name	Acquirer name	Ranking value net debt($ million)
12/08/10	Ivanhoe Mines Ltd.	Rio Tinto Ltd.	1,300.00
12/08/10	Ivanhoe Mines Ltd.	Rio Tinto Intl Hldg. Ltd	536.29
10/26/09	SouthGobi Energy Resources Ltd.	China Investment Corp.	500.00
06/29/10	Ivanhoe Mines Ltd.	Rio Tinto Ltd.	393.07
09/11/07	Ivanhoe Mines Ltd.	Rio Tinto Ltd.	390.03
10/18/06	Ivanhoe Mines Ltd.	Rio Tinto Plc	387.98
10/18/06	Ivanhoe Mines Ltd.	Rio Tinto Plc	303.47
01/24/12	Ivanhoe Mines Ltd.	Rio Tinto Plc	299.19
06/03/11	Beales Ltd.	ITC Platinum Development Ltd.	279.10
02/13/13	Altynalmas Gold Ltd.	Sumeru Gold BV	235.00
02/07/05	Ivanhoe Mines-Savage River	Stemcor Holdings Ltd.	170.00
04/26/06	Ivanhoe Mines Ltd.-Mongolian	Asia Gold Corp.	153.13
08/21/13	Inova Resources Ltd.	Shanxi Donghui Coal Coking Co.	114.36
09/02/09	Ivanhoe Mines Ltd.-Undur Naran	Freegood Inc.	24.12
12/15/09	SouthGobi Energy-Mining Asts	Kangaroo Resources Ltd.	10.90
06/27/05	Ivanhoe-Cloncurry Project	Placer Pacific(Osborne) Pty Ltd.	2.31
06/27/05	Ivanhoe-Cloncurry Project	Placer Pacific(Osborne) Pty Ltd.	1.54
06/08/12	Ivanhoe Mines Ltd.	Temasek Holdings (Pte) Ltd.	–

Source: Adapted from *Turquoise Hill Resources, Company Deals*, retrieved from http://www.thomsonreuters.com (accessed on May 02, 2014)

Significant Developments of Turquoise Hill Resources Post Takeover

Following an independent arbitrator's ruling decision received on December 12, 2011, Ivanhoe Mines announced on December 13, 2011, that the company and its legal counsel are continuing to evaluate the implications of the ruling on the company's shareholders' rights plan. The plan remained in effect and continued to apply to all its shareholders, including Rio Tinto Plc (Ivanhoe Mines 2011a).

Rio Tinto had claimed that Ivanhoe's shareholders' rights plan could have potentially breached the rights granted to Rio Tinto in the *private placement agreement* signed with Ivanhoe in October 2006. The arbitrator had determined that, if Rio Tinto triggered Ivanhoe's shareholders' rights plan, and became an *acquiring person*, the antidilution rights granted to Rio Tinto in the private placement agreement have continued to apply. Rio Tinto's maximum permitted interest in Ivanhoe Mines remained capped at 49 percent until January 18, 2012. The shareholders' rights plan remained in effect until April 2013 (Ivanhoe Mines 2012b).

Rights Offerings and Financing Packages

On July 20, 2012, Ivanhoe Mines has successfully completed the rights offering with gross proceeds of approximately USD 1.8 billion. Ivanhoe Mines was expected to issue a total of approximately 260 million new common shares, as part of a comprehensive financing plan to continue the development of the Oyu Tolgoi Project (Thomson Reuters 2014c).

On August 2, 2012, Ivanhoe Mines has changed its name to Turquoise Hill Resources. The new trading symbol TRQ has been available since August 8, 2012 (Ivanhoe Mines 2012a).

On January 31, 2013, Turquoise Hill Resources has produced its first copper–gold concentrate. On July 15, 2013, Kay Priestly, Turquoise Hill's CEO, said, "Oyu Tolgoi recently commenced concentrate shipments, which was a significant milestone. Over the past three weeks, the concentrator has averaged more than 70,000 tons of ore processed per day and is continuing to improve" (Turquoise Hill Resources 2013b).

On Jan 8, 2014, Turquoise Hill Resources has announced the successful completion of the rights offering, which generated USD 2.4 billion

gross profits. Furthermore, the company intended to use the gross profits to repay the outstanding debt remaining under the USD 1.8 billion interim funding facility and its secured USD 600 million bridge facility with Rio Tinto (Thomson Reuters 2014c).

Turquoise Hill Resources—Divestitures Postacquisition of Ivanhoe Mines

On April 18, 2012, just a few months after Rio Tinto achieved control of Ivanhoe Mines, Rio Tinto and Ivanhoe remained engaged in active talks on divesting its subsidiary interests in coal miner SouthGobi, Ivanhoe Australia, and Altynalmas Gold, a private company developing the Kyzyl gold project in Kazakhstan (Thomson Reuters 2014c).

SouthGobi Divestment

On April 1, 2012, Turquoise Hill Resources announced that Aluminum Corporation of China disclosed its intention to make a proportional takeover bid, for up to 56 to 60 percent of common shares of Ivanhoe Mines in its subsidiary, the coal miner SouthGobi Resources, at CAD 8.48 per share. As a result, Ivanhoe could have received up to approximately CAD 889 million from the sale of all of its shares in SouthGobi (Thomson Reuters 2014c).

On September 3, 2012, SouthGobi Resources announced that Turquoise Hill Resources and Chalco have agreed to terminate the lock-up agreement between the two companies, as well as Chalco's obligation to make a proportional takeover bid for up to 60 percent of the common shares of SouthGobi. This was the result of the Mongolian opposition, which was becoming wary about the growing Chinese presence in its mining sector (Turquoise Hill Resources 2012).

On July 29, 2014, Turquoise Hill announced the sale of 29.95 percent stake in SouthGobi Resources to National United Resources Holdings Limited, for approximately CAD 25.6 million. On February 24, 2015, Turquoise Hill Resources announced the sale of its remaining stake in SouthGobi Resources to Novel Sunrise Investments Limited, under the Canadian takeover bid regime. The sale included CAD 17 million and other arrangements (Turquoise Hill Resources 2014b, 2015).

Altynalmas Gold Divestment

Following the announcement on August 2, 2013, in respect of Turquoise Hill's sale of its 50 percent interest in Altynalmas Gold Ltd., the Company has now received USD 235 million from Sumeru Gold BV. The payment has been used to repay in full the current USD 225 million bridge funding agreement entered into with Rio Tinto, on June 28, 2013 (the *short-term bridge funding agreement*). On December 16, 2013, Turquoise Hill Resources announced the completion of the divestment of Altynalmas Gold stake (Turquoise Hill Resources 2013a).

Inova Resources Divestment

On November 1, 2013, Turquoise Hill Resources announced the completion of Inova Resources, for approximately USD 85 million.

Turquoise Hill Resources—Key Financials

According to the data in Table 3.17, the lowest total return in the last financial year (2013) was negative (53.82 percent), while Turquoise Hill Resources posted a negative return for the fiscal year of 2013 (58.82 percent), second lowest among competitors. Out of the 10 competitors of TRQ, only three companies posted positive annual returns, with the highest of 24.48 percent for Capstone Mining Corp. Turquoise Hill Resources, and six of its competitors have posted negative total returns for the past fiscal year of 2013 (Thomson Reuters 2014b).

The ratio of total debt–EV shows how much current debt a company has compared to its value. Lower ratios indicate decreased debt compared to the enterprise value. This ratio normalizes the different amounts of debt, making it easier to compare companies from the same industries or indexes.

Tables 3.18 and 3.19 offer a comparable analysis of Turquoise Hill Resources and its competitors, regarding EPS, return on assets, return on equity, and ROIC. The EPS TTM is negative for most of the companies, except Southern Copper Corp., Freeport-McMoran, BHP Billiton, and Lunding Mining. TTM represents the timeframe of the past 12 months used for reporting financial figures, without referring to the fiscal year end (Investopedia.com 2015).

Table 3.17 Turquoise Hill Resources—competitor comparable analysis as of May 2014

Name	Ticker	Last period end date	Price	52 week low	52 week high	Dividend yield TTM	Total return one year	Market cap—consolidated	Enterprise value
Turquoise Hill Resources Ltd.	**TRQ-T**	**12/31/2013**	**3.94**	**3.01**	**7.36**	**0.00%**	**(53.82%)**	**7,935.33**	**10,013.78**
Erdene Resource Development Corporation	ERD-T	09/30/2013	0.17	0.06	0.25	0.00%	(69.23%)	12.03	11.68
Amogear Inc.	AMOG-5	10/31/2013	0.12	0.10	0.12	—	—	6.84	6.91
Southern Copper Corporation	SCCO-N	12/31/2013	29.44	24.50	33.92	1.40%	(22.37%)	24,536.56	26,888.67
Freeport-McMoran Copper & Gold Inc.	FCX-N	03/31/2014	35.56	26.37	38.09	3.68%	6.71%	36,936.66	61,484.66
BHP Billiton Limited	BHP-AU	12/31/2013	34.27	27.22	35.59	3.46%	5.88%	176,520.53	209,271.32
HudBay Minerals Inc.	HBM-T	12/31/2013	9.20	5.67	9.44	0.22%	(11.68%)	1,776.58	1,918.62
Thompson Creek Metals Company Inc.	TCM-T	12/31/2013	2.89	1.73	4.00	0.00%	(43.69%)	496.27	1,272.11
Capstone Mining Corp.	CS-T	12/31/2013	2.66	1.58	3.15	0.00%	24.48%	1,014.73	1,440.99
Lundin Mining Corporation	LUN-T	12/31/2013	5.45	3.46	5.55	0.00%	(10.16%)	3,188.89	3,300.98
Taseko Mines Limited	TKO-T	12/31/2013	2.27	1.77	2.60	0.00%	(25.41%)	439.43	622.32
Mean			—	—	—	**0.88%**	**(19.93%)**	—	—
Median			—	—	—	**2.43%**	**(17.02%)**	—	—
High			**35.56**	**27.22**	**38.09**	**3.68%**	**24.48%**	**176,520.53**	**209,271.32**
Low			**0.12**	**0.06**	**0.12**	**0.00%**	**(69.23%)**	**6.84**	**6.91**

Source: Adapted from *Turquoise Hill Resources, Comparable Analysis*, retrieved from http://www.thomsonreuters.com (as of May 2014), and Thomson Reuters (2014d)

Table 3.18 Enterprise value multiples—comparable analysis of TRQ and its competitors

Name	Total debt/ EV	Net debt/ EV	Total debt/ equity	Net debt/ equity	Total debt/ EBITDA	Net debt/ EBITDA	EBITDA/ int. exp.	EBITDA-Capex/ int. exp.	EBIT/ int. exp.
Turquoise Hill Resources Ltd.	0.21	0.20	0.45	0.43	5.32	5.13	6.89	(10.35)	5.34
Erdene Resource Development Corporation	0.00	NEG	0.00	(0.03)	—	—	—	—	—
Amogear Inc.	0.01	0.01	(0.93)	(0.93)	—	—	—	—	—
Southern Copper Corporation	0.16	0.09	0.76	0.42	1.46	0.81	10.83	4.41	9.08
Freeport-Mcmoran Copper & Gold Inc.	0.34	0.32	0.99	0.92	2.08	1.95	14.46	6.82	8.84
BHP Billiton Limited	0.18	0.13	0.50	0.35	1.22	0.87	34.77	13.61	22.54
HudBay Minerals Inc.	0.39	0.08	0.48	0.10	5.34	1.07	2.31	(11.76)	0.96
Thompson Creek Metals Company Inc.	0.80	0.61	0.92	0.70	4.93	3.78	2.12	(2.20)	0.99
Capstone Mining Corp.	0.22	0.14	0.28	0.19	1.19	0.79	64.69	(121.39)	38.47
Lundin Mining Corporation	0.07	0.03	0.06	0.03	0.70	0.34	164.65	(167.32)	80.59
Taseko Mines Limited	0.43	0.29	0.66	0.46	2.90	2.00	3.83	(0.05)	2.42
Mean	**0.25**	**0.17**	**0.38**	**0.24**	**2.79**	**1.86**	**33.84**	**(32.02)**	**18.80**
Median	**0.21**	**0.13**	**0.48**	**0.35**	**2.08**	**1.07**	**10.83**	**(2.20)**	**8.84**
High	**0.80**	**0.61**	**0.99**	**0.92**	**5.34**	**5.13**	**164.65**	**13.61**	**80.59**
Low	**0.00**	**0.01**	**(0.93)**	**(0.93)**	**0.70**	**0.34**	**2.12**	**(167.32)**	**0.96**

Source: Adapted from *Turquoise Hill Resources, Comparable Analysis*, retrieved from http://www.thomsonreuters.com (as of May 2014), and Thomson Reuters (2014d)

Table 3.19 Comparable analysis of TRQ and its competitors

Name	Net income TTM	Net margin TTM	Net margin FY1	EPS TTM	EPS year/ year	EPS FY1	ROA TTM	ROE TTM	ROIC TTM
Turquoise Hill Resources Ltd.	**(109.11)**	**(101.71%)**	**7.46%**	**(0.08)**	**0.18**	**0.07**	**(0.57%)**	**(2.05%)**	**(2.71%)**
Erdene Resource Development Corporation	(6.16)	1,926.92%	—	(0.14)	1.52	—	(22.86%)	(24.35%)	—
Amogear Inc.	(0.05)	—	—	(0.00)	(0.00)	—	—	75.65%	173.73%
Southern Copper Corporation	1,618.52	27.19%	24.44%	1.92	0.84	1.72	17.06%	31.43%	21.39%
Freeport-Mcmoran Copper & Gold Inc.	2,658.00	12.43%	11.61%	2.64	0.83	2.65	6.30%	13.82%	—
BHP Billiton Limited	13,976.18	22.00%	21.39%	2.63	1.37	2.59	11.66%	20.80%	14.18%
HudBay Minerals Inc.	(95.40)	(19.61%)	2.89%	(0.55)	5.47	0.13	(1.02%)	(5.97%)	—
Thompson Creek Metals Company Inc.	(209.39)	(49.48%)	(2.32%)	(1.22)	0.40	(0.04)	(3.60%)	(17.34%)	(19.20%)
Capstone Mining Corp.	(8.22)	(2.54%)	13.97%	(0.02)	(0.14)	0.28	(0.87%)	(0.77%)	2.06%
Lundin Mining Corporation	133.18	18.79%	18.03%	0.23	1.15	0.24	3.33%	3.85%	2.54%
Taseko Mines Limited	(32.79)	(12.01%)	7.69%	(0.17)	2.27	0.15	(0.96%)	(7.83%)	(1.33%)
Mean	1,629.52	182.20%	11.68%	0.47	1.26	0.87	0.85%	7.93%	23.83%
Median	(6.16)	4.94%	11.61%	(0.02)	0.84	0.24	(0.72%)	(0.77%)	2.30%
High	13,976.18	1,926.92%	24.44%	2.64	5.47	2.65	17.06%	75.65%	173.73%
Low	(209.39)	(101.71%)	(2.32%)	(1.22)	(0.14)	(0.04)	(22.86%)	(24.35%)	(19.20%)

Source: Adapted from *Turquoise Hill Resources, Comparable Analysis*, retrieved from http://www.thomsonreuters.com (as of May 02, 2014), and Thomson Reuters (2014d)

Turquoise Hill Resources, Previously Known As Ivanhoe Mines—Shareholder Value Creation

Using the historical capitalization provided by Thomson Reuters, Table 3.20 presents the enterprise value—historical data and the computed increase in enterprise value. Differences in valuation and interpretation may be the result of the closing price and last trading day and exact time that we use in computing the yearly market capitalization.

For the years 2005 to 2014, the increase in enterprise value may be an indicator of added and created shareholder value. Using the historic market capitalization provided by Thomson Reuters, the following table shows the computed shareholder value added and the first quarter (Q1) total returns for the years 2005 to 2014.

The required return computed is the *maximum* between the 10-year Treasury bond yield added to the MRP × beta* and 7 percent (average expected return). An average beta of 0.9 has been used in this calculation. Beta is specific to the company and industry sector of the operational activities of the company. There is evidence of added shareholder value in the years 2006, 2007, 2009, 2010, and 2014 YTD. The results are subject to interpretation, and differences in valuation are very common. The year 2010 is a perfect example of created shareholder value. See Tables 3.21 and 3.22 for an example of computed required return and created shareholder value. We have disregarded the exercise of options and warrants which will decrease the SVA. These models can be improved with accurate in-house data.

**MRP (market risk premium)* represents the difference between the expected return on a market portfolio and the risk-free rate. For example, the required MRP equals the return of a portfolio over the risk-free rate (such as that of treasury bonds) required by an investor (Investopedia 2014).

Table 3.20 Turquoise Hill Resources—enterprise value—example of historical market capitalization

In USD billion	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014Q1
Enterprise value *historical capitalization in billion	2.77	4.51	4.97	1.24	7.67	17.05	17.05	7.70	3.33	7.75
Increase of enterprise value in billion		1.73	0.46	**(3.73)**	6.42	9.39	0.00	**(9.35)**	**(4.38)**	4.42

Source: Computed based on *Turquoise Hill Resources, Enterprise Value*, retrieved from http://www.thomsonreuters.com (as of June 2014)

Table 3.21 Example of computed required return

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
10-year T bonds (% year-end yield)	6.4%	5.1%	5.0%	3.8%	4.3%	4.2%	4.4%	4.7%	4.0%	2.3%	3.8%	3.3%	1.9%	1.8%
MRP	4.0%	5.1%	4.1%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Beta	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Required return to equity (Ke %)	**8.2%**	**11.1%**	**8.8%**	**8.7%**	**7.4%**	**7.9%**	**7.8%**	**8.0%**	**8.3%**	**7.6%**	**7.0%**	**7.4%**	**7.0%**	**7.0%**

Source: Adapted from 10-year Treasury Bonds Yield, retrieved from http://www.thomsonreuters.com (as of May 2014)

Table 3.22 Turquoise Hill Resources—example of created shareholder value

TRQ, prev. Ivanhoe Mines	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014 YTD*
EV *historical cap in USD billion	2.77	4.50	4.97	1.24	7.66	17.05	17.05	7.70	3.33	7.75
Increase of EV (USD billion)		1.73	0.46	(3.73)	6.42	9.39	0.00	(9.35)	(4.38)	4.42
(plus) + dividends paid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(less) − conversion of convertible debt in billion (Reuters)		0.00	0.14	0.35	0.54	0.25	0.14	0.10	0.10	
Shareholder value Added (SVA)		**1.73**	**0.33**	**(4.08)**	**5.88**	**9.14**	**(0.14)**	**(9.45)**	**(4.47)**	**4.42**
Shareholder return = SVA/EV* historical cap previous year		0.62	0.07	(0.82)	4.74	1.19	(0.01)	(0.55)	(0.58)	1.33
Required return to equity (Ke)**	**7.8%**	**8%**	**8.3%**	**7.6%**	**7%**	**7.4%**	**7%**	**7%**	**7%**	**7.40%**
Created shareholder value		**1.36**	**(0.11)**	**(4.62)**	**5.76**	**8.51**	**(2.03)**	**(10.95)**	**(5.14)**	**4.18**
ROA	(33.22)	(40.00)	(77.91)	(33.42)	(22.50)	(10.20)	(13.31)	(5.40)	(4.12)	
ROE	(32.20)	(43.25)	(108.32)	(76.24)	(71.39)	(19.03)	(17.17)	(5.53)	(0.57)	

*EV, dividends paid, ROA, ROE, 2014 YTD data is provided by Thomson Reuters Financials as of May 2014
**Required return to equity computed in Table 3.19.

Shareholder Return

Another way to calculate the shareholder return is using the price at the beginning of the year and the price at the end of the year, according to historical closing prices extracted from Thomson Reuters (2014a).

> Shareholder return = (increase in share price + dividends)/ share price at the beginning of the year

Based on these calculations, we can conclude that Ivanhoe Mines has generated positive shareholder return for the years 2000 to 2003, inclusive, and 2005 to 2007, inclusive. See Table 3.23.

Table 3.23 Example of computed shareholder return

TRQ	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014 Q1
Price per share (end of year)	0.63	0.73	1.24	2.09	7.96	7.19	7.19	9.83	11.05	2.53	14.94	22.92	17.72	7.27	3.25	3.85
Price per share (beginning of year)		0.62	0.82	1.8	2.08	7.35	6.46	7.82	9.17	10.73	2.92	14.61	24.15	18.57	8.91	3.06
Shareholder return		0.18	0.51	0.16	2.83	−0.02	0.11	0.26	0.21	−0.76	4.12	0.57	−0.27	−0.61	−0.64	0.26

Source: Computed based on Turquoise Hill Resources, stock price chart. Historical data retrieved from http://www.thomsonreuters.com (as of May 2014)

Rio Tinto Plc

Rio Tinto Plc (New York: RIO-LN)—Strategic Company Analysis

According to the market data available through Thomson Reuters, Rio Tinto Plc is trading at USD 53.86, daily volume of over 2 million shares sold, with a consolidated market capitalization of USD 101,884 million. The company has provided a positive one year total return of 24.05 percent, dividend yield of 3.57 percent, with a float of 100 percent shares available on the market (Thomson Reuters 2014b). Compared with Turquoise Hill Resources, the daily volume traded is lower, probably less speculative, positive one-year total return, and positive dividend yield.

According to Thomson Reuters (2014b), the revenue growth rates for Rio Tinto Plc were 1.17 in the past five years, and 18.68 for the past 10 years. EPS five year growth rates were –7.12 and +8.13 for the past 10 years. The dividend yield growth rates were 11.31 for the past five years and 13.77 for the past 10 years. For the past five years, both revenue and EPS growth rates were negative, mainly because of a decline in the commodity prices in the past few years (Thomson Reuters 2014b). See Tables 3.24 and 3.25.

Rio Tinto Plc (RIO-LN) has 12 credit facilities (loans and bonds), with 8 of them issued to Ivanhoe Mines. The total value of the credit facilities is USD 16 billion compared to USD 127.47 billion (Thomson

Table 3.24 Rio Tinto Plc capital structure

Capital structure (in USD million)			
Consolidated market cap*	**101,884**	Total shareholder's equity	4,965.00
– cash and short term	10,568	Total capital	–
+ short term debt	3,916	Debt to equity	44.84
+ long term debt	24,583	Debt to capital	104.56
+ preferred stock	0		
+ minority interest	7,616		
= enterprise value	**127,431**		

**Prices as of 04/30/14; date of filing 12/31/13.*
Source: Adapted from *RIO, Capital structure*, retrieved from http://www.thomsonreuters.com (as of May 2014)

Table 3.25 Rio Tinto Plc—financial summary

RIO financial summary (USD million)	Last 12 months as of 12/31/13	12/31/13 (actual)	12/31/14 (estimate)	12/31/15 (estimate)
Sales	51,171	51,171	55,259	60,573
Gross profit	51,220	23,618	–	–
EBITDA	8,803	8803	22,175	25,201
EBIT	4,012	4012	17,275	20,277
Net income	3,665	3,665	10,740	12,471
EPS	1.98	1.98	5.17	5.81
Growth	(130.7)	(130.7)	160.4	12.4
Free cash flow	(4,510)	(4,510)	–	–

Source: Adapted from *RIO-LN, Financial Summary*, retrieved from http://www.thomsonreuters.com (as of May 02, 2014)

Table 3.26 Rio Tinto Plc—debt structure including subsidiaries

Debt overview			
Issuer description			
Description:	Rio Tinto Plc		
Immediate parent:	–		
Ultimate parent:	–		
Debt structure			
Name	**#**	**Amount Issued**	**Amount Outstanding**
Loans	5	16,000,000,000	–
Bonds	19	13,104,000,000	13,104,000,000
Total	24	29,104,000,000	–

Source: Adapted from *RIO-LN, debt structure including subsidiaries*, retrieved from http://www.thomsonreuters.com (as of May 02, 2014)

Reuters 2014b). This ratio is much better than the debt structure for Turquoise Hill Resources, and it probably explains the possibility of the debt–EV ratio of TRQ. See Tables 3.26 to 3.28.

Table 3.27 RIO Tinto Plc—detailed debt structure including subsidiaries

Loans									
Issue date							Purpose	Amount	Facilities
2011/01/01 Ivanhoe Mines Ltd.							Project finance	$1,800,000,000	1
Facility type	Maturity date	Facility amount (USD)	Country	Currency	Issue date	Base rate/ spd	Discounted spread (bps)		
Term loan		1,800,000,000	Mongolia	USD	01-Jan-2011	—	—		
2011/08/22 Iron Ore Co. of Canada							General Purpose	$250,000,000	1
Facility type	Maturity date	Facility amount (USD)	Country	Currency	Issue date	Base rate/ spd	Discounted spread (bps)		
Revolver/line >= 1 Yr.	31-Oct-2014	250,000,000	Canada	USD	22-Aug-2011	—	—		
2013/02/25 Turquoise Hill Resources Ltd.							Project finance	$2,000,000,000	1
Facility type	Maturity date	Facility amount (USD)	Country	Currency	Issue date	Base rate/ spd	Discounted spread (bps)		
Undisclosed		2,000,000,000	Mongolia	USD	25-Feb-2013	—	—		
2013/05/06 Ivanhoe Mines Ltd.							Project Finance	$4,449,999,872	7

Facility type	Maturity date	Facility amount (USD)	Country	Currency	Issue date	Base rate/ spd	Discounted spread (bps)					
Term loan	06-May-2020	1,000,000,000	Mongolia	USD	06-May-2013	LIBOR+265	—					
Other loan		750,000,000	Mongolia	USD	06-May-2013	—	—					
Other loan		100,000,000	Mongolia	USD	06-May-2013	—	—					
Term loan B	06-May-2025	1,500,000,000	Mongolia	USD	06-May-2013	LIBOR+340	—					
Other loan		400,000,000	Mongolia	USD	06-May-2013	—	—					
Other loan		400,000,000	Mongolia	USD	06-May-2013	—	—					
Other loan		300,000,000	Mongolia	USD	06-May-2013	—	—					
2013/11/15 Rio Tinto Plc							General purpose				$7,500,000,256	2
Facility type	**Maturity date**	**Facility amount (USD)**	**Country**	**Currency**	**Issue date**	**Base rate/spd**	**Discounted spread (bps)**					
Revolver/line >= 1 Yr.	15-Nov-2016	1,875,000,000	United Kingdom	USD	15-Nov-2013	LIBOR+30	—					
Revolver/line >= 1 Yr.	15-Nov-2018	5,625,000,000	United Kingdom	USD	15-Nov-2013	LIBOR+35	—					

Source: Adapted from *RIO-LN, debt structure including subsidiaries*, retrieved from http://www.thomsonreuters.com (as of June 2014)

Issuer Ratings

Table 3.28 Rio Tinto Plc (RIO-LN)—issuer credit ratings

Issuer ratings—RIO-LN		
Agency (scope)	**Rating**	**Date**
S&P's short-term issuer credit rating (foreign) (4)	**A-2**	**08-Jul-2009**
	A-3	18-Dec-2008
	A-2	24-Oct-2007
	A-1	04-Oct-2002
S&P's short-term issuer credit rating (domestic) (4)	**A-2**	**08-Jul-2009**
	A-3	18-Dec-2008
	A-2	24-Oct-2007
	A-1	04-Oct-2002
S&P's senior unsecured (foreign) (2)	**A-**	**18-Apr-2011**
	BBB+	23-Dec-2010
S&P's long-term issuer rating (foreign) (6)	**A-**	**18-Apr-2011**
	BBB+	08-Jul-2009
	BBB	18-Dec-2008
	BBB+	24-Oct-2007
	A+	04-Oct-2002
	AA-	08-May-1990
S&P's long-term issuer rating (domestic) (6)	**A-**	**18-Apr-2011**
	BBB+	08-Jul-2009
	BBB	18-Dec-2008
	BBB+	24-Oct-2007
	A+	04-Oct-2002
	AA-	08-May-1990
S&P's commercial paper (foreign) (4)	**A-2**	**08-Jul-2009**
	A-3	18-Dec-2008
	A-2	24-Oct-2007
	A-1	04-Oct-2002
Moody's long-term issuer rating (foreign) (1)	**A3**	**12-Nov-2010**
Moody's estimated senior rating (foreign) (1)	**A3**	**01-Dec-2013**
Moody's derived long-term issuer rating (foreign) (1)	**A3**	**12-Nov-2010**

Issuer ratings—RIO-LN		
Agency (scope)	**Rating**	**Date**
Fitch's short-term issuer rating (foreign) (2)	**WD**	**26-Oct-2007**
	F1	28-Sep-2005
Fitch's short-term issuer default rating (foreign) (2)	**F2**	**26-Oct-2007**
	F1	03-Feb-2006
Fitch's long-term issuer rating (foreign) (2)	**WD**	**27-Oct-2006**
	A+	28-Sep-2005
Fitch's long-term issuer default rating (foreign) (4)	**A-**	**19-Feb-2010**
	BBB+	26-Nov-2008
	A-	26-Oct-2007
	A+	28-Sep-2005

Source: Adapted from *RIO-LN, Issuer Credit Ratings*, retrieved from http://www.thomsonreuters.com (as of May 02, 2014)

Rio Tinto Plc Industry Competitors Analysis

Porter's five forces can be used to determine and analyze the factors interacting toward the creation (destruction) of shareholder value. Barriers to entry, threat of new entrants, bargaining power of buyers and suppliers, and determinants of substitution threat represent the wind rose of the industry analysis and business strategy, used to determine the intensity of the competition and attractiveness of the market. Through the acquisition of Oyu Tolgoi, Rio Tinto has become the owner of one the largest new sources of copper in a supply-constrained market. See Tables 3.29 to 3.31.

As of April 29, 2014:

- Potash Corp. of Saskatchewan (Saskatoon) is a fertilizer company supplying to three distinct market categories, agriculture, animal nutrition, and industrial chemicals (PotashCorp 2015).
- Barrick Gold Corp. (Toronto) is the largest gold mining company in the world, headquartered in Toronto. The company has a portfolio of operating mines in Australia, Africa, North America, and South America.

Table 3.29 Rio Tinto Plc competitors by industry

By Industry stock	Latest share price	One-day % change	Five-day % change	One year % change	EPS	Recommendation	Market capitalization	Yield
Rio Tinto Group	**54.07**	**0.75**	**–1.64**	**16.81**	**5.53**	**Buy**	**76,341.43 million**	**4.038**
Potash Corp. of Saskatchewan	39.16	(0.91)	(0.38)	(7.05)	2.19	Buy	33,525.52 million	3.942
Domtar Canada Paper	100.29	(2.44)	(5.12)	45.79	1.42	n/a	23,222.06 million	2.418
Barrick Gold Corp.	19.35	1.20	(0.10)	(0.77)	(10.78)	Hold	22,536.02 million	1.14
Goldcorp Inc.	27.20	0.48	0.59	(6.79)	(3.54)	Buy	22,093.39 million	2.432
Agrium	104.69	0.13	0.11	11.37	7.59	Buy	15,075.63 million	3.159
Teck Resources	24.60	1.40	0.08	(6.78)	1.66	Buy	14,175.95 million	3.659
First Quantum Minerals	21.79	1.77	3.32	26.03	0.87	Buy	12,745.54 million	0.688
Silver Wheaton	24.64	0.57	1.03	1.32	1.14	Strong buy	8,806.26 million	1.253
Franco-Nevada Corp.	53.24	1.62	3.26	24.07	0.09	Hold	7,835.04 million	–
Methanex Corp.	69.90	2.84	1.50	60.80	3.67	Buy	6,717.46 million	1.262

Source: Adapted from *Globe and Mail, Market Data*, retrieved http://www.theglobeandmail.com/globe-investor/markets/ (as of May 2014)

Table 3.30 Rio Tinto Plc competitors by sector

By sector stock	Latest price	One-day % change	Five-day % change	One year % change	EPS	Recommendation	Market capitalization	Yield
Rio Tinto Group	**54.07**	**0.75**	**−1.64**	**16.81**	**5.53**	**Buy**	**76,341.43 million**	**4.038**
Barrick Gold Corp.	19.35	1.20	−0.10	−0.77	−10.78	Hold	22,536.02 million	1.14
Goldcorp Inc.	27.20	0.48	0.59	−6.79	−3.54	Buy	22,093.39 million	2.432
Teck Resources	24.60	1.40	0.08	−6.78	1.66	Buy	14,175.95 million	3.659
First Quantum Minerals	21.79	1.77	3.32	26.03	0.87	Buy	12,745.54 million	0.688
Silver Wheaton	24.64	0.57	1.03	1.32	1.14	Strong buy	8,806.26 million	1.253
Franco-Nevada Corp.	53.24	1.62	3.26	24.07	0.09	Hold	7,835.04 million	—
Yamana Gold Inc.	8.37	2.20	−2.11	−31.22	−0.62	Buy	6,305.15 million	1.976
Agnico Eagle Mines	32.53	2.10	7.43	4.23	−2.49	Buy	5,666.11 million	1.085
Kinross Gold	4.51	0.89	−0.22	−17.85	−4.17	Buy	5,156.86 million	—
Eldorado Gold	6.72	2.75	2.91	−11.23	−0.97	Buy	4,812.98 million	0.893

Source: Adapted from *Globe and Mail, Market Data*, retrieved from http://www.theglobeandmail.com/globe-investor/markets/ (as of May 2014)

Table 3.31 Rio Tinto Plc competitors by subsector

By subsector stock	Latest price	One-day % change	Five-day % change	One year % change	EPS	Recommendation	Market capitalization	Yield
Rio Tinto Group	**54.07**	**0.75**	**−1.64**	**16.81**	**5.53**	**Buy**	**76,341.43 million**	**4.038**
Teck Resources	24.60	1.40	0.08	−6.78	1.66	Buy	14,175.95 million	3.659
First Quantum Minerals	21.79	1.77	3.32	26.03	0.87	Buy	12,745.54 million	0.688
Turquoise Hill Resources	4.20	0.48	−0.24	−38.95	−0.09	Hold	4,225.69 million	–
Lundin Mining	5.62	2.37	3.50	44.10	0.26	Buy	3,285.69 million	–
HudBay Minerals	9.35	−0.43	3.43	17.31	−0.59	Buy	1,608.93 million	0.214
Sherritt International	4.66	−0.21	−3.32	−0.64	−2.24	Buy	1,383.74 million	0.858
Ivanhoe Mines	1.81	1.12	5.85	−40.07	−0.73	Strong buy	1,057.81 million	–
Imperial Metals Corp.	13.98	−1.55	−3.92	15.44	0.55	Buy	1,043.97 million	–
RMP Energy	8.40	2.69	5.26	117.62	0.11	Strong Buy	992.01 million	–
Katanga Mining	0.465	3.33	1.09	−32.61	0.05	Hold	886.93 million	–

Source: Adapted from *Globe and Mail, Market Data*, retrieved from http://www.theglobeandmail.com/globe-investor/markets/ (as of May 2014)

- Goldcorp, one of the world's fastest growing gold producers, headquartered in Vancouver, excels through its low-cost gold productions from safe jurisdictions in the Americas.
- Agrium Inc. (Calgary) supplies agricultural products and services in the American and Australian continents, and fertilizers in North America.
- Teck Resources Limited (Vancouver) is a company committed to responsible mining through its diversified portfolio focused on copper, steelmaking coal, zinc, and energy.
- First Quantum Minerals (Vancouver) has become the 3rd largest copper producer after the hostile takeover of Inmet Mining during 2012 through 2013. The company has operations and projects in Zambia, Mauritania, Australia, Finland, and Peru.
- Silver Wheaton Corp. (Vancouver) is the largest precious metals streaming company in the world. The company buys silver, gold, or both productions based on fixed priced agreements (Silver Wheaton Corp. 2015).
- Franco-Nevada Corporation (Toronto) is a gold royalty and stream company, with a diversified portfolio of cash-flow producing assets and interests in some of the largest projects around the world. The company is focused on generating cash flows monthly dividends, without debt (Franco-Nevada 2015).
- Methanex Corp. (Vancouver) is engaged in the production and marketing of methanol (Thomson Reuters 2014g).
- Yamana Gold Inc. is a Canadian gold producer with projects in Brazil, Argentina, Chile, and Mexico (Thompson Reuters 2014g).
- Agnico Eagle Mines Limited is a Canadian gold producer with operations, exploration, and development activities in Canada, Finland, Mexico, and the United States (Thomson Reuters 2014g).
- Kinross Gold Corp. (Toronto) is a gold mining company with mines and development projects in Brazil, Chile, Ghana, Mauritania, Russia, and the United States (Thompson Reuters 2014g).

- Eldorado Gold Corp. is a gold producer with projects in the emerging markets of Brazil, Turkey, China, Greece, and Romania (Thomson Reuters 2014g).

Lundin Mining Corp. is a mining and exploration company with operating mines in Neves-Corvo in Portugal, Zinkgruvan in Sweden, and Aguablanca in Spain (Thompson Reuters 2014g).

HudBay Minerals Inc. is a Canadian integrated mining company with assets in North and Central America. The company is focused on the discovery, production, and marketing of base metals (Thompson Reuters 2014g).

Sherritt International Corp. is a nickel mining company with projects and operations in Canada, Cuba, Indonesia, and Madagascar (Thompson Reuters 2015).

Ivanhoe Mines Ltd. (previously Ivanplats) is one of the companies founded by Robert Friedland with projects in the Sub-Saharan region (Ivanhoe Mines 2014).

Imperial Metals Corp. is a British Columbia mining company focused on base and precious metal acquisition, exploration, development, and mine operation.

RMP Energy Inc. is a company involved in the exploration and production of crude oil and natural gas (Thompson Reuters 2014g).

Katanga Mining Limited (Bar, Switzerland) is a copper and cobalt producer (Thompson Reuters 2014g).

Rio Tinto Plc—Significant Developments Related to Debt Financing

Until March 25, 2009, the company had a debt burden of USD 39 billion. Thanks to the strategic partnership with Aluminum Corporation of China (Chinalco), approved by Australia antitrust body, Rio reduced its debt by USD 19.5 billion in the first quarter of 2009. This debt burden of USD 39 billion was the result of the acquisition of Alcan Inc. See Table 3.32.

Table 3.32 Rio Tinto Plc—significant developments related to debt financing

Release date	Company	Headline	Topic
08/17/12	Rio Tinto Plc (ADR)	Rio Tinto Plc prices USD 3 billion of fixed rate bonds set to mature on August 21, 2017	Debt financing or related
03/20/12	Rio Tinto Plc (ADR)	Rio Tinto Plc's Rio Tinto Finance (USA) Plc prices USD 2.5 billion of fixed rate bonds set to mature in March, 2015	Debt financing or related
09/14/11	Rio Tinto Plc (ADR)	Rio Tinto Plc prices USD 2 billion of fixed rate bonds	Debt financing or related
05/18/11	Rio Tinto Plc (ADR)	Rio Tinto Plc's Rio Tinto Finance (USA) Limited prices USD 2 billion of fixed rate bonds	Debt financing or related
10/28/10	Rio Tinto Plc (ADR)	Rio Tinto Plc's Rio Tinto Finance (USA) Limited announces results of Cash Tender Offer for 5.875% Notes due 2013, and prices USD 2 billion of Fixed Rate Bonds	Debt financing or related
10/15/09	Rio Tinto Plc (ADR)	Rio Tinto Plc and Ivanhoe Mines Ltd. in talks to raise up to USD 2 billion for Oyu Tolgoi Project	Strategic combinations, debt financing, or related
04/14/09	Rio Tinto Plc (ADR)	Rio Tinto Plc prices USD 3.5 billion of fixed rate bonds	Debt financing or related
04/14/09	Rio Tinto Plc (ADR)	Rio Tinto Plc launches USD 1.5 billion 10 year bond at 9.375%	Debt financing or related
03/25/09	Rio Tinto Plc (ADR)	Australia antitrust body clears Rio Tinto Plc and Chinalco deal—Reuters	Debt financing or related, equity investments
Reuters reported that Australia's competition watchdog cleared Rio Tinto Plc's USD 19.5 billion tie up with China's state owned Chinalco. Under the deal, designed to help the company cut its USD 39 billion debt burden, China's aluminum firm will pay USD 12.3 billion for stakes in the company's iron ore, copper, and aluminum assets, and USD 7.2 billion for convertible notes that would double its equity stake in Rio to 18%.			

(*Continued*)

Table 3.32 Rio Tinto Plc—significant developments related to debt financing (Continued)

Release date	Company	Headline	Topic
02/12/09	Rio Tinto Plc (ADR)	Rio Tinto Plc announces strategic partnership with Aluminum Corporation of China Limited	Strategic combinations, equity investments, debt financing, or related
02/02/09	Rio Tinto Plc (ADR)	Rio Tinto Plc eyes USD 20 billion Chinalco deal as one step debt solution	Debt financing or related, equity investments
08/29/07	Rio Tinto Plc (ADR)	Rio Tinto Plc completes USD 40 billion term loan raised for Alcan acquisition	Debt financing or related
Rio Tinto Plc announced that it had successfully completed the subunderwriting phase of the syndication of its USD 40 billion term loan and revolving credit facilities. The credit facilities will be used to finance the acquisition of all the outstanding common shares of Alcan Inc. (Alcan), for a total consideration of USD 101 per common share, representing a total equity consideration of approximately USD 38.1 billion and an enterprise value of approximately USD 44.0 billion.			
08/21/07	Rio Tinto Plc (ADR)	Rio Tinto Plc raises USD 40 billion for Alcan deal	Debt financing or related
The *Financial Times* reported that Rio Tinto Plc has raised USD 40 billion to fund the takeover of Alcan, the Canadian aluminum producer, despite the turbulence in the markets. It is the most significant loan raised by a UK-listed company and the fourth largest globally.			

Source: Adapted from *Rio Tinto Plc, Significant Developments*, retrieved from http://www.thomsonreuters.com (as of June 2014)

Company Deals—Rio Tinto Plc

Rio Tinto Plc is a company of the Rio Group. According to Thomson Reuters, this company has completed 123 M&A deals, for a total value of USD 86.11 billion of net debt.

Largest Rio deal was for a total amount of USD 43.12 billion net debt for Alcan Inc.

The 10 largest Rio Tinto Plc deals involved the acquisition of Alcan Group, Riversdale Mining, Richards Bay Minerals, Cortez Gold Mine, and Clermont Mine. Please See Tables 3.33 to 3.36.

Table 3.33 Rio Tinto Plc deal summary

Deal summary 05/14/14 06:45 p.m.		
Thomson Reuters deals		
Company:	Rio Tinto Plc	
Source:	ThomsonONE.com—company deals	
Date:	05/14/14 17:45 GMT	
Product:	M&A	
Time period:	2004–2014	
Currency:	USD	
Deals included:	League table eligible	
Note:	Based on filter selections.	
Deal summary		
Year	**Ranking value net debt($ million)**	**Number of deals**
2004	1,746.15	10
2005	4,225.59	9
2006	697.02	6
2007	43,124.65	9
2008	17,302.35	13
2009	6,111.61	18
2010	6,124.82	24
2011	1,523.86	12
2012	2,868.34	12
2013	2,384.28	10
2014	–	0
Total	**86,108.65**	**123**
Filter: M&A, 2004 to 2014, USD, league table eligible		

Source: Adapted from *Rio Tinto Plc*, *Company Deals*, retrieved from http://www.thomsonreuters.com (as of June 2014)

According to Thomson Reuters league tables, the largest M&A deals with Ivanhoe Mines are listed in Table 3.35.

In the following table are some of the completed Rio Tinto deals and the related financial performance data, until June 2014. The total cumulated value of the transactions involving Ivanhoe Mines was $3.61 billion. The average EPS of the targeted companies was USD (0.69).

Table 3.34 Rio Tinto Plc—largest M&A deals

Rank date	Target name	Acquirer name	Ranking value net debt ($ million)
07/12/07	**Alcan Inc.**	**Rio Tinto Canada Holdings Inc.**	**43,032.18**
02/01/08	Rio Tinto Plc	Shining Prospect Pte Ltd.	14,284.17
05/18/04	Novelis Inc.	Shareholders	3,730.25
12/06/10	Riversdale Mining Ltd	Rio Tinto Plc	3,660.89
08/18/09	Alcan Packaging Food Europe	Amcor Ltd.	2,025.00
02/01/12	Richards Bay Minerals	Rio Tinto Plc	1,910.00
02/21/08	Cortez Gold Mine, Elko, Nevada	Barrick Gold Corp.	1,695.00
03/19/10	Rio Tinto Plc-Simandou Iron	Aluminum Corp. of China	1,350.00
07/05/09	Alcan Packaging Food Americas	Bemis Co. Inc.	1,200.00
10/25/13	Clermont Mine Joint Venture	GS Coal Pty Ltd.	1,015.00

Source: Adapted from *Rio Tinto Plc*, *Company Deals*, retrieved from http://www.thomsonreuters.com (as of June 2014)

Table 3.35 Largest M&A deals with Ivanhoe Mines

Rank date	Target name	Acquirer name	Ranking value net debt ($ million)	Target advisors	Acquirer advisors
12/08/10	Ivanhoe Mines Ltd.	Rio Tinto Intl. Holding Ltd.	536.29	CIBC World Markets Inc. (advisory); Citi (advisory)	Credit Suisse Group (advisory)
10/18/06	Ivanhoe Mines Ltd.	Rio Tinto Plc	387.98	CIBC World Markets Inc. (advisory)	—
10/18/06	Ivanhoe Mines Ltd.	Rio Tinto Plc	303.47	CIBC World Markets Inc. (advisory)	—
01/24/12	Ivanhoe Mines Ltd.	Rio Tinto Plc	299.19	Citi (advisory)	Credit Suisse Group (advisory)
06/08/12	Ivanhoe Mines Ltd.	Temasek Holdings (Pte) Ltd.	—	Citi (advisory)	—

Source: Adapted from *Rio Tinto Plc*, *Company Deals*, retrieved from http://www.thomsonreuters.com (as of June 2014)

Table 3.36 Rio Tinto Plc completed M&A deals

Announcement date	Target name	Acquirer name	Enterprise value at announcement (USD million)	Value of transaction (USD million)	Target share price—four weeks prior to announcement date (USD)	Target earnings per share LTM (USD)	Target EBITDA LTM (USD million)	EBIT last twelve months (USD million)	EV/ EBITDA
08-01-2013	Palabora Mining Co. Ltd.	Rio Tinto South Africa Ltd.	365.13	143.97	11.22	−0.24	170.82	101.16	2.52
01-24-2012	**Ivanhoe Mines Ltd.**	**Rio Tinto Plc**	**14,227.76**	**299.19**	**17.98**	**−0.72**	**−344.98**	**−375.24**	—
10-19-2011	Hathor Exploration Ltd.	Rio Tinto Plc	591.62	590.34	3.14	−0.09	−7.51	−7.70	—
02-10-2011	Rio Tinto Plc	Rio Tinto Plc	95,474.99	7,000.00	71.29	7.40	22,718.14	19,259.19	4.03
12-08-2010	**Ivanhoe Mines Ltd.**	**Rio Tinto Ltd.**	**6,617.34**	**1,300.00**	**26.23**	**−0.72**	**−249.05**	**−275.03**	—
12-08-2010	**Ivanhoe Mines Ltd.**	**Rio Tinto Intl. Holding Ltd.**	**12,942.57**	**536.29**	**26.23**	**−0.63**	**−325.70**	**−350.93**	—
12-06-2010	Riversdale Mining Ltd.	Rio Tinto Plc	3,660.89	3,908.48	12.25	−0.00	14.45	6.46	179.45
06-29-2010	Ivanhoe Mines Ltd.	Rio Tinto Ltd.	3,258.70	393.07	—	−0.93	−255.96	−290.12	—
09-09-2008	Extract Resources Ltd.	Rio Tinto Ltd.	166.97	21.00	0.80	−0.07	−12.80	−13.20	—
09-11-2007	**Ivanhoe Mines Ltd.**	**Rio Tinto Ltd.**	**3,989.91**	**390.03**	**11.78**	**−0.86**	**−240.72**	**−277.48**	—
07-12-2007	Alcan Inc.	Rio Tinto Canada Holdings Inc.	43,032.18	37,629.98	—	5.35	4,390.92	3,274.27	9.77

(*Continued*)

Table 3.36 Rio Tinto Plc completed M&A deals (Continued)

Announcement date	Target name	Acquirer name	Enterprise value at announcement (USD million)	Value of transaction (USD million)	Target share price—four weeks prior to announcement date (USD)	Target earnings per share LTM (USD)	Target EBITDA LTM (USD million)	EBIT last twelve months (USD million)	EV/ EBITDA
10-18-2006	**Ivanhoe Mines Ltd.**	**Rio Tinto Plc**	**2,925.54**	**303.47**	**6.25**	**−0.47**	**−189.97**	**−195.13**	—
10-18-2006	**Ivanhoe Mines Ltd.**	**Rio Tinto Plc**	**3,000.03**	**387.98**	**6.25**	**−0.47**	**−189.97**	**−195.13**	—
10-05-2006	Chariot Resources Ltd.	Rio Narcea Gold Mines Ltd.	114.37	18.38	0.63	—	−1.61	−1.64	—
02-03-2005	Rio Tinto Ltd.	Rio Tinto Ltd.	12,828.74	776.48	29.65	0.39	2,913.34	1,921.33	13.39
06-30-2004	Defiance Mining Corp.	Rio Narcea Gold Mines Ltd.	34.82	39.26	0.30	0.01	−0.90	−8.22	—
09-17-2002	Coal & Allied Industries Ltd.	Rio Tinto Ltd.	1,584.87	29.44	13.51	1.25	220.37	145.91	6.70
12-10-2001	Ashton Mining of CA	Rio Tinto Ltd.	45.75	3.23	—	−0.08	—	−2.73	—
08-28-2001	Ashton Mining of CA	Rio Tinto Ltd.	12.06	1.30	—	−0.13	—	−3.88	—

LTM, Last Twelve Months

Source: Adapted from *Rio Tinto Plc, Company Deals*, retrieved from http://www.thomsonreuters.com (as of June 2014)

Comparable Analysis and Effectiveness—Rio Tinto Plc and Its Competitors

In Tables 3.37 and 3.38, there is a comparable analysis on EPS, ROA, ROE, and ROIC for Rio Tinto and its competitors. Rio Tinto Plc has managed to post a positive EPS above $2 per share. The main competitor remains BHP Billiton Group.

Furthermore, while the dividend yield TTM is positive for all companies, the total return in one year is positive only for Rio Tinto Plc, Vedanta Resources, BHP Billiton, and Norsk Hydro who has posted the highest total return of 21.24 percent.

Table 3.37 Rio Tinto Plc—comparable analysis with its competitors

Name	Last period end date	Net income TTM	Net margin TTM	Net margin FY1	EPS TTM	EPS Year	EPS FY1	ROA TTM	ROE TTM	ROIC TTM
Rio Tinto Plc	**12/31/2013**	**3,874.58**	**7.16%**	**20.11%**	**2.10**	**(1.25)**	**5.48**	**3.82%**	**8.28%**	**5.08%**
BHP Billiton Plc	12/31/2013	15,669.89	21.86%	21.60%	2.93	1.53	2.64	12.10%	21.57%	14.72%
Anglo American Plc	12/31/2013	(1,015.95)	(3.28%)	8.32%	(0.79)	0.64	1.87	(1.10%)	(2.90%)	(1.39%)
Glencore Xstrata Plc	12/31/2013	(7,825.28)	(3.18%)	1.99%	(0.71)	(4.70)	0.37	(4.59%)	(19.13%)	(10.13%)
Antofagasta Plc	12/31/2013	697.32	11.05%	14.41%	0.71	0.65	0.79	5.83%	9.95%	8.02%
Vedanta Resources Plc	09/30/2013	(238.59)	(1.68%)	1.04%	(0.87)	(1.15)	0.45	2.51%	(5.75%)	3.22%
Kazakhmys Plc	12/31/2013	(2,146.08)	(65.51%)	1.58%	(4.19)	0.93	0.08	(20.96%)	(40.52%)	(33.47%)
BHP Billiton Limited	12/31/2013	13,976.18	22.00%	21.39%	2.63	1.37	2.59	11.66%	20.80%	14.18%
ArcelorMitta	12/31/2013	(2,695.87)	(3.28%)	1.67%	(1.51)	0.59	0.80	(0.69%)	(5.28%)	(4.15%)
Norsk Hydro	03/31/2014	(135.96)	(1.21%)	3.18%	(0.26)	(3.75)	0.18	0.02%	(1.14%)	0.03%
Mean		2,016.02	(1.60%)	9.53%	0.00	(0.51)	1.53	0.86%	(1.41%)	(0.39%)
Median		(187.28)	(1.44%)	5.75%	(0.48)	0.61	0.79	1.27%	(2.02%)	1.62%
High		15,669.89	22.00%	21.60%	2.93	1.53	5.48	12.10%	21.57%	14.72%
Low		(7,825.28)	(65.51%)	1.04%	(4.19)	(4.70)	0.08	(20.96%)	(40.52%)	(33.47%)

Source: Adapted from *Rio Tinto Plc, Comparable Analysis*, retrieved from http://www.thomsonreuters.com (as of June 2014)

Table 3.38 Rio Tinto Plc—comparable analysis with its competitors

Name	Last period end date	Price	52 week low	52 week high	Dividend yield TTM	Total return 1 year	Shares outstanding	Market cap—consolidated	Enterprise value
Rio Tinto Plc	**12/31/2013**	**55.16**	**42.79**	**61.06**	**3.77%**	**0.52%**	**1,414**	**103,205.61**	**128,762.19**
BHP Billiton Plc	12/31/2013	32.55	27.28	33.72	3.85%	(8.81%)	2,112	180,998.31	213,666.56
Anglo American Plc	12/31/2013	27.12	19.83	28.13	3.29%	(27.52%)	1,397	37,877.34	53,687.27
Glencore Xstrata Plc	12/31/2013	5.48	4.25	5.92	2.79%	(8.40%)	13,278	72,717.67	115,422.83
Antofagasta Plc	12/31/2013	12.90	12.16	17.02	6.61%	(33.92%)	986	12,719.70	11,995.25
Vedanta Resources Plc	09/30/2013	16.03	12.13	21.93	4.19%	8.85%	267	4,281.69	25,894.34
Kazakhmys Plc	12/31/2013	4.15	2.82	6.23	0.00%	(71.90%)	447	1,851.74	2,957.25
BHP Billiton Limited	12/31/2013	34.27	27.21	35.58	3.46%	5.88%	3,212	176,520.53	209,271.32
ArcelorMitta	12/31/2013	16.18	11.55	18.53	1.28%	1.41%	1,665	26,941.12	48,240.83
Norsk Hydro	03/31/2014	5.52	3.97	5.54	2.33%	21.24%	2,069	11,428.29	12,444.15
Mean	—	—	—	—	3.16%	(11.27%)	—	—	—
Median	—	—	—	—	3.46%	(3.94%)	—	—	—
High		55.16	42.79	61.06	6.61%	21.24%	13,278	180,998.31	213,666.56
Low		4.15	2.82	5.54	0.00%	(71.90%)	267	1,851.74	2,957.25

Source: Adapted from *Rio Tinto Plc, Company Deals*, retrieved from http://www.thomsonreuters.com (as of June 2014)

Shareholder Value Creation of Rio Tinto Plc

According to Fernandez's model, we have computed the market value capitalization as the product between the total common shares outstanding and the share price in GBP (British Pound Sterling). Furthermore, I have computed the increase in the market value of the equity.

From the previous table's results, we can conclude that Rio Tinto Plc has achieved an increase in the equity market value during the years 2001 to 2007 inclusive, 2009, 2010, and 2012, mainly through its acquisitions program. This increase in equity market value is directly correlated with its debt structure.

Rio Tinto Plc underwent a stock split* on June 17, 2009 at a 1.21 multiplier factor (Thompson Reuters 2014).

We have used the following historical market capitalization data to compute the created shareholder value created by Rio Tinto Plc, since its inception in 1994.

Created Shareholder Value

Using the Fernandez formula, the following table shows examples of shareholder value added, shareholder return, and created shareholder value (CSV) of Rio Tinto Plc since inception. The most successful years in creating shareholder value are the years when the value of the CSV is greater than the required return to equity (Ke). These years are 1999, 2005, 2007, 2009, 2010, and 2012. See Tables 3.39 to 3.45.

**Stock split* is the corporate action by which a company divides its existing shares into multiple shares. Although the number of shares outstanding increases by a specific multiple, the total dollar value of the shares remains the same compared to presplit amounts, because the split did not add any real value (Investopedia.com 2014).

Table 3.39 Increase in equity market value—capitalization (EV)

Fiscal period (year-end)	1999	2000	2001	2002	2003	2004	2005
Total common shares outstanding	1,676.60	1,681.58	1,683.01	1,684.55	1,686.29	1,688.28	1,655.61
Share price (year-end), GBP	23.69	18.02	19.58	19.88	27.83	29.8	45.7
Equity market value (GBP)	39,718.65	30,302.07	32,953.34	33,488.85	46,929.45	50,310.74	75,661.38
Increase in equity market value (GBP)		**(9,416.58)**	**2,651.26**	**535.52**	**13,440.60**	**3,381.29**	**25,350.63**

Source: Adapted from *Rio Tinto Plc, Company Deals*, retrieved from http://www.thomsonreuters.com (as of June 2014)

Table 3.40 Increase of equity market value—capitalization (EV)

Fiscal period (year-end)	2006	2007	2008	2009	2010	2011	2012	2013
Total common shares outstanding	1,601.44	1,569.40	1,570.60	1,959.73	1,962.07	1,872.30	1,847.02	1,848.46
Share price (year-end) GBX	53.12	104.97	12.31	53.85	71.66	48.92	58.09	56.43
Equity market value GBX	85,068.49	164,739.92	19,334.09	105,531.46	140,601.94	91,592.92	107,293.39	104,308.60
Increase of equity market value GBX	**9,407.12**	**79,671.43**	**(145,405.83)**	**86,197.37**	**35,070.48**	**(49,009.02)**	**15,700.48**	**(2,984.79)**

Source: Adapted from *Rio Tinto Plc, Company Deals*, retrieved from http://www.thomsonreuters.com (as of June 2014)

Table 3.41 Rio Tinto Plc—historical market capitalization since inception

In USD million	31/12/1994	31/12/1995	31/12/1996	31/12/1997	31/12/1998	31/12/1999	31/12/2000	31/12/2001	31/12/2002	31/12/2003	31/12/2004
Enterprise value—historical capitalization	14,562.13	21,316.82	24,329.23	21,179.69	20,038.03	36,638.70	30,390.19	33,143.58	34,020.48	44,795.65	45,798.52
Increase in enterprise value		6,754.69	3,012.41	(3,149.54)	(1,141.66)	16,600.67	(6,248.51)	2,753.39	876.90	10,775.17	1,002.87

Source: Adapted from *Rio Tinto Plc, historical data,* retrieved from http://www.thomsonreuters.com (as of June 2014)

Table 3.42 Rio Tinto Plc—historical market capitalization

In USD million	31/12/2005	31/12/2006	31/12/2007	31/12/2008	31/12/2009	31/12/2010	31/12/2011	31/12/2012	31/12/2013
Enterprise value—historical capitalization	64,421.03	73,779.99	182,400.66	68,160.73	127,554.15	148,693.25	108,885.09	135,924.18	129,962.11
Increase in enterprise value	18,622.51	9,358.96	108,620.67	(114,239.93)	59,393.42	21,139.10	(39,808.16)	27,039.09	(5,962.07)

Source: Adapted from *Rio Tinto Plc*, historical data, retrieved from http://www.thomsonreuters.com (as of June 2014)

Table 3.43 Rio Tinto Plc—created shareholder value for the years 1994 to 2003

Rio Tinto Plc	31/12/1994	31/12/1995	31/12/1996	31/12/1997	31/12/1998	31/12/1999	31/12/2000	31/12/2001	31/12/2002	31/12/2003
EV—historical capitalization (USD billion)	14.56	21.32	24.33	21.18	20.04	36.64	30.39	33.14	34.02	44.80
Increase of EV (USD billion)		6.75	3.01	−3.15	−1.14	16.60	−6.25	2.75	0.88	10.78
Dividends paid	0.23	0.26	0.26	0.43	0.43	0.45	0.48	0.49	0.50	0.53
Shareholder value added		7.01	3.27	−2.72	−0.71	17.05	−5.77	3.24	1.38	11.31
Shareholder return		0.48	0.15	−0.11	−0.03	0.85	−0.16	0.11	0.04	0.33
Required return to equity (Ke)	**10.00%**	**13.50%**	**9.60%**	**11.00%**	**9.90%**	**8.20%**	**11.10%**	**8.80%**	**8.70%**	**7.40%**
Created shareholder value		**5.05**	**1.23**	**−5.40**	**−2.81**	**15.41**	**−9.84**	**0.57**	**−1.51**	**8.79**
ROA	12.51	11.73	8.59	9.72	5.36	9.30	9.64	6.49	3.03	6.90
ROE	21.81	21.01	16.17	18.37	10.18	18.97	20.87	15.00	8.98	17.24

*EV, dividends paid, ROA, ROE are provided by Thompson Reuters Financials (2014).

**Required return to equity.

Source: Adapted from *Rio Tinto Plc, Company Deals*, retrieved from http://www.thomsonreuters.com (as of June 2014)

Table 3.44 Rio Tinto Plc—created shareholder value for the years of 2004 to 2013

Rio Tinto	31/12/2004	31/12/2005	31/12/2006	31/12/2007	31/12/2008	31/12/2009	31/12/2010	31/12/2011	31/12/2012	31/12/2013
EV *historical cap in USD billion	45.80	64.42	73.78	182.40	68.16	127.55	148.69	108.89	135.92	129.96
Increase of EV (USD billion)	1.00	18.62	9.36	108.62	−114.24	59.39	21.14	−39.81	27.04	−5.96
(plus) + dividends paid	0.64	1.57	0.86	1.12	1.12	0.45	1.08	1.45	1.67	1.92
Shareholder value added (SVA)	1.64	20.19	10.22	109.74	−113.12	59.84	22.22	-38.36	28.71	−4.04
Shareholder return = SVA/EV previous year-end (Historical)	0.04	0.44	0.16	1.49	−0.62	0.88	0.17	−0.26	0.26	−0.03
Required return to equity (Ke)	7.90%	7.80%	8.00%	8.30%	7.60%	7.00%	7.40%	7.00%	7.00%	7.00%
CSV(*historical cap)	**−1.90**	**16.62**	**5.07**	**103.62**	**−126.98**	**55.07**	**12.78**	**−48.77**	**21.09**	**−13.56**
ROA	**12.88**	**19.60**	**24.47**	**11.43**	**5.70**	**6.19**	**14.47**	**5.84**	**−2.53**	**0.94**
ROE	**30.09**	**38.88**	**44.83**	**34.01**	**19.83**	**16.51**	**28.09**	**10.58**	**−6.12**	**7.93**

*EV, dividends paid, ROA, ROE are provided by Thompson Reuters Financials (2014), **Required return to equity.
Source: Adapted from *Rio Tinto Plc, Company Deals*, retrieved from http://www.thomsonreuters.com (as of June 2014)

Table 3.45 Example of required return to equity calculation

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
10-year T bonds (% year-end yield)	6.4%	5.1%	5.0%	3.8%	4.3%	4.2%	4.4%	4.7%	4.0%	2.3%	3.8%	3.3%	1.9%	1.8%
MRP	4.0%	5.1%	4.1%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Beta	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Required return to equity (Ke %)	**8.2%**	**11.1%**	**8.8%**	**8.7%**	**7.4%**	**7.9%**	**7.8%**	**8.0%**	**8.3%**	**7.6%**	**7.0%**	**7.4%**	**7.0%**	**7.0%**

Source: Adapted from *Rio Tinto Plc, Company Deals*, retrieved from http://www.thomsonreuters.com (as of June 2014)

CHAPTER 4

Conclusions and Recommendations

"The sobering reality is that only about 20% of all mergers succeed. Most mergers typically erode shareholder wealth. Most mergers fail to achieve any real financial returns" (Grubb and Lamb 2000).

Over the past 30 years, many studies have been conducted on the profitability of merger and acquisition activity. The largest merger wave in history took place between 1992 and 2000. Bruner had conducted 14 informal surveys and 120 scientific studies regarding acquisitions and mergers during this timeframe. Value creation in the merger wave during 2003 and 2006 had increased compared to the period of 1997 to 2000 (Bruner 2004; Dobbs, Goedhart, and Suonio 2006).

Findings Based on the Analysis of Market-Based Returns to Shareholders

Mergers and acquisitions' transactions deliver premium returns to target companies' shareholders. Twenty-five studies performed by Bruner suggest that cumulative abnormal returns (the average dollar return of the acquisition) have been mainly positive, with +7.45 percent (Betton, Eckbo, and Thorburn 2008) for Canadian targets only. The market-based returns to acquiring companies include studies that report negative and positive returns (Bruner 2004).

Friedman, most known for his stockholder theory, argues that the company's focus should be on returning value to its stockholders, and deviating from this ultimate goal would threaten the survival of the business. The stockholder view was predominant in the United States, United Kingdom, and other Anglo-Saxon countries (Friedman [1962] 2002).

Freeman argues that the company should be managed in the best interest of all the stakeholders, including employees, and customers. Looking for a solution that meets all stakeholders' concerns should be the ultimate goal. However, this may slow the decision-making process when it is not clear which stakeholders' interests are relevant to making particular decisions (Freeman 1984).

Bruner sets the benchmark for measuring performance based on the investors' required returns, defined as the opportunity cost or return, investors could have earned on other investment opportunities of similar risk. Three possible outcomes were defined by Bruner: conservation of value, creation of value, and destruction of value.

Shareholder Value Is Conserved

In this case returns equal the required returns. The investment has a net present value of zero and breaks even in present value terms, which does not indicate an investment failure. If the investor requires a return of 15 percent, with consistent performance over five years, his or her invested wealth will double in five years. Economically speaking, the investor earns average returns.

Shareholder Value Is Created

Value is created when the returns on the investment exceed the expected returns. This type of investment will have a positive net present value, discounted at the weighted average cost of capital, and the investor's wealth will exceed long-term expectations. Because of the competitive and inefficient markets, nowadays, it is difficult to earn supernormal returns, and even harder to sustain them on a regular basis.

Shareholder Value Is Destroyed

In this case, investment returns are less than expected, and investors could have done better by investing in another opportunity of similar risk. Such investment will not bring value to the shareholders of the company.

Does Managerial Entrenchment Create or Destroy Shareholder Value?

After reviewing the macroeconomic climate, drivers of profitability, takeover tactics, and defenses for both companies involved in this study, creating shareholder value remains one the most challenging issues companies face today. Current and changing legal and financial regulatory frameworks require early planning of financial and operational synergies into the daily strategy and decision making process.

Academics and market participants regard the entrenchment hypothesis as a reduction of accountability toward shareholders and amplifier of agency costs, resulting in shareholder value destruction (Kesten 2010).

References

Akerlof, G., and R.J. Shiller. 2009. *Animal Spirits: How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism*. Princeton, NJ: Princeton University Press.

American Appraisal.com. 2015. "Global M&A Valuation Outlook 2013." http://www.american-appraisal.ca/CA/AmericanAppraisal/News/Global-MandA-Valuation-Outlook-2013.htm

Andrade, G., and E. Stafford. 1999. "Investigating the Economic Role of Mergers." Social Science Research Network. http://ssrn.com/abstract=47264

Atkins, E. 2014. "Goldcorp to End Hostile Pursuit of Osisko Mining." The Globe and Mail. http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/goldcorp-to-end-hostile-pursuit-of-osisko-mining/article18079496/

Bargeron, L., F.P. Schlingemann, C.J. Zutter, and R.M. Stulz. May 24, 2013. "Does Target CEO Retention in Acquisitions Involving Private Equity Acquirers Harm Target Shareholders?" Fisher College of Business Working Paper No. 2012-03-026. Social Science Research Network. http://ssrn.com/abstract=2185574 orhttp://dx.doi.org/10.2139/ssrn.2185574

Bartram, S.M. 2001. "Corporate Risk Management as a Lever for Shareholder Value Creation." *Financial Markets, Institutions & Instruments* 9, no. 5, pp. 279–324. http://core.ac.uk/download/pdf/9315288.pdf

Bauer, R., N. Guenster, and R. Otten. 2003. "Empirical Evidence on Corporate Governance in Europe. The Effect on Stock Returns, Firm Value and Performance." EFMA 2004 Basel Meetings Paper. http://ssrn.com/abstract=444543

Bebchuk, L.A. January 2005. "The Case for Increasing Shareholder Power." *Harvard Law Review* 118, no. 3, pp. 833–914. Harvard Law and Economics Discussion Paper No. 500. http://ssrn.com/abstract=387940

Betton, S., B.E. Eckbo, and K.S. Thorburn. 2008. "Corporate Takeovers." Chap. 15 in *Handbook of Corporate Finance: Empirical Corporate Finance.* Elsevier/North-Holland Handbook of Finance Series, Vol. 2, ed. B.E. Eckbo, 291–430. Elsevier.

Bradley, M., and A.K. Sundaram. 2006. "Acquisitions and Performance: A Re-Assessment of the Evidence." Social Science Research Network. http://ssrn.com/abstract=592761

Bruner, R.F. 2004. *Applied Mergers and Acquisitions*. New York: John Wiley & Sons.

Cremers, M., V.B. Nair, and U. Peyer. 2007. "Takeover Defenses and Competition." Yale ICF Working Paper No. 07–02. *2nd Annual Conference on Empirical Legal Studies*. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=984064

Damodaran, A. 2005. "The Value of Synergy." Damodaran - NYU Stern. http://people.stern.nyu.edu/adamodar/pdfiles/papers/synergy.pdf

Damodaran, A. 2011. *The Little Book of Valuation: How to Value a Company, Pick a Stock and Profit*. Hoboken, NJ: John Wiley & Sons, Inc..

Damodaran.com. 2014. "Value Multiples by Sector." http://www.damodaran.com

DeFond, M.L. and M. Hung. 2001. "An Empirical Analysis of Analysts' Cash Flow Forecasts." USC Leventhal School of Accounting Working Paper. http://ssrn.com/abstract=265773

Deloitte. 2009. "Cultural Issues in Mergers and Acquisitions." https://www.google.com/search?q=Deloitte.+2009.+%E2%80%9CCultural+Issues+in+Mergers+and+Acquisitions.%E2%80%9D+&ie=utf-8&oe=utf-8

DePamphilis, D. 2012. *Mergers, Acquisitions, and Other Restructuring Activities: Integrated Approach to Process, Tools, Cases, and Solutions.* 6th ed. Elsevier Inc. http://www.amazon.ca/Mergers-Acquisitions-Other-Restructuring-Activities/dp/0123854857

Dobbs, R., M. Goedhart, and H. Suonio. December 2006. "Are Companies Getting Better At M&A?" *McKinsey Quarterly: McKinsey on Finance*. http://people.stern.nyu.edu/igiddy/articles/better_mergers.pdf

Edmans, A. 2011. "Does the Stock Market Fully Value Intangibles? Employee Satisfaction and Equity Prices." *Journal of Financial Economics* 101, no. 3, pp. 621–40.

Ehrbar, A. 1998. *The Real Key to Creating Wealth*. New York: Wiley.

Fernandez, P. 2002. "Valuation Methods and Shareholder Value Creation." Social Science Research Network. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=621985

Fernandez, P. 2004. "Shareholder Value Creation of Microsoft and GE." Social Science Research Network. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=559419

Fernandez, P. 2013a. "EVA and Cash Value Added Do Not Measure Shareholder Value Creation." Social Science Research Network. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=270799

Fernandez, P. 2013b. "A Definition of Shareholder Value Creation." Social Science Research Network. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=268129

Fernandez, P. 2013c. "Table of Contents: Valuation and Common Sense (4th edition)." Social Science Research Network. http://ssrn.com/abstract=2209089

Fernandez, P., J. Aguirreamalloa, and L.C. Avendaño. 2013. "Shareholder Value Creators in the S&P 500: 1991-2010." Social Science Research Network. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1759353.

Franco-Nevada. 2015. About us. http://www.franco-nevada.com/

Freeman, R.E. 1984. *Strategic Management: A Stakeholder Approach*. Pitman Series in Business and Public Policy, 1st ed. Boston: Pitman.

Friedman, M. (1962) 2002. *Capitalism and Freedom: Fortieth Anniversary Edition Paperback*. Reprint, Chicago, IL: University of Chicago Press.

Friedman, M. 1970. "The Social Responsibility of Business is to Increase Its Profits." *The New York Times*. http://www-rohan.sdsu.edu/faculty/dunnweb/rprnts.friedman.dunn.pdf

Fuller, D.N. 2014. "The Three Jobs of Management." Value, Inc. www.valueinc.com

Gompers, P.A., J.L. Ishii, and A. Metrick. 2003. "Corporate Governance and Equity Prices." *Quarterly Journal of Economics* 118, no. 1, pp. 107–55. http://ssrn.com/abstract=278920 or http://dx.doi.org/10.2139/ssrn.278920

Grubb, T.M., and R.B. Lamb. 2000. *Capitalize on Merger Chaos*. New York: Free Press.

Harbula, P. 2009. "Valuation Multiples: Accuracy and Drivers – Evidence from the European Stock Market." *Business Valuation Review* 28, no. 4. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1876456

Hoffman, A. 2010. "Ivanhoe Shares Surge on Strategy to Attract Strategic Investors." The Globe and Mail. http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/ivanhoe-shares-surge-on-strategy-to-attract-strategic-investors/article4323573/

Houston, J.F., and M.D. Ryngaert. March 1997. "Equity Issuance and Adverse Selection: A Direct Test Using Conditional Stock Offers." *The Journal of Finance* 52, no. 1. http://ssrn.com/abstract=8048

Investopedia.com. 2014. "Book Value." http://www.investopedia.com/terms/b/bookvalue.asp

Investopedia.com. 2015. "Trailing Twelve Months - TTM." http://www.investopedia.com/terms/t/ttm.asp

Ivanhoe Mines. October 18, 2006. "Ivanhoe Mines and Rio Tinto Form Strategic Partnership to Develop Mongolian Copper-Gold Resources. Rio Tinto to Make a Staged Investment of Up to USD1.5 Billion in Ivanhoe Mines to Fund Construction of the Oyu Tolgoi Mining Complex." http://www.turquoisehill.com/s/news_releases.asp?ReportID=375530

Ivanhoe Mines September 11, 2007. "Ivanhoe Mines Secures Interim Convertible Line of Credit of Up to USD350 Million from Rio Tinto. Ivanhoe Welcomes Expanded Rio Tinto Commitment to the Development of the Oyu Tolgoi Project." http://www.turquoisehill.com/s/news_releases.asp?ReportID=375585

Ivanhoe Mines. April 05, 2010a. "Ivanhoe Mines Adopts Plan to Protect Shareholders' Rights to be Confirmed at Annual General Meeting May 7, 2010." http://www.turquoisehill.com/s/news_releases.asp?ReportID=393673

Ivanhoe Mines. July 13, 2010b. "Ivanhoe Mines Advises Rio Tinto of Termination of Restrictions on Potential New Strategic Investors." http://www.turquoisehill.com/s/news_releases.asp?ReportID=408887

Ivanhoe Mines. June 29, 2010c. "Ivanhoe Mines Announces Early Exercise of Warrants by Rio Tinto." http://www.turquoisehill.com/s/news_releases.asp?ReportID=407422

Ivanhoe Mines. September 13, 2010d. "Rio Tinto's ownership of Ivanhoe Mines rises to 34.9% upon conversion of US$350 million credit facility into Ivanhoe Mines' common shares." http://www.turquoisehill.com/s/news_releases.asp?ReportID=418608

Ivanhoe Mines. January 27, 2011a. "Ivanhoe Mines Announces Successful Completion of Rights Offering." http://www.turquoisehill.com/s/news_releases.asp?ReportID=439675

Ivanhoe Mines. December 12, 2011b. Ivanhoe Mines Receives Decision in Arbitration with Rio Tinto. http://www.turquoisehill.com/s/news_releases.asp?ReportID=496362

Ivanhoe Mines. August 2, 2012a. "Ivanhoe Mines Changes Name to Turquoise Hill Resources. New Trading Symbol "TRQ" to be Effective from August 8, 2012." http://www.turquoisehill.com/s/news_releases.asp?ReportID=540165

Ivanhoe Mines. January 18, 2012b. "Ivanhoe Mines negotiates an additional US$1.8 billion bridge financing as part of the comprehensive financing plan for Oyu Tolgoi." http://www.turquoisehill.com/i/pdf/2012-01-18_NR.pdf

Ivanhoe Mines. 2015. Home. http://www.ivanhoemines.com/s/Home.asp

Jamasmie, C. 2012. "Legendary Mining Financier Robert Friedland Quits Ivanhoe in Rio Tinto Shake-Up." Mining. http://www.mining.com/legendary-mining-financier-robert-friedland-quits-ivanhoe-in-rio-tinto-shake-up/

Jensen, M.C. October, 1987. "The Free Cash Flow Theory of Takeovers: A Financial Perspective on Mergers and Acquisitions and the Economy." *"The Merger Boom," Proceedings of a Conference Sponsored by Federal Reserve Bank of Boston*, pp. 102–43. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=350422.

Jones, R.A. 1986. *Emile Durkheim: An Introduction to Four Major Works*. Beverly Hills, CA: Sage Publications, Inc.

Kavanagh, P. 2013. "Planning and Budgeting: Driving Value Through the Optimization of Planning and Budgeting Processes." Deloitte. http://www.fmi.ca/media/235721/3%20Patrick%20Kavanagh%20-%20Driving%20value%20in%20planning%20%20budgeting.pdf

Kesten, J.B. 2010. "Managerial Entrenchment and Shareholder Wealth Revisited: Theory and Evidence from a Recessionary Financial Market." *Brigham Young University Law Review*, no. 5, p. 1609.

Kill, J.C.M. 2013. *Acquisitions Through a Behavioural and Real Options Lens* [doctoral thesis]. Erasmus Research Institute of Management. http://www.erim.eur.nl/doctoral-programme/phd-in-management/phd-projects/detail/626-acquisitions-through-a-behavioural-and-real-options-lens.

Lang, L.H.P., R.M. Stulz, and R.A. Walkling. 1991. "A Test of the Free Cash Flow Hypothesis." *Journal of Financial Economics* 29, no. 2, pp. 315–35. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=917413

Lang, L.H.P., R.A. Walkling, and R.M. Stulz. 1989. "Managerial Performance, Tobin's Q, and the Gains from Successful Tender Offers." *Journal of Finance* 24, pp. 137–54.

Madhavan, R. 2005. "Managing M&A Strategically: From 'Plug and Pray' to 'Plug and Play'. Ravi Madhavan's A&D Blog. http://strategyscape.typepad.com/PlugPlay.pdf

Martirosyan, E., and T. Vashakmadze. 2013. "SUN Cube: A New Stakeholder Management System for the Post-Merger Integration Process." Social Science Research Network. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2336300.

Martynova, M., and L. Renneboog. 2008. "A Century of Corporate Takeovers: What Have We Learned and Where Do We Stand? (Previous title: The History of M&A Activity around the World: A Survey of Literature). http://papers.ssrn.com/sol3/papers.cfm?abstract_id=820984.

McKinsey & Company.com. 2010. "A New Generation of M&A: A McKinsey Perspective on the Opportunities and Challenges." http://www.mckinsey.com/search.aspx?q=McKinsey+survey+of+90+M%26A+professionals

Moeller, S.B., F.P. Schlingemann, and R.M. Stulz. 2005. "Wealth Destruction on a Massive Scale? A Study of Acquiring-Firm Returns in the Recent Merger Wave." *Journal of Finance.* 60, no. 2.

Morawetz, V. 1928. "The preemptive right of shareholders." *Harvard Law Review* 42, no. 2, pp. 186–97. http://www.jstor.org/discover/10.2307/1329860?uid=3739400&uid=2&uid=3737720&uid=4&sid=21106259116391

Morris, M.R. 2014. "Creating Shareholder Value Through Capital Structure Optimization." Value, Inc. http://www.valueinc.com/press/files/optimal-capitalstructure.pdf

PotashCorp. 2015. Helping Nature Provide. About. http://www.potashcorp.com/about/overview/

Rappaport, A. 1998. *Creating Shareholder Value: A Guide for Managers and Investors*. New York: The Free Press. pp. 13–29.

Shiller, R.J. 2014. "Speculative Asset Prices (Nobel Prize Lecture)." Cowles Foundation Discussion Paper No. 1936. http://ssrn.com/abstract=2391284

Short, D. 2015. "The Q Ratio and Market Valuation: Monthly Update." Advisor Perspectives. http://www.advisorperspectives.com/dshort/updates/Q-Ratio-and-Market-Valuation.php

Silver Wheaton Corp. 2015. Company. http://www.silverwheaton.com/company/company-profile/default.aspx

Stewart, B.G. 1991. *The Quest for Value*. HarperCollins Publishers, Inc. http://www.amazon.com/The-Quest-Value-Senior-Managers/dp/0887304184

St-Pierre, J., J.-M. Gagnon, and J. Saint-Pierre. 1996. "Concentration of Voting Rights and Board Resistance to Takeover Bids." *Journal of Corporate Finance* 3, pp. 45–73. http://www.fsa.ulaval.ca/labval/Journal%20of%20Corporate%20Finance.pdf

Subramanian, G. 2003. "Bargaining in the Shadow of Takeover Defenses." *Yale Law Journal* 113, no. 3, pp. 621–86.

Thomson Reuters. 2014a. "Ivanhoe Mines - Stock price Chart." http://www.thomsonreuters.com

Thomson Reuters. 2014b. "Rio Tinto Plc - Strategic Company Analysis." http://www.thomsonreuters.com

Thomson Reuters. 2014c. "Significant Developments of Ivanhoe Mines." http://www.thomsonreuters.com

Thomson Reuters. 2014d. "Turquoise Hill Resources - Comparable Analysis." http://www.thomsonreuters.com

Thomson Reuters. 2014e. "Turquoise Hill Resources - Strategic Company Analysis." http://www.thomsonreuters.com

Thomson Reuters. 2014f. http://financial.thomsonreuters.com/en/products/tools-applications/trading-investment-tools/thomson-one-investment-research-tools.html?gclid=CKaD96H4mcUCFdKIfgod0hcAeA

Thomson Reuters. 2014g. "Rio Tinto Plc - Analysis of Competitors." http://www.thomsonreuters.com

Thomson Reuters. 2014h. "Turquoise Hill Resources - Debt Structure and Overview." http://www.thomsonreuters.com

Trading Economics.com. 2014. "Mongolia GDP." http://www.tradingeconomics.com

Turquoise Hill Resources. September 3, 2012. "Turquoise Hill and Chalco Agree to Terminate SouthGobi Lock-Up Agreement and Proportional Takeover Bid Due to Approvals Timeframe." http://www.turquoisehill.com/s/news_releases.asp?ReportID=545199

Turquoise Hill Resources. August 7, 2013a. Turquoise Hill Receives Altynalmas Gold Payment and Signs Binding Term Sheet with Rio Tinto for New Funding Package. http://www.turquoisehill.com/s/news_releases.asp?ReportID=596419

Turquoise Hill Resources. July 15, 2013b. Turquoise Hill Resources Announces Second Quarter 2013 Production. http://www.turquoisehill.com/s/news_releases.asp?ReportID=592894

Turquoise Hill Resources. November 10, 2014a. Turquoise Hill Announces Financial Results and Review of Operations for the Third Quarter of 2014. http://www.turquoisehill.com/s/news_releases.asp?ReportID=682712

Turquoise Hill Resources. July 29, 2014b. Turquoise Hill Announces Sale of 29.95% Stake in SouthGobi Resources. http://www.turquoisehill.com/s/news_releases.asp?ReportID=667098

Turquoise Hill Resources. February 24, 2015. Turquoise Hill Announces Sale of Remaining Stake in SouthGobi Resources. http://www.turquoisehill.com/s/news_releases.asp?ReportID=697380

Vermaelen, T., and P.R. Rau. 1998. "Glamour, Value and the Post-Acquisition Performance of Acquiring Firms." Journal of Financial Economics. 49, no. 2, pp. 223–53.

Weissenrieder, F. 1997. "Value Based Management: Economic Value Added or Cash Value Added?" FWC AB Study No. 1997:3. http://ssrn.com/abstract=156288 or http://dx.doi.org/10.2139/ssrn.156288

Bibliography

Bargeron, L., F.P. Schlingemann, R.M. Stulz, and C.J. Zutter. 2007. "Why Do Private Acquirers Pay so Little Compared to Public Acquirers?" Fisher College of Business Working Paper No. 2007-03-011; ECGI–Finance Working Paper No. 171/2007; Charles A. Dice Center Working Paper No. 2007-8. http://ssrn.com/abstract=980066

Bloomberg.com. December 12, 2011. "Rio Allowed to Maintain Ivanhoe Stake, Arbitrator Decides." http://www.bloomberg.com

Bruner, R.F. 2005. *Deals from Hell: M&A Lessons That Rise Above the Ashes.* Hoboken, NJ: John Wiley & Sons, Inc.

Bruner, R.F. 2007. *Case studies in Finance: Managing for Corporate Value*. Boston Burr Ridge, IL: Irwin McGraw-Hill.

Bruner, R.F. 2010. "Note on Valuation Analysis for Mergers and Acquisitions." Darden Case No. UVA-F-0557, Social Science Research Network. http://ssrn.com/abstract=1583326

Bruner, R.F., S. Carr, and S. Eskinazi. 2008. "General Electric's Proposed Acquisition of Honeywell." Social Science Research Network. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1279945

Bruner, R.F., P.J. Simko, M.M. Frank, and M. Goldstein. 2008. "General Electric's Acquisition of Amersham Plc." Social Science Research Network. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=909894.

Conn, R.C.L., A. Cosh, P.M. Guest, and A. Hughes. 2004. "Why Must All Good Things Come to an End? The Performance of Multiple Acquirers." EFMA 2004 Basel Meetings Paper. http://ssrn.com/abstract=499310

Deloitte. 2014. "The Value Killers Revisited: A Risk Management Study." https://www.google.com/search?q=Deloitte.+2009.+%E2%80%9C Cultural+Issues+in+Mergers+and+Acquisitions.%E2%80%9D+&ie =utf-8&oe=utf-8#q=Deloitte.+2014.+%E2%80%9CThe+Value+K-illers+Revisited:+A+Risk+Management+Study.%E2%80%9D+

Faccio, M., L.H.P. Lang, and L. Young. 2000. "Dividends and Expropriation." AFA 2001 New Orleans; EFMA Athens 2000. http://ssrn.com/abstract=222428

Gorton, G.B., M. Kahl, and R.J. Rosen. January 1, 2009. "Eat or Be Eaten: A Theory of Mergers and Firm Size." Social Science Research Network. http://ssrn.com/abstract=713769 or http://dx.doi.org/10.2139/ssrn.713769

Investopedia.com. 2015. "Bear Hug." http://www.investopedia.com/terms/b/bearhug.asp

Investopedia.com. 2015. "Classified Board Definition." http://www.investopedia.com/terms/c/classifiedboard.asp

Investopedia.com. 2015. "Convertibles." http://www.investopedia.com/terms/c/convertibles.asp

Investopedia.com. 2015. "Enterprise Value." http://www.investopedia.com/terms/e/enterprisevalue.asp

Investopedia.com. 2015. "EV/EBITDA Multiple." http://www.investopedia.com/terms/e/ebitda-ev-multiple.asp

Investopedia.com. 2015. "LIBOR." http://www.investopedia.com/terms/l/libor.asp

Investopedia.com. 2015. "Market Risk Premium." http://www.investopedia.com/terms/m/marketriskpremium.asp

Investopedia.com. 2015. "P/BV (Price to Book Ratio)." http://www.investopedia.com/terms/p/price-to-bookratio.asp

Investopedia.com. 2015. "Proxy Fight." http://www.investopedia.com/terms/p/proxyfight.asp

Investopedia.com. 2015. "Russell 1000." http://www.investopedia.com/terms/r/russell_1000index.asp

Investopedia.com. 2015. "S&P 500." http://www.investopedia.com/terms/s/sp500.asp

Investopedia.com. 2015. "Standstill Agreement Definition." http://www.investopedia.com/terms/s/standstill_agreement.asp

Investopedia.com. 2015. "Stock Split." http://www.investopedia.com/terms/s/stocksplit.asp

Investopedia.com. 2015. "Tender Offer." http://www.investopedia.com/terms/t/tenderoffer.asp

Ismail, T.H., A.A. Abdou, and R.A. Annis. 2011. "Review of Literature Linking Corporate Performance to Mergers and Acquisitions." *The Review of Financial and Accounting Studies* 1, pp. 89–104.

Ivanhoe Mines. April 10, 2007. "Ivanhoe Mines and Mongolian Government Reach Agreement in Principle on Draft Investment Agreement for Development of Oyu Tolgoi Copper-Gold Complex." http://www.turquoisehill.com/s/news_releases.asp?ReportID=375552

Ivanhoe Mines. April 27, 2010. "Support for Ivanhoe Mines' Shareholders' Rights Plan Recommended by Two Leading Independent Proxy Advisory Firms." http://www.turquoisehill.com/s/news_releases.asp?ReportID=396731

Ivanhoe Mines. December 17, 2010. "Ivanhoe Mines Files Final Prospectus for Strategic Rights Offering Open to All Shareholders on a Dilution-Free, Equal Participation Basis." http://www.turquoisehill.com/s/news_releases.asp?ReportID=433931

Ivanhoe Mines. December 22, 2010. "When Issued" Trading in Ivanhoe Mines Rights Begins December 23, 2010, in Advance of Planned Start of Regular Rights Trading in Early January 2011." http://www.turquoisehill.com/s/news_releases.asp?ReportID=434501

Ivanhoe Mines. December 31, 2010. "Ivanhoe Mines Common Shares Now Trading "Ex-Rights" on Toronto and New York Stock Exchanges and NASDAQ." http://www.turquoisehill.com/s/news_releases.asp?ReportID=435981

Ivanhoe Mines. July 12, 2010. "Ivanhoe Mines Reaffirms Support for Company's Plan that Protects Shareholders' Rights." http://www.turquoisehill.com/s/news_releases.asp?ReportID=408715

Ivanhoe Mines. May 7, 2010. "Ivanhoe Mines' Shareholders' Rights Plan Approved at Annual General and Special Meeting." http://www.turquoisehill.com/s/news_releases.asp?ReportID=398467

Ivanhoe Mines. October 18, 2010. "Ivanhoe Mines Initiates Strategic Rights Offering Open to All Shareholders on a Dilution-Free, Equal Participation Basis." http://www.turquoisehill.com/s/news_releases.asp?ReportID=423671

Ivanhoe Mines. October 26, 2010. "Ivanhoe Mines Delivers Response and Initiates Counter-Claim in Arbitration Proceeding with Rio Tinto." http://www.turquoisehill.com/s/news_releases.asp?ReportID=425108

Ivanhoe Mines. September 13, 2010. "Rio Tinto's Ownership of Ivanhoe Mines Rises to 34.9% upon Conversion of US$350 Million Credit Facility into Ivanhoe Mines' Common Shares." http://www.turquoisehill.com/s/news_releases.asp?ReportID=418608

Ivanhoe Mines. August 24, 2011. "Ivanhoe Mines to Receive US$536 (C$529) Million from Rio Tinto's Exercise of Subscription Right. Rio Tinto Raises Stake in Ivanhoe Mines to 48.5%." http://www.turquoisehill.com/s/news_releases.asp?ReportID=474857

Ivanhoe Mines. December 13, 2011. "Ivanhoe Mines Evaluating Implications of Arbitration Decision on Company's Shareholders' Rights Plan." http://www.turquoisehill.com/s/news_releases.asp?ReportID=496426

Ivanhoe Mines. February 3, 2011. "Successful Ivanhoe Mines Rights Offering Yields US$1.18 Billion in Gross Proceeds to Advance Construction at Oyu Tolgoi Project." http://www.turquoisehill.com/s/news_releases.asp?ReportID=440934

Ivanhoe Mines. January 18, 2011. "Ivanhoe Mines Rights to Cease Trading on New York Stock Exchange and NASDAQ on January 25, 2011, and on Toronto Stock Exchange at Noon on January 26, 2011." http://www.turquoisehill.com/s/news_releases.asp?ReportID=438214

Ivanhoe Mines. July 20, 2012. "Ivanhoe Mines Successfully Completes Rights Offering Early Results Indicate Approximately 100% of Available Common Shares Subscribed, Generating US$1.8 Billion in Gross Proceeds." http://www.turquoisehill.com/s/news_releases.asp?ReportID=537872

Jensen, M.C. May, 1986a. "Agency Cost of Free Cash Flow, Corporate Finance, and Takeovers." *American Economic Review* 76, no. 2. http://ssrn.com/abstract=99580

Jensen, M.C. 1986b. "The Takeover Controversy: Analysis and Evidence." *Midland Corporate Finance Journal* 4, no. 2. http://ssrn.com/abstract=173452

Kallunki, J-P, E. Pyykkö, and T. Laamanen. April 4, 2008. "Stock Market Valuation, Profitability and R&D Spending of the Firm: The Effect of Technology Mergers and Acquisitions." *Journal of Business Finance & Accounting* 36, no. 7–8, pp. 838–62. http://ssrn.com/abstract=952950

Netter, J.M., M. Stegemoller, and M.B. Wintoki. November 2, 2010. "Implications of Data Screens on Merger and Acquisition Analysis: A Large Sample Study of Mergers and Acquisitions from 1992–2009." Social Science Research Network. http://ssrn.com/abstract=1510724

Rahahleh, A.N. 2009. *Analyzing Frequent Acquires in Emerging Markets and Futures Markets Linkage* [dissertation]. University of New Orleans Theses and Dissertations, Paper 915. http://scholarworks.uno.edu/td/?utm_source=scholarworks.uno.edu%2Ftd%2F915&utm_medium=PDF&utm_campaign=PDFCoverPages

Rio Tinto. December 13, 2011. "Rio Tinto Successful in Arbitration Against Ivanhoe Mines." http://www.riotinto.com/media/media-releases-237_1066.aspx

Rio Tinto. April 18, 2012. "Rio Tinto to Provide Comprehensive Financing Package to Ivanhoe Mines and Agrees Board and Management Changes." http://www.riotinto.com/media/media-releases-237_7170.aspx

Rosen, R.J. 2003. "Merger Momentum and Investor Sentiment: The Stock Market Reaction to Merger Announcements." FRB Chicago Working Paper No. 2004-07. http://ssrn.com/abstract=343600

Servaes, H. 1995. "The Characteristics of Bidders." Social Science Research Network. http://ssrn.com/abstract=6962

Shiller, R.J. 2005. *Irrational Exuberance*. New York: Broadway Books.

Index

Acquiring companies losses, 27–29
Acquiring for value, 37
Acquiring person, 64
Adjusted book value, 6
Adjusted present value, 6
Altynalmas Gold divestment, 66
Aluminum Corporation of China (Chinalco), 86
Annual general meetings (AGMs), 34
Asset
  efficiency, 13–14
  value, 2

Bank mergers, 37
Bargaining power hypothesis
  definition of, 22
  shareholders rights plan (*see* Shareholders rights plan)
Bargaining power theory, definition of, 26
Bear bug, 40
Benchmarks for shareholder return. *See* Shareholder return, benchmarks for
BHP Billiton, 39, 66, 93
Bidding war, 22
Book-to-market ratio, 28
Book value, 6, 12, 28
Buyers share price, 36

Capital cash flow, 6
Cash flow return on investment (CFROI), 6, 15, 17
Cash flows analysis, 7
Cash value added (CVA), 6, 15, 17, 19
  value drivers, 16
CEO retention by private equity funds acquirers, 33–34
CFROI. *See* Cash flow return on investment (CFROI)
Chartists, 3
Classified boards, 45
Collective consciousness, definition of, 2
Company analysis, valuation methods used in, 6–9
Convertible bonds, 51
Convertibles, 51
Corporate governance, 26
Corporate raids, 32–33
Created shareholder value (CSV), 4–5, 19, 96
Cross-shareholding, 42
CSV. *See* Created shareholder value (CSV)

Damodaran, Aswath, 1, 36, 54, 56
DCF. *See* Discounting cash flows (DCF)
Debt, 16–18. *See also* Equity
  financing, 86–88
  structure of TRQ, 57–60
Debt-equity ratio, 28
Discounting cash flows (DCF), 7, 16
Diversification in M&As, 37
Divestitures postacquisition of Ivanhoe Mines, 65–66
Dividend payout policy, 17
Dividend payout ratio, 28
Dividends, 4, 6, 12, 41, 76, 85, 93
Durkheim, Emile, 2

Earnings before interest, taxes, depreciation, and amortization (EBITDA), 4, 9, 56
  competitor analysis, 57
Earnings per share (EPS), 10, 54, 66, 93
ECF. *See* Equity cash flow (ECF)
Economic profit (EP), 6, 17, 19
Economic value added (EVA), 6, 15, 17–19

Economic value of target company, 28
Efficient market hypothesis (EMH) theory
  financial markets are informationally efficient, 1
  forms of, 2
Employee distress, 32
Enterprise value (EV), 10, 13–16, 55, 97
Enterprise value to EBITDA (EV/EBITDA), 10, 54–56
Enterprise value to sales (EV/Sales), 10
Enterprise value to unlevered free cash flow (EV/FCF), 10
EP. *See* Economic profit (EP)
EPS. *See* Earnings per share (EPS)
Equity, 16–18. *See also* Debt
Equity cash flow (ECF), 6–7
European Bank of Reconstruction and Development (EBRD), 58
EV. *See* Enterprise value (EV)
EVA. *See* Economic value added (EVA)

FCF. *See* Free cash flow (FCF)
Fernandez's model on measuring shareholder value, 3
Firm(s)
  book value of, 28
  with high valuation ratios, 28
Float, 53
Free cash flow (FCF), 6–7
Frequent acquirers, 29

Game-ending decisions, 34
Glamour acquirers, 37
Goodwill, 7
Greenmails, 32–33, 41
Growth-referenced multiples, 10

Historic analysis of company and industry, 8–9

International Finance Corporation (IFC), 58
Intrinsic stock valuation method, 2

Leveraged buyouts, 32–33
LIBOR. *See* London Interbank Offered Rate (LIBOR)
Liquidation value, 6
London Interbank Offered Rate (LIBOR), 57

M&A. *See* Mergers and acquisitions (M&A)
Managerial entrenchment, 27, 105
Market-based returns to shareholders, analysis of, 103–105
Market capitalization, 3, 15
Market corrections, 26
Market prices, 1–2, 40
Market risk premium (MRP), 70
Market timers, 2
Market-to-book ratio (E/Ebv), 28
Market value added (MVA), 17
Merger momentum performance, 29
Mergers and acquisitions (M&A), 26, 103. *See also* Takeovers
  economic role of, 21–22
  ethical issues in review of, 34
  issues in, 30–33
  manager to manager stakeholder expectations, 35–36
  profitability, classes of tests, 35
  programs, 29
  structure of, 39
MRP. *See* Market risk premium (MRP)

Net operating profit after tax (NOPAT), 17
Net present value (NPV), 7–8, 17–18, 33
Net profit margin, 34
Norsk Hydro, 93
NPV. *See* Net present value (NPV)

Open market purchase, 40
Operating margin, 13–14
Overvalued market, 1
Oyu Tolgoi exploration project, 39. *See also* Turquoise Hill Resources (Ivanhoe Mines)
  acquisition by Ivanhoe Mines, 40

P/BV. *See* Price to book value (P/BV) ratio
P/CE. *See* Price to cash earnings (P/CE) ratio
PER. *See* Price-earnings ratio (PER)
Poison pills, 41, 45
Post-tender offer, 41
Premiums paid, 32
Present value (PV), 7
Price-earnings (P/E) ratio, 28
Price-earnings ratio (PER), 6, 9–10, 55
Price to book value (P/BV) ratio, 10, 55
Price to cash earnings (P/CE), 10
Price to levered free cash flow (P/LFCF), 10
Price to sales (P/S), 10
Private placement agreement, 64
Proxy fight, 40
PV. *See* Present value (PV)

Q Ratio (Tobin's Q), 29

Rappaport, Alfred, 15
Relative stock valuation method, 2
Required return to debt, 7
Required return to equity, 3–5, 7
Retention of top management by publicly held companies, 30–31
Return on assets (ROA), 12, 14, 17, 66, 93
Return on equity (ROE), 5, 17, 34, 66, 93
Return on invested capital (ROIC), 57, 66, 93
Revenue growth, 13–14
Rio Tinto Plc, 22–24, 31, 50, 58, 65. *See also* Turquoise Hill Resources (Ivanhoe Mines)
  company deals, 88–92
  competitors of, 93–95
  current takeover defense profile of, 45–49
  developments related to debt financing, 86–88
  industry competitors analysis, 81–86
  shareholder value creation of, 96–102
  strategic company analysis, 76–81
ROA. *See* Return on assets (ROA)
ROE. *See* Return on equity (ROE)
ROIC. *See* Return on invested capital (ROIC)

Seminstrong EMH form, 2
Shareholder intervention, 34
Shareholder return, 4
  benchmarks for, 5–6
  calculation of, 74–75
Shareholders expectations, 14
Shareholders of a company
  definition of, 6
Shareholders rights plan, 22–25
Shareholder theory, 27
Shareholder value, 18, 104–105
  creation and measurement of, 2–6
    review of, 33–34
    of Rio Tinto Plc, 96–102
  creators of S&P 500, 19–20
  network, 16
Shareholder value added (SVA), 3–5
Short-term bridge funding agreement, 66
SouthGobi divestment, 65
Staggered boards, 45
Standard & Poor's (S&P), 19–20
Standstill agreement, 50–51
Standstill agreements, 41
Stock market, 10, 15, 29, 36
Stock split, 96
Stock value, 1, 33
Strategic analysis of company and industry, 8–9
Strategic purchaser covenant, 23
Strong EMH form, 2
Substantial value, 6
Synergy, 35–36

Takeovers, 21–22. *See also* Mergers and acquisitions (M&A)
  defenses, 26, 40, 46
  friendly, 41
  strategies, 26
Tender offer, 40

Turquoise Hill Resources (Ivanhoe Mines), 22, 39. *See also* Rio Tinto Plc
  acquisition of Oyu Tolgoi Project, 40
  closing share price since inception, 34
  company deals, 60–63
  current takeover defense profile of, 41–44
  debt structure of, 57–60
  key financials, 66–69
  shareholder value creation, 70–75
  share price between 2010 to 2011, 25
  significant developments
    post takeover, 64–66
    prior to takeover, 50–53
  strategic company analysis, 53–57
  trading volumes between 2010 to 2011, 24

Valuation process, 1, 5
  bias in, 2
  efficient market hypothesis (EMH) theory (*See* Efficient market hypothesis (EMH) theory)
  errors of multiples valuation by industry sectors, 12–13
  psychology of, 2
  of synergies, 36
  using multiples, 9–12
Value based management (VBM), 15
  review of measures, 17–18
Value of company, 34
Value of equity, 14–15
Vedanta Resources, 93

Weak EMH form, 2
Wealth creation, 35–37
Weighted average cost of capital (WACC), 7, 17
White knights, 25, 41

OTHER TITLES IN OUR FINANCE AND FINANCIAL MANAGEMENT COLLECTION

John A. Doukas, Old Dominion University, Editor

- *Recovering from the Global Financial Crisis: Achieving Financial Stability in Times of Uncertainty* by Marianne Ojo
- *Introduction to Foreign Exchange Rates* by Thomas J. O'Brien
- *Applied International Finance: Managing Foreign Exchange Risk and International Capital Budgeting* by Thomas J. O'Brien
- *Venture Capital in Asia: Investing in Emerging Countries* by William Scheela
- *Global Mergers and Acquisitions: Combining Companies Across Borders* by Abdol S. Soofi and Yuqin Zhang
- *Essentials of Retirement Planning: A Holistic Review of Personal Retirement Planning Issues and Employer-Sponsored Plans* by Eric J. Robbins
- *The Fundamentals of Financial Statement Analysis as Applied to the Coca-Cola Company* by Carl B. McGowan, Jr., John C. Gardner, and Susan E. Moeller
- *Corporate Valuation Using the Free Cash Flow Method Applied to Coca-Cola* by Carl B. McGowan, Jr.
- *Capital Budgeting* by Sandeep Goel
- *Online Marketing to Investors: How to Develop Effective Investor Relations* by Daniel R. Valentine
- *Essentials of Retirement Planning: A Holistic Review of Personal Retirement Planning Issues and Employer-Sponsored Plans, Second Edition* by Eric J. Robbins

Redefining Shareholder Value

Demystifying the Valuation Myth

Mariana Schmid • Milan Frankl

Measuring shareholder value has become crucial in the current economic environment, especially following the consistent pressure from institutional shareholders on companies to create shareholder value in an adverse economic environment. Maximizing the company's value will make the company less appealing to hostile takeovers. Takeovers are a capital market mechanism designed to control the conflicts of interest between shareholders and managers of the company.

In this study, the authors examine the best methods used in measuring shareholder value, and explore the process of shareholder value creation in the years prior and following the creeping takeover of Ivanhoe Mines by Rio Tinto Plc. The study is based on data and ratio analytics from ThomsonONE (Reuters), information that is publicly available through press releases, analyst coverage, and financial news. It also includes an in-depth analysis of the creeping takeover of Ivanhoe Mines by Rio Tinto Plc.

Mariana Schmid has an international background in various industries such as hedge funds, mining and metals, and financial services. She has previously provided executive support to C-Suite on large capital projects in business analysis, strategy, risk management, project management, and information systems. Having worked for Ivanhoe Group of Companies and Credential Financial Inc. her research interests span a wide array of disciplines from capital markets, behavioral economics, collective intelligence to social neuropsychology design.

Dr. Frankl, MBA, PhD, worked for IBM, the Desjardins Cooperative Movement, and CGI (a management consulting firm) in various executive positions. After retiring as a partner from CGI, he became a senior executive of a number of high-tech Canadian firms. He has an MBA in information technology management, and a PhD exploring the business decision-making process. Dr. Frankl is a professor of business with University Canada West.

Finance and Financial Management Collection

John A. Doukas, *Editor*

BUSINESS EXPERT PRESS

ISBN: 978-1-63157-166-4

9 781631 571664 90000