Framing a Franchise – Financial Disclosure, non-GAAP Earnings, and Equity Valuation in the Formation of a Socio-Technical Agencement

by

Kenneth A. Fox

A thesis submitted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy in Accounting

Faculty of Business

University of Alberta

Abstract

This dissertation provides a qualitative case study of a Canadian Public company, its financial reporting, its interaction with financial analysts, and the valuation modeling conducted by the analysts. Presented in four empirical chapters, the corporate practices and processes that lead to the identification and calculation of non-GAAP (i.e., pro forma) earnings measures, the communication of those measures to financial analysts through conference calls, and the use of those measures in the analyst' equity valuation models is described. In providing a detailed description of these individual processes, the dissertation contributes to the accounting literature that has been lacking in such an examination of the micro-processes of financial reporting and valuation. Taken as a whole, the dissertation contributes to the literature on calculation and distributed financial cognition that examines the framing processes that are implicated in the construction of a socio-technical agencement.

Relying on empirical data gathered from interviews with managers and financial analysts, content analysis of corporate financial disclosure, conference call transcripts, analysts' reports, and analysts' models, the dissertation provides a unique study of the financial reporting and valuation processes from start to finish. This study joins a small and emerging body of research that extends the contribution of Actor-Network Theory's sociology of translation to the study of financial markets, and is unique in its application of that perspective to the study of corporate financial reporting.

This dissertation finds that corporate financial reporting evolves and changes, and voluntary reporting practices are adopted and adapted, through interaction with important financial statement users, financial analysts. Rather than the uni-directional influence of one on the other

studied in much of the mainstream accounting research, corporate reporting practices are a collaborative effort, as managers change their reporting to meet user's needs.

Building upon this finding of collaborative practices, the dissertation also finds that the resulting key metric taken as representative of the performance of the company is also the result of collaboration. The formation of a socio-technical agencement that establishes a list of entities for consideration in calculation, rearranges them, and associates them in chains of calculations supported by managers, analysts, and their devices underpins the analysts' "franchise". This franchise is the result of the achievement of distributed action, which is calculation.

Preface

This thesis is an original work by Kenneth Fox. The research project, of which this thesis is a part, received research ethics approval from the University of Alberta Research Ethics Board, Project Name "Pro Forma Earnings – an Institutional Approach", Pro00030189.

Acknowledgements

This dissertation is dedicated to my family. First, to my wife, Erika, to whom I am grateful for the support, sacrifice, and hard work that has helped me bring this dissertation to completion. And to my three children, Evan, Andrew and Annika, without their love, understanding and encouragement I would not have made it this far. I did this for them.

To my mother Mary T. Fox, and to my father Frank J. Fox, who passed away before I could affirmatively answer his recurring question of "So, are you a doctor yet?" for their encouragement.

I am also grateful for the support and guidance of my academic advisor, David Cooper, whose advice and challenges led me through a number of highs and lows, and helped me to develop as an academic.

I would like to thank the administrative staff at the Alberta School of Business PhD program for all that they do for the doctoral students. Kathy Harvey, Jeanette Gosine, and Debbie Giesbrecht have helped guide us all through the ins and outs of doctoral student life.

I acknowledge the support of the Chartered Accountants Education Foundation of the Institute of Chartered Accountants of Alberta for the generous funding support provided by the PhD Support Program.

And, finally, I would like to thank my friends and colleagues on the faculty of the University of Saskatchewan Edwards School of Business, especially Ganesh Vaidyanathan, whose unending support and confidence in me was invaluable throughout.

Contents

List of Tables

List of exhibits and figures

List of abbreviations

ANT	Actor-Network Theory
CD	Corporate Development
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CSA	Canadian Securities Administrators
GAAP	Generally Accepted Accounting Principles
IFRS	International Financial Reporting Standards
IR	Investor Relations
MD&A	Management's Discussion and Analysis
OSC	Ontario Securities Commission
PAT	Positive Accounting Theory
QP	Qualified Person
Reg FD	Regulation Fair Disclosure
SME	Subject Matter Expert
SSF	Social Studies of Finance
STA	Socio-Technical Agencement
TEN	Technical-Economic Network
VP	Vice-President

Chapter 1 – Introduction

This dissertation is a case study of the presentation and use of non-GAAP earnings measures, in the processes of corporate financial reporting, communication of financial results to financial analysts, and the use of financial information by financial analysts. Studying one public company and the financial analysts that follow it, value its shares, and report on its performance to the capital markets, the dissertation seeks to answer the questions:

1. How does The Company prepare its financial reports, and in doing so, how does it determine which items will be adjusted, calculated and presented as pro forma earnings?
2. How are financial results communicated to financial analysts?
3. How do financial analysts use The Company's financial information in their valuation models of The Company?

The dissertation addresses these questions with a qualitative case study approach, employing methods from grounded theory (Corbin and Strauss, 2008; Suddaby, 2006) and recent methodological guidance from the Social Studies of Finance on the study of calculative practices (Beunza and Millo, 2008). This approach blends Latour's Rules of Method (1987) with Callon's suggestions for studying valuation in practice (Callon, 1998a), and is applied to data from interviews with managers and analysts, conference call transcripts, annual reports, analyst reports, and analyst models.

The theoretical underpinning suggesting this direction stems from the Actor-Network Theory base (Callon, 1986, Latour, 1987) built upon by the application of the sociology of translation to financial markets (Vollmer et al., 2009). Employing direction from the sociology of translation, which suggests that collectives form around ideas, carrying them and modifying

them as they travel through time and space to acceptance as facts, a research direction made up of multiple approaches under the umbrella of Social Studies of Finance (Muniesa et al, 2007) sees calculation within these markets as a collaborative effort, resulting in collectives that form around values and prices.

This approach sees financial cognition as distributed amongst networks of heterogeneous elements, including people, the tools they use, theories, and practices. Further, this approach takes the underpinning financial economic theories that support these practices as an intervention that constitutes a result, rather than an approach that supports a representation. Action, in this case calculation, is seen here as conducted by socio-technical agencements (Callon and Muniesa, 2005), that represent and intervene in the calculation and thus are "performative" (Callon, 2007). Callon (2005) suggests that "The performativity program starts with the ethnography of the socio-technical agencement." Callon, 2005, p. 5), and utilizing this approach entails deriving rich descriptions of the associations that make up a network of support. While this dissertation is well short of an "ethnography", it aims to contribute to the examination of the socio-technical agencement in accounting practice by providing such description.

In so doing, the dissertation makes contributions to two different areas of accounting research. First, the dissertation provides a detailed description of corporate managers' financial reporting practices and financial analysts' financial modeling practices that has been lacking in the extant literature. Further, by studying the process from preparation of the annual report, through communication to analysts, to the use by analysts, the dissertation offers a unique narrative of an entire process that is typically studied as discrete sub-processes. Second, in providing this description, the dissertation contributes to the literature on financial cognition in capital markets that studies calculation as a collaborative practice, and examines the implications

of theory in constituting devices and the values they support. As such, this dissertation joins a small number of studies that share an emerging interest and contention that the financial reporting process can be usefully studied in its entirety, and from a theoretical perspective with an appreciation for the implications of calculation as framing (see unpublished dissertation work from Graaf J., 2015 and Åhblom, P. 2015)

More is said on the relevant extant literature in Chapter 2, where connections are made between the accounting literature on corporate disclosure, interaction between managers and the market, and financial analysts. Chapter 2 takes direction from these three empirical distinctions, and uses them to develop the research questions accordingly. While motivated by empirical gaps in the mainstream literature, these research questions are also linked to the theory described in Chapter 3, which supports the derivation of a descriptive study to the end of describing financial cognition as distributed in social-technical agencements, and suggests the examination of the process as a whole. Chapter 3 explores the Actor-Network Theory roots of the Social Studies of Finance, and introduces the important theoretical components of intermediaries, mediators and actors, boundary objects, inscriptions and the devices that produce them, performativity, and how these components are important in Callon's (1998a) conceptualisation of calculation as framing. Chapter 3 concludes with a discussion of the notion of framing, also provided by Callon (1998a), who notes the debt to Goffman (1974), as expanded upon and applied by Beunza and Garud (2007).

The methodological approach of the dissertation is expanded upon in Chapter 4, where I motivate the case study approach, and demonstrate how it will contribute to both the mainstream literature on accounting and financial analysis, and the Social Studies of Finance literature on

calculation. I describe the company at the center of this study, the data, and how it is collected and analyzed.

The results of the empirical study are contained in chapters 5 through 8. Chapter 5 addresses the questions of how the company calculates and frames pro forma earnings as Adjusted Net Income. Through an examination of the evolution of the managers' relationship with financial analysts, the effect on the financial reporting process, and the resulting process as it now stands, the various boundary objects (Star and Greisemer, 1989) are illuminated, and the associations between actors and models that support the process of framing the financial performance of the company are traced. Rather than the uni-directional lines of influence, i.e. managers on analysts/analysts on managers, the formation of a collective along the lines of the sociology of translation is described.

Chapter 6 begins the examination of the interaction between the company's managers and the analysts, which continues through Chapter 7, to answer the question of how managers communicate financial results to financial analysts. In Chapter 6, the interactive process that constructs the frame of the company is shown to be active before, during, and after the conference call that announces the company's results. Through a sequence of earnings announcement, initial analyst reports, meetings, the conference call, and the analysts' final report and (presumably an update of the model) the managers and analysts conduct indirect and direct communications that guide their framing activities through sets of agreed upon rules and boundaries for the conference call interaction that leads the managers and the analysts through a series of interactions that support the frame construction. This is demonstrated by three examples that show how it is determined what is included in the frame, what figures will represent an inclusion, and how inscriptions are used to support these inclusions. These insights

lead into Chapter 7, where the inscriptions that "punctualize" subsequent calculations are discussed and identified.

The progression through calculation, seen as collective formation, is similar to the sociology of translation (Callon, 1986) in that long chains of calculations are made, and as subsequent calculations build on the former, the uncertainties and assumptions made in the prior calculations are obscured. The results of those calculations thus become irreversible, and they punctualize the subsequent translation, strengthening it as its underpinnings become taken for granted. This is demonstrated in Chapter 7, as the calculation progresses to settlement on a key metric to represent the company's performance it is positioned in terms of the company's strategy, but the company's strategy changes in relation to the effects of the various aspects of the punctualizing calculations. The settlement on the key metric depends upon the processes discussed in Chapter 6, and in Chapter 7 the focus is on the associations between the prices set in the commodity market, how those prices influence the company's strategy, how they affect the financial analysis, and how the prices and models interact to help determine the value of the company. To illuminate these associations, I examine The Company's inscriptions that the analysts reproduce in their own reports, specifically related to the calculations embedded in the value assigned to the unusual adjustment for the Argyle write-down. I demonstrate how the uncertainty and assumptions made in the prior calculations are obscured in subsequent calculations, thus stabilizing them and contributing to the irreversibility of the prior transactions, and the objectification and singularization of the value in the subsequent settlement on the key metric. I also demonstrate how in the designation of the key metric, pro forma earnings becomes normalized over time as analysts use it and "clean it up" in their reports.

In Chapter 8, the final empirical chapter, I examine the financial analysts' models in relation to the calculative processes that underpin them, and in relation to the "franchise" that they help construct around the analysts, to answer the question of how analysts use accounting measures in their financial models. I describe how what has been taken as financial analysts' models is, in practice, three sub models that each serve a distinct purpose in deriving a valuation of the company. Expanding on the processes of framing put forward, conceived as consisting of a category, an analogy, and a key metric, I demonstrate how the determination of a the key metric is the result of a long, collaborative process that results in the use of pro forma earnings as the appropriate income measurement to represent the company's performance.

I begin by describing the motivation for this dissertation in an examination of the extant research on corporate disclosure, communication, and financial analysis, in the next chapter.

Chapter 2 - The Financial Reporting and Valuation Process – Examining Extant Research

2.1 Introduction

Accounting researchers have studied the relationship between financial reporting and the capital markets since the "seminal publication of Ball and Brown (1968)" (Kothari, 2001, p.106). Almost as long, accounting researchers have studied "…accounting in action (Burchell et al., 1980; Hopwood, 1979)…grounded in diverse theoretical traditions" (Boedker and Chua, 2013, p.246). Despite more recent suggestions for expanding the examination of "…the use of financial numbers across social settings, markets, organizations and cultures" (Vollmer et al, 2009), and the recognition that there is still much to learn about the production of financial information (Hatherly et al., 2008), interaction between corporate managers and key market actors in the dissemination of that information (Barker et al., 2012), and the use of that information by key market actors such as financial analysts (Bradshaw, 2011), to my knowledge there is no study that examines the corporate financial reporting process from production of accounting disclosure, through communicative interaction, to the use of accounting information.

This dissertation examines a case of financial reporting, communication of financial results to financial analysts, and use of financial information by financial analysts. This literature review, therefore integrates relevant studies from three different empirical areas of accounting research: the literatures on accounting disclosure, on communication of disclosure to market actors, and on the use of accounting by financial analysts.

Further, the aim of the dissertation is to contribute to two distinct, but inter-related bodies of research. Answering long-standing calls for more direct investigation of financial reporting practices (Kothari, 2001) and financial analysts' practices (Schipper, 1991; Bradshaw, 2011) I

aim to contribute to the mainstream accounting research concerned with the reporting and use of accounting figures, answering the "how" questions: how accounting disclosures are prepared, how they are communicated, and how they are used, By addressing contextual factors of financial reporting decisions (Neu, 1992), I also contribute to social theory based research on calculation (Vollmer et al., 2009) emerging from a growing body of research that examines calculation in financial markets with an appreciation for the importance of calculative devices (Preda 2007, 2009, 2012), theory and algorithms (MacKenzie and Millo, 2003; Millo and MacKenzie, 2009), and the construction of frames to support calculation (Beunza and Garud, 2007).

The purpose of this chapter is therefore not to review all of the research in these areas, but to narrow the focus to the key areas of specific relevance to this qualitative case study. I will argue that the production of financial reports by corporate managers is useful to study, and, further that the production of pro forma earnings, a voluntary disclosure, is a similarly useful empirical phenomena of interest. The decision to report pro forma earnings, a performance measure with no basis in GAAP, is at the discretion of management, as is what to exclude from or include in GAAP earnings to arrive at a pro forma net income figure. I will argue that the examination of the communication of these pro forma earnings numbers to financial analysts is also important and useful to study as a social process. The study of the use of these figures by financial analysts in their equity valuation models is also useful, as analysts have become recognized as important economic actors, but also as they seem to be implicated in the financial reporting decision process.

The mainstream accounting literature that focuses on the production and use of pro forma earnings has provided many insights, but has not yet studied the process from start to finish. In

order to understand how corporate managers calculate and present pro forma earnings, how those numbers are communicated to analysts, and how the analysts use (or do not use) those figures requires such a descriptive study, and, further, requires an examination of the entire process, as there are a number of social processes that are active at the "interface of accounting and finance" (Hopwood, 2009). At this interface, the efforts of corporate management in calculating and communicating financial results meet those of financial analysts who try to utilize those results, and corporate managers and analysts are important economic agents, who interact, communicate, and collaborate in a field where social relations, devices, and calculations play an important role in shaping behaviour and constructing value while forming social collectives.

Vollmer et al., (2009), recognizing the importance of such interaction, calls for a closer relationship between studies of accounting concerned with accounting, organizations and institutions (Chapman, Cooper and Miller, 2009) and the Social Studies of Finance (SSF) (Preda, 2001). SSF is a diverse area of research at the intersection of economic sociology (See for example Smelser and Swedberg, 2005) and social studies of science and technology (Muniesa et al, 2007). Areas of common interest between the more established accounting research and the emerging SSF cited by Vollmer et al (2009) start with "their engagement with social settings characterised by a high frequency of circulating numbers" (p.619). Further, as is much accounting research, the focus of SSF is on information. From an SSF perspective, information is the result of collaborative effort. So too, financial cognition, the "…practical, interaction-based achievement of market participants" (p. 619) that supports market activity such as valuation, is also a collaborative effort among humans in combination with devices, such as models, spreadsheets, theories, and calculation.

Vollmer et al., (2009) identify two directions of study from an SSF perspective: micro-sociological studies of financial cognition, and performativity studies exploring the consequences of models and theories at the aggregate socio-market level. Micro-sociological studies utilize field studies of financial practices, with a focus on information within the "interaction-based cognitive process" (p.622) that determines what constitutes information, what is accepted as information, and how it is used. Cognitive processes such as calculation are seen as "…accountable activities taking place within and depending on webs of social interactions" (p.622), that is, they are collaborative efforts.

Peformativity studies stem from the notion that financial economic theory intervenes in markets as much as it describes them (Callon, 2007), and prices are a construction of economic value as much as a reflection of it. Thus conceived, financial models, and the financial economic theory underpinning them, "perform" stock prices in the capital markets.

The following section examines the relevant research on corporate financial disclosure. The following section combines relevant research on interaction between corporate management in private and public meetings with investors and analysts. The final section reviews the literature on financial analysts, and the use of accounting information. In concluding, I identify the opportunity to contribute to mainstream accounting literature with a descriptive study of processes heretofore left unexamined, and I clarify the further contribution this makes to studies of calculation as a collaborative effort.

2.2 Corporate Financial Disclosure

Extant accounting research has done much to examine accounting policy choices of public company managers (Watts and Zimmerman, 1978, 1990; Kothari, 2001; Healy and

Palepu, 2001; Graham et al, 2005), and the internal and external influences on, and the sometimes ritualistic nature of, the disclosure of financial information (Burchell et al., 1980; Gibbins et al., 1990). Within this broad range of research, financial disclosure has been seen as a strategy for managers to communicate firm performance (Lougee and Marquardt, 2004), and as a way to fulfill their own self-interest (Graham et al., 2005), but also as a way of constituting and making organizations and actors manageable (Boedker and Chua 2013; Mouritsen et al, 2001; Robson, 1992) through a variety of mandatory and voluntary disclosures.

Management's strategy over mandatory disclosures drives the policy choices made within the boundaries of GAAP and securities regulations. Strategy over voluntary disclosures drives the decisions over discretionary disclosures that management can choose to disclose, or not. Pro forma, or non-GAAP earnings measures (SEC 2003; OSC 2012, Lougee and Marquardt, 2004), is one such disclosure that has become widely used. While securities regulations dictate how non-GAAP members are presented, managers exercise a high degree of discretion in defining what these disclosures are and what they include or exclude from GAAP net income to arrive at a pro forma figure (Doyle et al., 2013).

Studies of accounting policy choice have been of great interest to researchers employing a Positive Accounting Theory (PAT) perspective (Watts and Zimmerman, 1978, 1990; Healy and Palepu, 2001; Kothari, 2001). Often sharing a similar theoretical base assuming managers' self-interest, studies of pro forma earnings tend to focus on whether managers' intent is to provide more information or to mislead investors by directing their attention away from a poor GAAP-based result.

While PAT-inspired research has offered insight into how firm's accounting results have been driven by management incentives, it has been subject to long-standing criticism for its theoretical limits (Cooper and Sherer, 1984; Hines, 1988), and its focus on a limited number of economic variables (Neu, 1992). These studies' criticisms suggest that a wider range of variables should be considered in the examination of the use of voluntary disclosures such as pro forma earnings.

2.2.1 Studies of Accounting Disclosure – Disclosure as Strategy

The purpose of corporate financial reporting is stated in the International Accounting Standards Board's Conceptual Framework:

> "The objective of general purpose financial reporting is to provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity. Those decisions involve buying, selling or holding equity and debt instruments, and providing or settling loans and other forms of credit."
>
> (IASB Conceptual Framework, 2015, paragraph OB1)

Certainly disclosure, in many forms, is important for a firm's financing opportunities, and, while the existence of these ideal users, "investors, lenders and other creditors", has been convincingly disputed (Young, 2006) their influence on the financial statement disclosures must be considered, in terms of both the information they require, and the regulation put in place to protect them. They are not, however, the only consideration, as the self-interest of management seems to be a prominent influence, as does the context in which managers and these influential actors act. Neu (1992) offers direction for the study of corporate financial reporting with an appreciation for the numerous influences affecting it, and also suggests that firms' voluntary financial reporting choices offer an empirical setting in which to examine them. Gibbins,

Richardson, and Waterhouse (1990) examine the internal and external influences, and derive a structure for explaining and predicting corporate disclosures that suggests attention should be paid to the many variables that play on the process.

The examination of relevant disclosure research will start with Gibbins et al.'s (1990) grounded theory development of a disclosure structure. Pro forma earnings, as an important disclosure decision is then discussed, with subsequent discussion, respectively, of the regulatory, market, and institutional influences on its use.

2.2.1a Disclosure Processes

Gibbins et al, (1990) define financial disclosure as: "any deliberate release of financial information, whether numerical or qualitative, required or voluntary, or via formal or informal channels." (p. 122). Using grounded theory to derive a structure aimed at explaining and predicting corporate disclosures, the paper examines the range of individuals and issues involved with the preparation and release of this information. Interested in questions about who in the organization makes disclosure decisions, the issues considered, and the impact of external parties on those decisions, they find that firms' disclosure output is influenced by both internal and external factors. These factors serve to develop a company's "disclosure position" that drives the preferences for reporting outputs, which are also subject to the characteristics of the reporting issues itself, as well as external mediators.

Gibbins et al finds that firms develop a "stable, two-dimensional internal preference for managing disclosures." (p. 122). They call this a firm's "disclosure position", a "relatively stable preference for the way disclosure is managed" (p. 130). The two dimensions, "ritualism" and "opportunism" reflect the ritual adherence to norms and rules of financial reporting, and the self-

interested propensity to influence how disclosure is calculated, reported, interpreted.

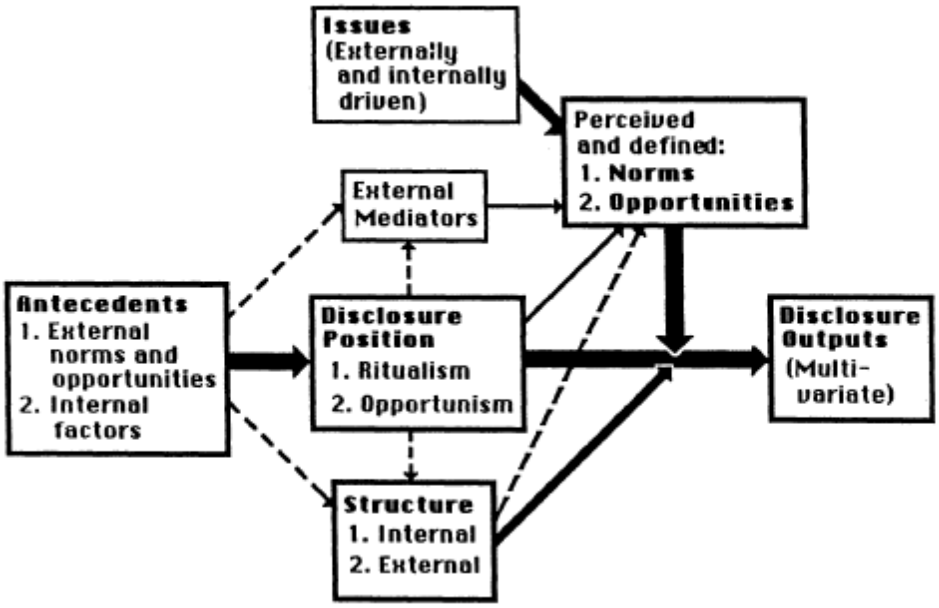


Figure 2.1 The Disclosure Process. Source: Gibbins et al. (1990), p.128

Figure 2.1, representing Gibbins et al.'s (1990, p.128) conception of the disclosure process, is reproduced in Figure 2.1, above. In this depiction of financial reporting any given accounting issue is considered by the firm in terms of externally and internally driven disclosure issues, which management considers in terms of the perceived norms and opportunities associated with them. The norms are both externally and internally imposed. External issues have to do with relevant accounting standards and securities regulations that influence the content and timing of the disclosure. The disclosure output is influenced by internal and external factors that form the firm's disclosure position, structure, and external mediators.

Passive adherence to norms for disclosure of financial information is "ritualistic". Opportunism is more active, where managers seek "firm specific advantage in the disclosure of financial information" (p. 130). These two positions are understood in terms of a set of

antecedent conditions from within the firm, and from the firm's environment. Their internal antecedents are corporate history, corporate strategy, and internal politics. Their external antecedents are institutional and market.

Within the categories of internal antecedents, corporate history consists of the taken for granted practices that have been established in the firm, influenced by the rewards and penalties that have been conveyed upon the managers over the time during which disclosure practices have become taken for granted. For Gibbins et al, corporate strategy has more to do with financing than it does with marketing and production: here they refer to the capital markets that the firm chooses, as there are different disclosure requirements in different markets. Their notion of corporate politics seems to come from the top down, as it is the reiteration of the CEO's beliefs on financial reporting that they heard echoed throughout their data.

The external antecedents are institutional and market. The institutional encompass laws, regulations, and accounting standards; inter-organizational networks, where sub-organizations within the network adopt the same reporting structure to facilitate information sharing; and industry norms, where practices are established among similar firms. The market antecedents include the influences of both product and capital markets. Product market factors on disclosure are in regulated markets, where mandated disclosure affects policy choices, but also in competitive markets, where avoiding disclosure of proprietary information is an important consideration. In capital markets, the frequency of financing obtained from the market served to influence reporting, as more frequent capital requirements led managers to maintain the firm's position in the public eye.

Gibbins et al (1990) see these antecedents as the most prominent in influencing the disclosure position, where the ritual and opportunistic drive the resulting disclosure. They pay less attention to "external mediators", who they consider to be mainly "advisors" to the firm. These are the auditors, consultants and legal advisers who help identify disclosure issues, and have an influence on the ritual and opportunistic disclosure position. Gibbins et al group analysts within these external mediators, but dismiss them as "incidental", as their presumed role as information disseminators suggests to the authors that these external agents play no advisory role, and therefore have no influence on the disclosure decision.

Building on Gibbins et al., (1990), Holland (2005), in an investigation of corporate disclosure in UK companies, examines how disclosure is a "learning experience" that changes disclosure behavior. This learning experience refers to the companies' learning about the market effects of their disclosure, which "…created a learnt context or priors which influenced current and future disclosure" (Holland, 2005, p. 249). Holland suggests that, through their perceptions about the market outcomes of their disclosure, managers learned that they needed a "coherent story", to which they had to stick, through positive and negative events over time.

The implications of Gibbins et al., (1990) and Holland (2005), that there are external factors that influence disclosure choices, and that the "story" that the disclosures tell has implications for the market reaction to the story, indicates that an expanded view could be taken of the disclosure process that appreciates the influence of specific actors within the firm, and expands the analysis of actors outside of the firm. Whereas both of these studies seem to leave the disclosure decision in the hands of management, they also recognize that it is not only management that makes the decision of what to disclose and how to disclose it. These two studies seem to suggest that disclosure is a collaborative process that includes external forces.

Some of these forces are countries' legal and governmental institutions (Isidro and Marques, 2015), and in the social norms that these institutions foster (Neu, 1992).

One of the prominent external forces not investigated by Gibbins et al., (1990) comes from financial analysts, and the performance benchmarks created by their valuations. Matsumoto (2002) suggests that management has both firm-specific and self-serving incentives to avoid "negative earnings surprises", and that managers will either try to manage earnings to meet analysts' benchmarks, or try to manage analysts' expectations downwards, thus lowering that benchmark. Graham et al, (2005) identifies both financial analysts as an important audience, and pro forma earnings, a voluntary non-GAAP earnings disclosure, as an important measure for reaching this audience. The focus on disclosure is narrowed to this phenomenon in the next section.

2.2.2 Pro Forma Earnings Measures

A common voluntary disclosure reporting practice in corporate financial reporting is the inclusion of additional, non-GAAP earnings measures in quarterly and annual financial reports. The term non-GAAP refers to earnings measures that are calculated with no basis in Generally Accepted Accounting Principles. These non-GAAP measures tend to be included in earnings releases (Elliott, 2006), and are published in the Management Discussion and Analysis section of companies' Annual Reports. Accounting researchers call these non-GAAP measures 'pro-forma' earnings measures, and in practice managers use terms for them such as 'Adjusted Net Income', 'Core Earnings', and 'Recurring Income' (Entwistle et al., 2005).

Graham et al (2005) find that financial executives believe pro forma to be one of the most important financial measures for their company. Further, investors seem to rely on it as more

informative than GAAP net income (Lougee and Marquardt, 2004), and analysts, in particular, express a preference for non-GAAP measures (de Jong et al.2009). Pro forma earnings do seem to affect both investors' judgments (Elliott, 2006; Frederickson and Miller, 2004) and stock prices (Allee et al., 2007). The use of pro forma earnings is also somewhat contentious, as the question of whether managers use pro forma earnings to provide more information where GAAP is limited, or to mislead investors from focusing on a poor GAAP-based net income, is still unanswered (Isidro and Marques, 2015). The regulation put in place by securities commissions, discussed next, seems to take the position that the use of pro forma earnings is potentially misleading to investors.

2.2.2a Regulation over pro forma earnings

While regulation over the disclosure of pro forma earnings is somewhat limited, there are directives from both the US Securities and Exchange Commission (SEC) and the Canadian Securities Administrators (CSA) governing the use of non-GAAP earnings measures[1].

Securities and Exchange Commission:

In March, 1973, the SEC commented on non-GAAP earnings measures, suggesting that it was inappropriate for companies to present these figures to investors as "true" (SEC, 1973). In December, 2001 the US Securities and Exchange Commission (SEC) issued a warning to investors and companies regarding the use of non-GAAP earnings measures. They cautioned investors about the inconsistent nature of these measures, and warned companies about issuing "misleading" pro forma measures to the market.

The Sarbanes-Oxley Act of 2002 directed the SEC to issue guidelines governing the

[1] The standards endorsed by the CSA have been adopted by the Ontario Securities Commission, which governs the Toronto Stock Exchange, on which the shares of the company at the centre of this dissertation are traded.

disclosure of non-GAAP earnings measures, resulting in the adoption of Regulation G, effective March 28, 2003 (SEC, 2003).

Canadian Securities Administrators:

In Canada, in contrast to the United States, there is a securities regulator in every province and territory, rather than a national regulator governing all markets in the country. The Canadian Securities Administrators is an umbrella organization, with representatives from each of the ten provinces and three territories. The mandate of the CSA is the harmonization of securities regulation across Canada, however, enforcement of regulation remains in the hands of each individual province.

Most recently updated in 2012, the Canadian Securities Administrators' Staff Notice 52-306 (CSA 2012) governs the use of "non-GAAP financial measures":

> "…a numerical measure of an issuer's historical or future financial performance, financial position or cash flow, that does not meet one or more of the criteria of an issuer's GAAP for presentation in the financial statements, and the either:
>
> i) Excludes amounts that are included in the most directly comparable measure calculated and presented in accordance with the issuer's GAAP, or
> ii) Includes amounts that are excluded from the most directly comparable measure calculated and presented in accordance with the issuer's GAAP.
>
> Non-GAAP financial measures are not presented in an issuer's financial statements."
>
> (Par II, sec i and ii)

Generally, these figures are presented in the MD&A, press releases, and promotional material. While the Staff Notice 52-306 acknowledges that management may be using these figures to provide clarity and explanation to financial statement users, the tone of the directive seems to suggest that these figures are potentially misleading to investors, and the guidelines seem aimed at reducing this potentiality.

The perspective of regulators seems to be that pro forma earnings are misleading, and the spirit of the regulations seems to be to limit the disclosure of pro forma earnings, and to prevent investors from being misled. Since the enactment of Regulation G and Staff Notice 52-306, the disclosure of pro forma earnings is increasing (KPMG, 2014), although there was a brief drop immediately after Regulation G came into effect (Marques, 2006).

Much of the research on pro forma earnings use examines the effect of this regulation (Entwistle et al., 2005; Kolev et al., 2008; Marques, 2006; Zhang and Zeng, 2011) while addressing the question of whether management is trying to mislead investors by diverting attention away from poor GAAP-based net income (Bowen et al., 2005; Lougee and Marquardt, 2004).

Bowen, Davis, and Matsumoto (Bowen et al., 2005) examine press releases for emphasis on pro forma earnings versus GAAP earnings. They found a deliberate emphasis on pro forma earnings measures that declined after the SEC's 2001 cautionary statement.

Marques (2006) studies the quarterly press releases of all of the companies in the S&P 500 during 2001 – 2003 in order to investigate what firms were doing before the SEC issued a warning on pro forma in December, 2001, the effect of the 2001 SEC warning, and the effect of Regulation G, issued in January 2003. There was no reduction in pro forma earnings reporting after the 2001 warning. There was a reduction in pro forma disclosure after Regulation G in 2003

Zhang and Zheng (2011), noting that 300 of the S&P 500 companies reported pro forma earnings in the second quarter of 2001, investigated the effects of the regulation over reconciling pro forma to the nearest GAAP number. The found that, before the introduction of Regulation

G, shares of firms with poor reconciliation quality were mispriced in the market. After Regulation G came into effect, they found a lower instance of mispricing for firms that improved their reconciliation quality. The found no similar change in the shares of firms that had high reconciliation quality before and after Regulation G, suggesting that the improvement in reconciliation, in accordance with the regulations, reduced information asymmetry, and improved market valuations.

And SEC regulations governing the presentation of pro forma earnings may have resulted in better quality reporting of these figures. Kolev, Marquardt, and McVay (2008) argue that the "Regulation G[2]" (SEC, 2003) requirement to reconcile pro forma earnings to GAAP net income has resulted in fewer instances of pro forma earnings issued by public companies, and better quality pro forma when it is reported, but also a move from pro forma to greater inclusions in the "special items"[3] section of the GAAP income statement, perhaps an unintended consequence of Regulation G. According to Kolev et al, (2008), while firms may be raising the quality of pro forma earnings, the result may be poorer quality GAAP Net Income.

Entwistle, Feltham, and Mbagwu (2005) further explore the use of pro forma earnings by comparing Canadian corporations and U.S. corporations. They find that U.S. corporations are more likely to report pro forma earnings (77% in the U.S. versus 33% in Canada) and they identify larger differences between the GAAP numbers and the pro forma numbers in the U.S.

[2] Section 401(b) of the Sarbanes-Oxley Act directed the SEC to adopt legislation that deals with the presentation of non-GAAP financial information. The disclosure regulation, commonly referred to as "Regulation G" (Kolev et al., 2008: 158), the SEC regulation requires pro forma earnings measure to be reconciled to the nearest GAAP reporting measure. This reconciliation is presented in table form, in the 10K and the Management's Discussion and Analysis section of the annual report.

[3] The "special items" classification separates expenses in the income statement, isolating expenses that management views as unusual or extraordinary. Special items are still included in the calculation of GAAP net income, but are highlighted as being non-recurring and inconsequential to the regular operations of the business.

than in Canada[4]. The authors interpret their findings to support the idea that managers in both countries use pro forma to affect the financial statement users' perceptions of the companies' financial performance.

2.2.2b Internal and External Influences on pro forma – The importance of context

Central to accounting disclosure research is the assumption that effective disclosure lowers firms' cost of capital (Gao, 2010). Public companies seem to have embraced this assumption, and expend efforts to retain analysts and communicate with them effectively. One consequence of this is the increasing instance of Investor Relations functions in public companies, which have been in place at many companies since the 1960's, but show a marked increase in Fortune 500 Industrial companies between 1984 and 1994 (Rao and Sivakumar, 1999). The job of this part of the management team is to help effectively convey pertinent aspects of the organization to the market, but there is also the implication that in doing so the market can be influenced. According to Rao and Sivakumar (1999) the job of investor relations is:

> "…managing analyst expectations and correcting misconceptions in the investor and analyst communities. A crucial responsibility of an investor relations executive is to understand the assumptions driving the financial model used by financial analysts, and to influence those assumptions to ensure a realistic assessment of the organization." (Rao and Sivakumar, 1999:29)

This strategy seems to work: Bushee and Miller (2012) study the effect of initiating Investor Relations strategies on investor following for small cap firms that would otherwise be "less visible". To the public companies' credit, Bushee and Miller (2012) find that:

[4] The find that these adjustments tend to have the effect of increasing the resulting 'adjusted net income' on a pro forma basis versus the GAAP net income (rather than decreasing 'adjusted net income').

> "…companies initiating IR programs exhibit greater increases in institutional investor ownership and a shift toward investors that normally would not follow the companies. We also find greater improvements in analyst following, media coverage, and the book-to-price ratio." (p.867)

Their results suggest that "IR activities successfully improve visibility, investor following, and market value." This is achieved by attracting more attention from investors, which increases the amount of information about the company that circulates in the market, thus reducing information asymmetry, and the associated estimation risk premium (Lang and Lundholm, 1996). In this tradition of research, the size of analyst coverage often provides a proxy for the level of information in the market:

> "Our conclusions suggest that firms can attract analysts, improve the accuracy of market expectations, reduce information asymmetries and limit market surprises by adopting more forthcoming disclosure practices."
>
> (Lang and Lundholm, 1996, p. 468)

If one takes the position that pro forma earnings are intended to provide more information to the market, the provision of pro forma earnings can be considered part of enhanced disclosure practices. Extant research on pro forma earnings measures has shown that these figures provide additional information for investors, and that investors do use them. Lougee and Marquardt (2004) acknowledge instances where pro forma earnings are more reflective of a given firm's economic reality than GAAP net income. They contend that pro forma adjustments might undo some of the technical requirements of GAAP that result in the 'form' of a transaction that does not reflect its 'substance' in relation to providing future value. Conversely, they also note that flexibility in the reporting of pro forma figures may lead to attempts to mislead investors by minimizing the importance of GAAP and trying to distract investors from a focus on GAAP by

using an inflated pro forma earnings figure. The results of their study support their theory that managers of public firms who believe that GAAP does not accurately reflect their value generating activities provide a pro forma number that they believe does accurately reflect net income. They also find that companies whose GAAP figures will result in the failure to meet an earnings forecast will be more likely to report a pro forma number that meets or exceeds the forecasted figure.

While the use of the different earnings measures is variable, there may be instances where the accounting standards underlying GAAP based accounting figures are overly complex, or when compliance results in form that does not reflect substance. Lougee and Marquardt, (2004) contend that pro forma adjustments undo some of the technical requirements of GAAP that otherwise result in the 'form' of a transaction that does not reflect its 'substance' in relation to providing information about future value.

Marques (2006) studies the value relevance (that is, the ERC) of pro forma over the three time segments 2001 – 2003. According to Marques (2006), the market does not react to pro forma earnings (i.e., there is no value-relevance) after the warning, but there is for firms that disclose pro forma after Reg G. Further, "the market reacts as if the total adjustment that firms exclude from earnings is perceived as transitory", that is, they react as if none of the excluded expenses have implications for the long-term future cash flows of the companies.

Further, Bowen et al. (2005) find that "1) Firms with less value-relevant GAAP earnings tend to place greater relative emphasis on pro forma earnings, 2) Firms emphasize the metric that portrays better performance, 3) Firms with greater media coverage are more likely to emphasize pro forma earnings and less likely to emphasize GAAP earnings, 4) Firms decrease

the level of emphasis on pro forma earnings and increase the level of emphasis on GAAP earnings in 2002 vs. 2001, and 5) Greater emphasis on pro forma earnings results in a stronger market reaction to the surprise in pro forma earnings reported in the quarterly earnings announcement (Bowen et al., 2005, p. 1013).

In addition to pro forma having an effect on the market, the market seems to have an effect on pro forma disclosure. Brown, Christensen, Elliott and Mergenthaler (2012) study the relationship between market sentiment and firms' disclosure of pro forma earnings. Brown et al. (2012) take market sentiment to mean:

> "The behavioural finance literature defines investor sentiment as optimism or pessimism about stocks in general or when investor beliefs about future firm value deviate from current fundamental information." (p. 2)

Brown et al. (2012) suggest that there is anecdotal evidence that pro forma earnings use tracks stock market bubbles, which they also relate to investor sentiment, with investor sentiment influencing both stock market bubbles, and pro forma earnings use in bubble periods. Brown et al suggest that in times of investor optimism, firms are more likely to report pro forma earnings, as they are less subject to scrutiny. When investors are pessimistic, they are less likely to accept information without scrutiny, and therefore firms are less likely to report a pro forma number when investors are generally pessimistic about stocks in general.

Brown et al. (2012) side-step the question of management intent, but further investigate management's own sentiment and its effect on firms' pro forma disclosure. They find that, as investor sentiment increases, that is, investors become more optimistic, managers' disclosure of pro forma earnings increases. As both sentiment and pro forma use increases, so does the

exclusion of both recurring and non-recurring expense from the pro forma number, and the emphasis on the pro forma number (by increasing the prominence of it in the earnings announcement). Brown et al. (2012) suggest that management's action "at least partly reflects opportunistic motives." (p.2)

Focusing on a specific category of market actor, representing "sentiment", a significant number of CFO's view analysts as the most important group for setting their firm's stock price (Graham et al., 2005: 51). Relating analyst coverage to disclosure practices, Lang and Lundholm (1996) suggests that:

> "Firms can attract analysts, improve the accuracy of market expectations, reduce information asymmetries and limit market surprises by adopting more forthcoming disclosure practices." (p. 468)

Sharing this sentiment, Anantharaman and Zhang (2011) finds that when firms lose analyst coverage, they will "…take costly actions such as increasing guidance to recoup losses of analysts" (p. 1853). This demonstrates not only the importance of analysts, but also further establishes the management belief that increased communication directed towards analysts will encourage their attention.

While managers appear to vie for analysts' attention, Barker (1998) finds that they typically do not have extraordinary confidence in financial analysts' valuation ability. Finance managers assumed the role of "communicators", expending a lot of effort to ensure that the company is properly understood by analysts in terms of its "key valuation messages." (Barker, 1998, p. 8).

The analysts do, however, seem to have an influence on firm disclosure in general, and pro forma earnings in particular. Doyle, Jennings, and Soliman, (2013) study whether managers opportunistically define pro forma to meet or beat analyst expectations. Doyle et al. (2013) suggests that "…managers use the discretion afforded them in defining non-GAAP earnings to achieve this benchmark [to meet or beat analysts' forecasts]".

For Doyle et al, "opportunistically defining non-GAAP earnings" is taken to mean "reclassifying some actual recurring expenses as non-recurring expenses". They start from the perspective that pro forma should only exclude zero/transitory persistence items, and, when acting with the intent to address analyst expectations, management will exclude enough expenses with permanent persistence items to meet/beat the forecast.

Doyle et al., (2013) further clarifies Black and Christensen's (2009) findings from an examination of hand-collected pro forma earnings data from press releases, that demonstrates that the most frequent exclusions from GAAP net income to arrive at an pro forma are 1) research and development expenses, 2) depreciation and amortization, and 3) stock based compensation. These exclusions are also correlated with beating earnings benchmarks that would have been missed under GAAP net income.

The influence of financial analysts on the decision to disclose pro forma earnings is well examined, and may be continuing to drive its use, as the practice of reporting pro forma earnings continues. According to the most recent KPMG survey of financial reporting in the mining industry:

> "Of the 25 companies surveyed, 11 disclosed some measure of adjusted net earnings. Several items were adjusted for by almost all companies, including impairment of long-lived assets, gains or losses and one-time charges for acquisition and disposal of assets,

> and tax-related items. Several companies also adjust net earnings for unrealized gains or losses on financial instruments, foreign currency gains or losses, and impairment of available for sale investments."
>
> (KPMG, 2014, p. 66).

The influence of analysts is not, however, the only factor that must be considered in the examination of pro forma earnings. Concerned with the various factors that influence managers' presentation of voluntary disclosures, Isidro and Marques (2015) investigates the institutional factors of different countries that influence the use of pro forma earnings to meet or beat analysts' benchmarks. Starting with managements' self-interested "strategic" intentions, the paper studies three earnings benchmarks demonstrated in prior literature to suggest the presence of this self-interest: meeting analysts' expectations (Black and Christensen, 2009), avoiding reporting a loss (Walker and Louvari, 2003) and showing growth in profits relative to the previous year (Lougee and Marquardt, 2004). Isidro and Marques (2015) finds:

> "a greater likelihood of disclosure of non-GAAP numbers that meet or beat earnings benchmarks when the GAAP number misses the target in countries with efficient laws and law enforcement, strong investor protection, developed financial markets, and good communication and dissemination of information."
>
> (Isidro and Marques, 2015, p. 96)

These findings suggest that, within these "developed financial markets" there is more pressure on managers to meet earnings targets. That is, the qualities of the societies within which these markets operate influence the market, which in turn influences the companies' reporting decisions. Further, the market pressure resulting from these conditions leads managers to exclude more of the type of expenses that would be considered value-relevant:

> "…managers in countries with developed institutional and economic conditions are more likely to exclude recurring expenses such as R&D, depreciation, and stock-based

> compensation expenses from non-GAAP earnings, a practice that has been associated with aggressive financial reporting."
>
> (Isidro and Marques, 2015, p. 96)

The high-level societal influences seem to culminate in the influence on management, stemming from the market, and manifest in the incentive for managers to meet market benchmarks, in terms of financial analysts' projections.

Examining the individual, organizational, and societal influences on manager's voluntary reporting decisions Neu (1992) examines the effect of the isomorphic pressures suggested by institutional theory (Dimaggio and Powell, 1987). Whereas Isidro and Marques (2015) is still strongly influenced by the Positive Accounting Theory notion of managers' individual incentives, and how regulatory environments mitigate those incentives, Neu (1992) considers the social factors in addition to the economic factors suggested by the opportunistic hypotheses of Positive Accounting Theory.

Neu (1992) suggests that Positive Accounting Theory informed studies are limited in their focus on economic variables that assume self-interested management. The focus on compensation, contractual, and regulatory variables is seen by Neu to neglect the many contextual variables relevant to managers' actions at the individual, organizational, and societal level. Employing institutional theory informed notions of the isomorphic processes (Dimaggio and Powell, 1987) driven by powerful others, normative influences, and responses to uncertainty, Neu adds these variables to a regression analysis that includes his operationalizing of the PAT variables. Neu (1992) studies the influence of these variables on corporate managers' voluntary disclosure decision of whether to include an earnings forecast in an initial public offering prospectus.

At the individual level, Neu suggests that influences on managers' disclosure choices include the web of relations in which the mangers function, the normative influences of industry norms and professional association, and the presence of "powerful others" who control resources upon which the organization, and ultimately the managers are dependent.

At the institutional level, he extends the powerful others to expand the "resource dependency" of the organization and recognize the market as a whole, as well as recognizing authority relationships such as regulatory agencies and governments. To these he adds the force of uncertainty, where the managers look outside the organization for guidance when unsure of what direction to take, or how to achieve goals.

At the societal level, Neu recognizes the embeddedness of economic relations in social relations suggested by Granovetter (1985), recognizing the "social and community norms" that govern behavior, and serve to guide the opportunistic economic behavior postulated by PAT along acceptable paths to self-interest.

He finds that, while the economic variables do explain part of the decision to include an earnings forecast in the prospectus, they do not explain everything, as the social variables have a stronger correlation to the decision.

2.2.3 Conclusion and research direction

A salient feature of much of this research is the implication that the interaction between firm managers and external actors, regulators, and the market has an effect on the disclosure decisions of managers. This suggests that the extant literature suggests an opportunity for enhancement from a detailed examination of the process that considers the different influences

on the financial reporting decision in order to answer the question of how pro forma earnings are calculated and presented in the financial disclosure that is communicated to the market.

In addition to textual vehicles for communicating information to the market, much of the communication of information takes place in the form of a dialogue. The next section examines perspectives on methods for communicating financial results that are interactive in nature: private meetings and conference calls.

2.3 Communication – Interaction between managers and analysts

An important accompaniment to the release of the quarterly and annual reporting package is an earnings announcement, highlighting and summarizing the financial results. Barker (1998) suggests that managers believe "that the announcement of the final results is of significantly greater valuation relevance than the publication of the annual report and accounts." (Barker, 1998, p. 8). A significant follow-up activity subsequent to the release, for both management (Bowen et al., 2002) and financial analysts (Groysberg and Healy, 2013), is the conference call to discuss the results. Contact with management has been shown to be very important to financial analysts (Marston, 2008). In a survey of financial analysts, Brown et al., (2015) find that the second and third most important determinants of their earnings forecast are, respectively, private communication with management, and earnings conference calls. According to Brown et al., (2015), some analysts report having private contact with management five to six times a year, in private meetings, site visits, and telephone calls. Similarly, regular analysts' conference calls have become common voluntary disclosure mechanisms for North American public companies (Bushee et al., 2003; Matsumoto et al., 2011). The increasing frequency of interaction between managers and analysts has led to regulation governing the interaction, aimed a leveling the

playing field over what was considered an unfair information exchange.

In the US setting, the interaction between public company managers and the market is governed by Regulation "Fair Disclosure" (Reg FD) (SEC, 2000). This regulation's prohibition on selective disclosure prevents managers from giving material non-public information to select investors and analysts before it is publicly released. Reg FD therefore has implications over the conduct of private meetings and conference calls. Reg FD does not preclude private meetings, but ideally, the information conveyed in these meetings will not contravene Reg FD. Similarly, the information conveyed in conference calls will not include anything that has not been included in the preceding financial information release and earnings announcement, and further, analysts, investors, and the media will not be excluded from the call. Despite this regulation, private and public interaction between managers and analysts has been increasing (Anantharaman & Zhang, 2011), suggesting that it is important to both managers and to analysts. In the next two sections I examine relevant research investigating pertinent aspects of this private meeting and conference call interaction.

2.3.1 Private Meetings

Much of the extant research is whether private meetings convey information to the attendees when Regulation Fair Disclosure (SEC, 2000) limits selective disclosure (Anantharaman & Zhang, 2011; Soltes, 2014). Building on this question, the private meetings have also been of interest to researchers offering an interpretation of the purpose of the meetings beyond the notion of 'information exchange' (Barker et al, 2012; Roberts et al, 2006). To investigate this phenomenon, Barker et al., (2012), and Roberts et al., (2006), examine private meetings between management and institutional investors, including analysts, and Soltes (2014)

examines the private interaction specifically between management and financial analysts.

Barker et al. (2012) identifies a paradox: according to capital markets research, if financial information is to be useful to investors, it must contain some information about a firm's future cash-flows. Also, the efficient markets hypothesis suggests that all public information is rapidly incorporated in the share price, and therefore public information is of no use to investors. Barker et al.'s UK regulatory setting is similar to North America where disclosure of material non-public information is prohibited in these meetings. The reasons for attending private meetings, for both management and investors, must therefore be something other than information exchange.

Barker et al, (2012) conduct interviews with corporate managers and investors, and observe the meetings between them. Barker et al finds three explanations for the paradox, and related reasons for attending the meetings: the financial economics-based notion of information as that which is price sensitive is too limiting; institutional investors don't act according to the notions of rationality assumed by capital markets researchers; and investors gain a reputational benefit from being seen as having exclusive access to managers.

That the investors claim that the meetings are one of the most important sources of information has two implications for the authors: First, the meetings convey a certain confidence on the investors about their ability to assess management, conflicting with the accepted notion of rationality. This indicates that the investors are not acting rationally in the strict sense. Second, if the investors are able to attain superior investment results based on the information they gain from these meetings (unobservable in the study), the notion of rationality is too limited. At any rate, the first implication suggests that there is some sort of effect on the investors; but the

authors cannot determine what that effect is from their analysis.

The authors' third explanation also suggests that there are significant effects of the interaction. The investors enjoy a reputational effect that indicates that one of the primary reasons for attending the meetings is not related to the investors' valuation activities. The interaction serves a more intangible effect than an investment result: it serves to build the investors' network.

Roberts et al. (2006) also observe these private meetings, and focus a Foucauldian lens on the interaction, in an examination of the disciplinary effects of the meetings, and the implication of the meetings in the circulation of the idea of 'shareholder value'. Rather than considering the information content, the authors are concerned with the effect that the meetings have on managers and the organization. The investors' information gathering is not seen to be related to the practice of valuation and investment decision making, but as a disciplinary technique for subjecting management to the forces of shareholder value.

The managers' pre-meeting preparation, the meeting itself, and the managers' subsequent decisions driven by desire to attain shareholder value, are part of a process where these forces are exerted. The managers know they will be scrutinized in the meeting, so they begin to self-discipline in advance of the meeting. In the face-to-face meeting they are scrutinized in terms of their proclivity for serving shareholder value. After the meeting, the managers carry the subjection to shareholder value with them to their organizations, and make decisions aligned with the idea of shareholder value, such as cost cutting measures to increase net income. Further, the decisions are justified and supported with reference to shareholder value.

Soltes (2014) examines proprietary records of private interaction between managers and financial analysts in order to determine what type of analysts pursue private interaction with managers, and whether or not these interactions provide any information that the analysts can use in their earnings forecasts. Soltes finds that analysts who interact privately are similar to those analysts who interact publicly in conference calls, but also that they interact not only with executive management (the CEO and the CFO) but also with various levels of middle- to upper-management. These interactions fostered a close relationship between the analyst and the managers, leading to the analysts introducing managers to institutional investors.

Soltes (2014) regresses whether an analyst interacts privately on a number of analyst characteristics (number of firms covered, years as an analyst, time covering the company, all-star status, forecast frequency, prior meetings, and buy/sell/hold recommendation). The regression results suggest that analysts that are more likely to interact privately with managers are those that cover relatively fewer firms, have less experience as an analyst, and exert more effort in terms of forecast frequency. The analysts that publish a buy recommendation for the company are also more likely to seek private interaction.

Regarding the reasons why analysts seek private interaction, Soltes (2014) examines analysts' published reports, and categorizes the stated reasons for writing the report. Soltes also examines the analysts' earnings forecasts for indications of change to the forecast resulting from private interaction.

A small number of the stated reasons for writing the report referred to specific private interaction, indicating that the analyst used the interaction to base the report on, but suggests that it is perhaps the anticipated increase to the analysts' reputations derived from an apparent

superior access to management that is the driving factor behind the report.

Soltes analyzed the analysts' forecast error after the private interaction, comparing it to the last forecast before the private interaction, to determine whether or not the private interaction improved the analysts' forecasting abilities. Soltes also examined the time lag between the private interaction and any subsequent change to the forecast, to determine how significant the interaction was in terms of the effect on the forecast; i.e. whether the analyst immediately changed the forecast based on the private interaction. Soltes finds that there was an insignificant improvement in analysts' forecast error after the private interaction, and there was an average twenty-six day lag between the meeting and the forecast change. Soltes takes these to mean that there was no material information exchanged in the private interaction. If there was, Soltes assumes that the analyst would update the forecast immediately, and that there would be an improved forecasting ability.

Notwithstanding the inability of analysts to accurately forecast, which has been well established (Cowles, 1933; Bradshaw, 2011), Soltes' (2014) results suggest that there are reasons for the meetings other than analysts improving their models by acquiring firm-specific information advantage, otherwise analysts would not seek this private interaction.

The notion that information is only useful if it allows the projection of future cash-flows is exemplified by Soltes (2014), and a foundational assumption of capital markets research (Kothari, 2001). Barker et al. suggest that this notion is too limiting, as it neglects the subjective assessment of management that is done in person in private meetings. This subjective assessment can affect the investors' investment calculation, as well as having an effect on management, as suggested by Roberts et al., (2006).

There also seems to be an effect on the investors, related to Barker et al.'s observation that the investors don't behave in the purely rational way assumed by economic theory (Fama, 1970, Shleifer, 2000).

One common factor demonstrated by Soltes (2014), Barker et al., (2012) and Roberts et al., (2006) is the effect that these meetings have on the participants. This suggests that, in addition to information exchange, the interaction between managers and investors, including analysts, there is a degree of influence exerted by both parties on each other. This influence seems to be similarly exercised in the more public conference calls, discussed next.

2.3.2 Conference Calls

Prior to the enactment of Regulation FD (SEC, 2000) conference calls were closed events, with management discretion over who was allowed to participate (Bushee et al, 2004). Since Regulation FD opened access to the calls to all investors, analysts, and the media, researchers have been able to make better use of what is now a public record. Research on conference calls largely examines the information that is conveyed during the call, and its effect on share price (Bowen et al, 2002; Bushee et al., 2004; Matsumoto et al., 2011). Much like the research on private interaction, information in conference calls is largely examined in terms of its persistence and relatively fewer studies examine the calls in terms of other qualities, such as management deception (Larcker and Zakolyukina , 2012), the differences in tone between managers and analysts (Brockman et al., 2014) or the types of participants (Mayew, 2008).

Matsumoto, Pronk, and Roelofsen (2011) investigate the usefulness of the conference calls, breaking the call down into two sections: the beginning of the call where management offers opening comments, and the question and answer discussion, where management fields

questions from the participants. At the beginning of the call, management makes comments, usually referring to the earnings release, but also often expanding upon that disclosure. A question and answer period follows, where managers filed questions from call participants. Matsumoto et al., (2011) examine conference call transcripts for start and end times of each of these two sections, and then measure abnormal returns on intra-day trading during each segment as a proxy for the informativeness of each segment. They find that the discussion segment of the call is more informative, and further, this increases with the number of analysts following the company. While the paper does not examine the actual textual content of the call for the qualities of the information that is associated with this increase, it does demonstrate that the interaction between management and analysts during the call is a significant activity that is associated with changes in the share price.

In order to examine the effects of the fair disclosure regulations governing the calls, Bowen, Davis, and Matsumoto (2002) studied the period prior to Regulation FD, and the effect of the conference call on financial analysts' performance. The nature of the information released during the call was an important issue in the study, which tried to answer whether the purpose of the call was to "increase disclosure" or it was just a "new method" of presenting information that was readily available from other sources (p. 286). Disclosing new information before it was available to the market would give the analysts who were allowed access to the call an information advantage over other investors.

Bowen et al. (2012) found that the call improved the forecast accuracy of the analysts who were allowed access, and, further, that analysts with weaker ability seemed to benefit more from this access, suggesting that conference calls increase the information available to analysts,

thus they should be understood as "information increasing" in nature. The authors make a strong case for the regulation of the calls, and the timely dissemination of information to all market actors.

Turning to the qualities of the participants, Mayew (2008) suggests that certain types of analysts ask questions in conference calls: analysts that issue downgrades or unfavourable assessments have their access to management limited during the call, and ask fewer questions. Mayew finds that this is mitigated by the analyst's prestige, and that more prestigious analysts are able to get away with criticizing management, and still access them in the conference call. Analysts who provide more favourable assessments seem to enjoy greater access to ask their questions in the conference call.

This literature suggests that there is some value-relevant information released during the call, but that regulation FD seems to have reduced it. The value of the information seems to come from the interaction between the analysts and management, and amongst the analysts. The extent of the relationship between managers and analysts seems to have an influence on the information as well.

2.3.3 Conclusion and Research Direction

Research studying the private and public interaction between management and analysts demonstrates that they exert influence on each other through this interaction. The study of information content has shown that there are incremental information gains, and that the interaction between management and the analysts, and amongst the analysts themselves, is an important aspect of what is taken as information. A contribution to this literature would examine the processes through which the content of interaction becomes taken as information.

Both public and private interaction has been studied as discrete events. The extant literature, however, has not investigated how that interaction plays out before and after the call, and what activities the analyst and managers engage in, and how the interaction might influence, and be influenced by, these activities. To contribute to the insights already gained, it would be useful to study the process before, during, and after the call. A description of the management and analyst activity prior to the call, how they interact during the call, and the effects on financial reporting and analysts' models after the call would 1) provide a thorough description that seems to be lacking in the mainstream accounting literature, and 2) allow an examination of how the process of interaction is carried out throughout the process of reporting – communication – financial analysis. This seems to be associated with how the information is used by the call participants. The use of information by financial analysts is discussed next.

2.4 Information use: Financial Analysts

2.4.1 The importance of financial analysts

Financial analysts are recognized as important market actors (Bradshaw, 2011), and have long been considered significant users of accounting information (Horngren, 1955; Schipper, 1991). They are thus important actors of study in accounting, both to academic researchers and to accounting standard setters (IASB, 2010). Analysts have also been considered important research subjects by academic disciplines outside accounting, as important actors, who influence organizations and managers.

In accounting research, analysts are considered important research subjects because of their role in analyzing and interpreting financial information, and in providing their analysis and interpretation to other important market actors, such as institutional investors (Brown et al.,

2015). Kothari (2001) noted the importance of analysts' forecasts to capital markets research in accounting, used in setting a benchmark for market expectations to which earnings announcements are compared, and share price movements are gauged. From this research perspective, an analyst's job is to provide investment analysis:

> "Financial Analysts are an integral part of the capital market, providing earnings forecasts, buy/sell recommendations and other information to brokers, money managers and institutional investors." (Lang and Lundholm, 1996, p. 467)

As discussed above, in Section 2.3, however, analysts are also thought to exert influence over the managers and companies they follow (Barker et al., 2012; Roberts et al., 2006) and researchers have focused on analysts themselves (Zuckerman, 1999; Zajac and Westphal, 2004) and as part of a group of market actors that includes institutional investors like equity fund managers (Zorn, 2005). In economic sociology-based research, analysts are also important as cultural actors, and the relationship to the information that they produce is of interest (Wansleban, 2012; Knorr-Cetina, 2011). At the intersection of economic sociology and social studies of science and technology (Vollmer et al., 2009) analysts have also become the focus of empirical research on processes of calculation (Beunza and Garud, 2007).

The vast research on analysts has examined their function as an information processing market intermediary, the types of information they use as inputs to processes in their models, the calculations they perform in their models, the output of the models, and the effect of their analysis on the companies they follow. Despite the research focus on analysts of many finance, accounting, and organizational studies academics, and the many knowledge gains provided by this focus, however, much of what they do in practice is still not completely understood.

Ostensibly, the analysts' job function is to study companies and determine the investment potential of their securities. Groysberg (2013) suggests this encompasses a number of activities, including producing a research report, servicing clients, and "marketing" the companies they cover. When it comes to valuing public companies' shares, two predominant approaches to equity valuation are technical analysis (CFA Institute, 2008, V1: 503) and fundamental analysis (ibid, V5: 115). Technical analysis, also known as charting or Chartism (Preda, 2007; Roscoe and Howorth, 2009) involves analyzing historical stock market data to identify recurring patterns in stock prices over time. Chartists identify trends of systematic price movements believed to affect share prices (regardless of specific firm characteristics). These analysts make recommendations based on technical indicators that suggest share prices will increase (or decrease, with respect to short-selling), and ignore the 'fundamental' value of an individual company.

Analysts who employ fundamental analysis focus instead on the financial performance of a specific company, in the context of macroeconomic conditions, and its industry characteristics. The practices that fundamental analysts employ in performing a valuation of a company involve creating a model of the intrinsic value of a company, a quite different model from those involved in charting. Consistent with the theoretical bases of finance and financial economics, both the professional community (CFA, 2008; Fogarty and Rogers, 2005), and the academic community (Bradshaw, 2004) endorse fundamental analysis as the more valid approach to calculating equity values.

The curriculum of the CFA Institute suggests that a three-step process is the most effective way to perform this valuation (CFA Institute, 2008, V5: 117). Taking a "global perspective", this process begins with an analysis of individual countries' economies and

securities markets. This analysis directs the analyst to specific industries whose relative prospects are the most appealing, and finally, to specific companies within attractive industries.

The company analysis involves developing a model based on the analysts' assumptions about future performance. The analyst is encouraged to incorporate the company's financial information into a forecast, typically, of earnings, cash flows, or both, adjusting GAAP and non-GAAP figures to project the future of the company (Givoly et al., 2009). This is then discounted to the present using a Net Present Value calculation to derive a current "intrinsic" value of the company, which can be compared to the current market price of the firm's equity to determine the potential opportunity for future returns.

Much of the research on analysts focusses on one aspect of this process, the earnings forecast. Bradshaw (2011) suggests that this focus "obstructs the growth in our understanding of analysts' role in the capital markets." (Bradshaw, 2011, p.3). This observation, which reiterates similar early criticism from Schipper (1991) and Brown (1993) has led to attempts to explore the practices of financial analysts beyond that of forecasting (Beccalli et al., 2014; Lawrence et al., 2015).

In order to situate my dissertation within the relevant literature on analysts I begin with a select examination of specific aspects of the extant literature on financial analysts, beginning with the different perspectives on the roles they serve. I then examine relevant papers that investigate the inputs to the analysts' models, how they conduct their calculation, consider the effect of information content, presentation, and format on their modelling, and then turn to current knowledge of the modelling process itself. I end with a discussion of the literature that examines analysts' effect on the management and companies that they follow.

2.4.2 The role of the analyst in the capital market

The role of analysts in the capital markets has been described as an intermediary function (Healy and Palepu, 2001; Lang and Lundholm, 1996), where analysts process information from public companies for the market. This may be, in part, due to the growing complexity of corporate financial reporting.

This function seems to be necessary. Lehavy, Li, and Merkley (2011) studied the effects of financial reporting "readability" on the behavior of sell-side analysts. Finding that less readability of a firm's 10Ks is associated with a large number of analysts following the firm, greater effort in the analysts' reporting, and higher informativeness of their reports, Lehavy et al. (2011) suggests that analyst serve an important function in helping the market make sense out of complicated financial disclosures. Similarly, Li (2010) suggests that there is an increasing demand for analyst services for firms with "less readable communication" (Li, 2010, p. 155). This intermediary function, also espoused by Kothari (2001) and Healy and Palepu (2001), seems to be an important one, as Abdolmohammadi et al.,(2006) find that analysts supply the market with a "broader range of information" (p. 376) than is available in financial statements.

Bradshaw (2011) defines analysis as

> "…the process through which the analyst considers a company's strategy, accounting policies, historical financial performance, future prospects for sales and earnings growth, and ultimately a valuation and purchase or sell recommendation." (p.5)

Providing an overview of what is assumed to be the process of financial analysis, Bradshaw provides a schematic of the analyst decision process, depicting it as beginning with a coverage decision, to information search, analysis, and subsequent formal and informal communication of that results of that analysis.

He goes on to conclude that "for the most part research methods do not really measure the most interesting part of the schematic, which is the analysts' analysis" (p.6), which he describes as a "black-box" (Bradshaw, 2011, p.7). This is similar to conclusions made by Bradshaw in previous papers (Bradshaw, 2004, 2009), and by Ramneth et al., (2008). These two conclusions are relatively recent, but echo what has been an ongoing criticism of the extant literature (Schipper, 1991).

Despite the earliest findings of research on analysts (see Cowles, 1933) demonstrating that analysts do not serve as consistently accurate 'forecasters' of security prices, the accounting and finance literature has tended to assume financial analysts serve a function as processors of financial information, and much research has focused on the forecasting aspect of the analysis process. This focus is the result of the perceived greater usefulness of analysts' forecasts, compared to time-series' analyses as a benchmark in capital markets research (Kothari, 2001). Capital markets researchers use the analysts' forecast as a proxy for market expectations of corporate earnings led to a complementary interest in its preparation, and use of financial information inputs.

Much of the research on financial analysts' use of accounting is concerned with the idea of its informativeness, in terms of its earnings persistence or relationship to future cash flows in order to build a model of a company to forecast its performance. This has been addressed in the literature from the perspective of "earnings forecasts", and "valuation models".

2.4.2a Earnings Forecasts

The literature concerned with the development of the earnings forecast has demonstrated that analysts seek information from numerous sources; the rely on different types of information at different stages of their analysis; both financial and non-financial information is useful, but

non-financial information may be incorrectly interpreted; the complexity of information affects the ability to use it, in terms of volume, presentation, and technical intensity; analysts may prefer non-GAAP measure to GAAP measures, but this, too, is subject to the various effects previously noted.

Certain GAAP-based figures are useful, in analyst' work, particularly financial statement measures (de Jong et al., 2009) but often only with significant adjustments (Previts et al., 1994; Maines et al., 1997). GAAP-based accounting figures may be used only at early stages in the forecasting process (Bouman et al., 1995), and other information inputs may be more useful at subsequent stages of modelling. The complexity of the accounting information affects users' ability to utilize it, and analysts are no exception (Lang and Lundholm, 1996; Plumlee, 2003). Further, under some conditions, pro forma earnings figures may be more important to analysts than earnings calculated under GAAP (Bradshaw and Sloan, 2002) and this may be attributed to their informativeness (Lougee and Marquardt, 2004) but may also be related to cognitive effects (Frederickson and Miller, 2004; Elliott, 2006). The types of information that analysts use is important to researchers, as a direct link form their analysis to their recommendation is assumed (Bradshaw, 2004).

The use of accounting figures is supplemented by various other types of qualitative and quantitative data, obtained from company sources (Rogers and Grant, 1997; Christensen et al., 2011) and from industry sources (Simpson, 2010). Brown and Tucker (2011) find that analysts do not, however, use Management's Discussion & Analysis for information, suggesting the variability of information sources, and the conflicting evidence in the extant research.

GAAP net income appears to be widely used, mainly as a screening technique, prior to initiating coverage when analysts are selecting companies to follow, to eliminate companies

before time consuming in-depth analysis is performed (Bouwman et al., 1995). Once coverage has been initiated, the analysts seem to rely on GAAP-based earnings information, but make adjustments to it (Previts et al., 1994; Maines et al., 1997) in order to make it useful for their forecasting purposes. Similarly, Barker (1999) finds that information provided by the companies is "considered to be very important", and in particular, "Accounting information…is clearly influential" (p. 204).

GAAP-based income statement measures seem to be the most important information, rather than balance sheet information: de Jong et al. (2009) suggest that GAAP earnings is the most important measure used by analysts, with revenue and free cash-flow second and third, respectively. However, the complexity of the information, in terms of both how complicated the accounting standards are, and how hard it is to obtain the information (financial statement line items versus note disclosure) adversely affects the ability of analysts to retrieve the information they need, and to use it effectively (Lang and Lundholm, 1996; Plumlee, 2003). Analysts often make numerous adjustments to earnings information to remove non-recurring items[5], and to disaggregate the information. Analysts are often more strict on which expenses and revenues are 'non-recurring' than accounting rules allow, and analysts disaggregate information to a greater level than required by GAAP (Bouman et al., 1995).

Analysts appear to rely on other measures, where some of this adjusting work is already done for them. De Jong et al. (2009) suggest that pro forma earnings rank number four in terms of importance to analysts, and other research suggests that analysts rely on these non-GAAP

[5] De Jong et al. (2009) suggests that analysts actually have a preference for corporations that manage earnings, thus keeping net income 'smooth' year over year. Analysts seem to have a hard time deciphering earnings management that is done through accounting accruals, however, and prefer it to occur through the timing of management decisions (de Jong et al., 2009: 22)

figures (Bradshaw, 2002; Gu and Chen, 2004), and may actually prefer them to GAAP-based earnings (Bradshaw and Sloan, 2002).

Bradshaw and Sloan (2002) explore what they call the growing rift between GAAP earnings and 'street' earnings[6]. The authors find that the analysts are more likely to use the 'street' figure in their forecast calculation than the GAAP figure, and that this increased attention placed on the Street figure is a result of a "(financial) reporting strategy of firm managers". The authors find a preference by analysts for modified versions of earnings, as opposed to net income as defined by GAAP.

Some of the preference for pro forma earnings may be the result of unintentional cognitive effects of the analysts (Elliott, 2006). It has been shown that the characteristics of the information presentation, such as primacy and presentation of the information, may act on the user. The effect of presentation was demonstrated by Frederickson and Miller (2004), in their study of the use of pro forma earnings explored how the presentation in the Regulation G reconciliation influences the users of pro forma earnings. In a between-subjects design experiment, Elliott (2006) found that the reconciliation led professional financial analysts to place more reliance on the pro forma earnings in judging the earnings performance of a public company.

Bradshaw (2011) suggests that the research focus on the earnings forecast takes this to be the main representative activity of analysts, and suggests that this focus is misguided because this activity is tangential to most of the analysts' activities. Noting the attractiveness of analysts' forecast data to researchers, due to its ready availability, ease of processing, and minimal cost, Bradshaw nonetheless criticises its use as a proxy for the output of the analysts' role in the

[6] Bradshaw and Sloan (2002) use the term 'street earnings' interchangeably with 'pro forma' earnings.

capital markets. He suggests that, while a lot has been learned from this narrow focus, the investigation should be expanded both empirically and methodologically: researchers should put more effort into opening up the "black-box" of analysts' practices, and they should use complementary methodologies to do so.

Bradshaw's (2011) criticism has spurred further research to try to open this black box. In response, Brown et al. (2014) conducts a questionnaire and interview based study to provide insight into analysts' information use, earnings forecasts, and stock recommendations, and the influence of their compensation on these activities. Further, Beccalli et al., (2015) also attempts to learn more about how analysts process information by studying the "speed, magnitude, and information content" of analysts reactions to different releases of non-financial information.

Brown et al., (2014) use a questionnaire survey of 365 analysts, followed up with 18 interviews, to learn more about the inputs to analysts' forecasts. Whereas much of the extant literature has examined inputs and had to make assumptions about the intervening processes between them and the forecast output, the authors attempt to reveal more about the modelling and valuation process as inputs to the forecast. Brown et al., (2014) thus focus on the information inputs, the analysts' contact with management, beliefs about earnings quality, and perceptions about what signals financial misrepresentation.

Brown et al.'s (2014) findings offer more insight into the earnings forecast, and the various inputs to it, but more work could be done on the actual valuation models themselves, which Brown et al. do access through their questionnaire and interviews.

Similarly, Beccalli et al., (2015) provides more insight by indirectly studying analysts' information processing inputs and capabilities. The study focusses on analysts in the microprocessor industry, known for the significance and complexity of its technical information

releases, and investigates whether different types of information are processed differently and at different speeds by financial analysts. The focus on the microprocessor industry allows for the separation of different types of information: periodic and timely, and technical and financial. Starting from the position that different pieces of information may complement rather than substitute for each other, they begin by separating 'periodic' information, that which is issued regularly, into financial (for example quarterly and annual financial reports) and technical (for example product reports with information such as chip size, or processing speed). The authors distinguish the two types of periodic information from 'timely' technical information, that which is disseminated in news web-based news releases, and has to do with new products, new markets, and technological advancements.

With the belief that technical disclosure is harder for analysts to digest than financial disclosure, Beccalli at al. suggest that this disclosure will impact information processing of financial analysts. Using earnings forecast revisions as a dependent variable, Becalli et al., (2015 finds that analysts are slower to react to timely technical disclosure than they are to periodic financial disclosure, and that technical and financial disclosures complement, rather than replace each other. These findings shed some light on the relationship between information inputs and earnings forecast revisions, but more could be said about the "how" of analysts' information processing in order to satisfy Bradshaw (2009, 2011) and Ramnath et al., (2008).

The result of research on the inputs suggests that GAAP income measures are of limited use to financial analysts, however, inputs to valuation models are myriad and largely "context-specific". Much of this research has used the indirect approach, relying on the earnings forecast as the output of analysis to research the inputs, and is therefore subject to the persistent criticism

that the context specific practices of financial analysts are not usefully studied from large sample, proxy-based studies (Schipper, 1991; Ramnath et al., 2008; Bradshaw, 2011).

Recognizing that an archival approach, while enjoying the benefit of generalization, is somewhat limited in its ability to identify the actual practices of financial analysts (Ramnath et al.,2006) some research has tried to get a better understanding of the analysts' analysis by investigating the types of calculation used in their modelling.

2.4.2b Models

Accounting scholars tend to study the valuation model from the premise that there should be a logical connection between the analysts' forecasts and the recommendations contained in their reports. While Bandyopadhyay et al. (1995) suggest that a connection between earnings forecasts and price forecasts exists, other research on that connection is conflicting, and the results contradict with how finance and economic theory suggests analysts should behave, and what tools they should use.

Like Bandyopadhyay et al., (1995) much of the research suggests that analysts may not always be calculating in the way that academics suggest they should. For example, Block (1999) suggests that many analysts don't believe in the prevailing finance theories, nor do they use the valuation techniques that those theories endorse. Bradshaw (2002) finds that, rather than the espoused valuation methods, analysts may employ simple heuristics[7] to derive a valuation, and the resulting recommendation may not be consistent with the target price that would have been indicated by the valuation model.

[7] While Bradshaw (2002) does not define what he means by 'heuristic', he seems to equate 'heuristics' with methods that do not conform to prevailing finance theory. This theory suggests the use of variants of the discounted cash flows method of valuation. Bradshaw's notion of a 'heuristic' is the use of a relatively unsophisticated method, such as the Price-Earnings/Growth ratio that he finds is more closely associated with the target prices derived by the analysts.

Investigating the assumption that analysts' recommendations are based on a valuation model that indicates a target price, Bradshaw (2002) tests the degree to which analysts disclose the resulting target prices to support a recommendation. Bradshaw (2002) finds that analysts tend to disclose target prices only when the price actually does support the recommendation. When the target price, as calculated by Bradshaw, indicates a price that conflicts with the recommendation the analyst had made, Bradshaw finds that there is no reference to a calculated price in the analyst's report. He suggests that this implies that there may not be a strict correspondence between the earnings forecast, the valuation model, and the recommendation. Indeed, Bradshaw (2002) suggests that the target prices reported by the analysts tend to be based on a simple Price-Earnings-Growth ratio, rather than the present value models assumed by finance theory: "…it appears that analysts use their earnings forecasts in a relatively *unsophisticated manner*, relying on simple heuristics to derive valuations." (Bradshaw, 2002, p. 40, emphasis added).

Bradshaw (2004) further develops these findings, studying the "direct link" (i.e., represented by the valuation model) between analysts' earnings forecasts and the resulting recommendations in their reports. Bradshaw (2004) uses four variations of valuation models, and using the analysts' earnings forecast as an input, compares the resulting valuations to those in the corresponding analysts' reports. Finding large discrepancies, in contradiction to accepted finance theory and prior academic research (Womack, 1996), Bradshaw (2004) suggests that there must be 'heuristics' used in practice that affect valuations, in addition to the espoused valuation methods.

Barker (1999), through survey, observation, and semi-structured interviews, explores the work of analysts and fund managers. His work is mainly focused on the use of different

valuation techniques, rather than the modelling process itself. He concentrates on dividends, and the use of the dividend discount model, with the notion espoused by finance theory that dividend should be considered by as one of the primary determinants of current share value. His results suggest that analysts (in the UK, in the nineties) predominantly use price-earnings ratios, dividend yields, and price-cash flow calculations in their valuations (Barker, 1999, p. 200). Further, he suggests that the dividend discount model that he was initially interested in, and Discounted Cash Flow calculations, are not considered particularly useful by his sample of analysts.

Similar to Bradshaw (2004) and Demirakos et al., (2004), Barker, 1999 suggests:

> "A strong finding, however, is that both analysts and fund managers favour valuation models that use limited data (i.e. PE, dividend yield and PCF) in preference to their more sophisticated counterparts (i.e. DDM and DCF)." (Barker, 1999, pp. 202-203

Barker's (1999) results are based on extensive fieldwork observation and interviews with analysts and fund managers. The study makes no mention, however, of observing or examining the (presumably) extensive modelling that is done prior to the output that is used in the ratios he examines, and provides the values that are discounted to the present in the DCF calculation. The outputs examined are pieces of the models that the analysts may employ, but direct observation of the extensive calculations that make these up are not mentioned in his study.

Suggesting that they are overcoming the subjectivity inherent in Barkers' (1999) interview- and observation-based study, Demirakos et al. (2004) use a content analysis of analysts' reports to investigate the models used. Demirakos et al., (2004) reinforce Barker's (1999) findings, and demonstrate that analysts overwhelmingly rely on simple P/E ratios to support their recommendations. Relying on the output of the model as chronicled in the analysts' reports is somewhat removed from the modelling practices of analysts, and their result

may not be more substantive than they claim Barkers' is, due to the lack of direct examination of the analysts' models.

In contradiction to these studies, Frederickson and Miller (2004), however, suggest that in a laboratory setting, analysts demonstrate well-defined valuation techniques, based on earnings multiples or cash-flow analysis, and make decisions supported by these models, presumably due to familiarity with such models in their work.

In an update and continuation of Barker's research, Imam, Barker, and Clubb (2008) extend the study of the use of various valuation techniques by financial analysts. They find that, since prior studies, Discounted Cash Flow techniques have been widely adopted, and yet there is still widespread use of "unsophisticated" techniques, like using PE ratios. Imam et al. (2008) also extends the examination beyond Bradshaw (2004) and notes the importance of the analysts' "social and economic context and motivations" on their valuation practices, suggesting that there are a number of interaction-based influences on the modeling process.

When conceptualized as calculators of uncertain future states, analysts engage in an information search, where accounting information is important at early stages, but must be significantly modified for the analyst to make sense out of it. Analysts' intervening practices, however, remain something of a black-box (Ramnath et al., 2008, p. 35). The information that they utilize in their valuation models, and the elements of the valuation model itself, seems to be highly variable. Research is conflicting on what type of information analysts prefer as inputs to the earnings forecasts that drive their valuation models. Further, the methods of equity valuation that analysts perform appear to be inconsistent with what extant finance theory suggests are appropriate.

With the conclusion that most analysts do not use present value techniques (Block, 1999), and the overwhelming reliance on simple Price to Earnings (P/E) multiples and variations thereof (Bradshaw, 2002; Demirakos et al., 2004), the empirical limitations of the studies such as Barker (1998) and Demirakos et al (2004), and the apparent change in practice over time identified by Imam et al. (2008) we are still faced with the question posed by Ramnath et al. (2006): "If analysts' valuation judgments do not conform to finance theory, what models do analysts use to convert their forecasts into value judgments?" (Ramnath et al., 2006, p. 328).

2.4.3 Influence on Companies and Managers

The importance of analysts' intermediary role serves to render financial analysts somewhat influential, and some sociological literature has investigated the effects of the analysts on the management and companies that they follow. Westphal and Clement (2008) stress the importance of studying socio-political dynamics in the interactions between analysts and management of the companies they cover. Knorr-Cetina (2010, and 2011) studies analysts' focus on information in terms of an epistemic culture, and Beunza and Garud (2008) note the importance of analysts in further study of calculative practice, and the social processes which affect them.

The culture of analysts has also been investigated from a sociological perspective, with a focus on the information that they produce (Knorr-Cetina and Preda, 2005; Knorr-Cetina, 2010, 2011; Wansleben, 2012).

The intermediary role has also been depicted in terms of professionalization (Fogarty and Rogers, 2005). The investigation into analysts' activities in this literature has, rather, demonstrated that the calculative practices of financial analysts may be 'loosely-coupled', or even 'de-coupled' (Meyer and Rowan, 1977; DiMaggio and Powell,1983) from both the

representation of the practices, and the theoretical premises for this representation (Fogarty and Rogers, 2005). Fogarty and Rogers (2005) suggests that analysts' reports largely contain the views of company managers, rather than 'analysis' of these views on the part of the analysts, implying that analysts don't really calculate in the way suggested by many accounting and finance researchers.

Extending the analysis to the effect of the role the analyst plays in the market, this literature conceptualizes the analyst as reinforcing company categorizations. Serving a function much like that of a product critic (Zuckerman, 1999, 2004; Zuckerman and Rao, 2004; Zajac and Westphal, 2004), the analyst categorizes companies, thereby defining and legitimating their congruence with accepted roles, so that the market audience can make sense out of them. The companies will take pains to conform to the category (Zorn, 2005) by changing their structure. Failure on the part of the companies to conform to accepted categories or roles could result in a lack of coverage by financial analysts (Zuckerman, 1999), with the resulting obscurity leading to discounted share prices.

Investigating the "social processes that produce penalties for illegitimate role performance", Zuckerman (1999) studied the securities prices of companies that were unable to attract analyst followings. Diversified companies that did not fit easily into categories of industry segments, and are thus harder to analyze, suffered a discount on their shares due to lack of coverage by analysts.

Between the mainstream literature notion of intermediary, and the categorization literature's critic, Beunza and Garud (2007) examine the function that analyst's perform as one of "frame-making". This perspective builds on the critics literature, which is largely based on

notions of categorization (They conceptualize the purpose of analysts' work is to construct a frame of a company that represents it in relation to a category, an analogy, and a key metric.

Focusing on how analysts perform their calculations, Beunza and Garud (2007) contends that insufficient attention has been paid to the uncertainty that analysts face, and how it influences the practice of financial analysis. Referring to "Knightian" uncertainty, named after Frank Knight's description. Beunza and Garud (2007) investigate how analysts calculate when faced with significant, but limited, information about uncertain future states.

They address the calculative process, and the "herding" literature, which focuses on behaviour they call "lemming"-like, where, in response to the uncertainty faced in calculating uncertain future states, the analysts copy each other. To Beunza and Garud, this herding view bypasses the calculative process that analysts must engage in. Institutional investors use, and possibly rely on the analysts' work: their industry expertise, their models, and their reports. There must, therefore, be more to analyst' practices than simply the resulting buy/sell/hold recommendation and target price. They investigate this by examining the "frame" that certain analysts build, and that is taken up by other analysts.

Beunza and Garud's notion of the frame, which includes a category, an analogy, and key metric, uses Michel Callon's notion of calculation (Callon, 1998b, discussed further in Chapter 3) and also serves as a bridge between the mainstream financial economics-based literature and the social theory-based administrative science and economic sociology literature. Beunza and Garud (2007) thus builds on the "critics" literature that relies on notions of categorization. Beunza and Garud suggest that categorization is surely part of what analysts do, but it is not all that they do: analysts construct a frame of a company that allows them to determine what they will include and exclude in their valuation, and thus conclude their calculation in spite of the

uncertainty they face. Beunza and Garud include this categorization in the frame, as the analysts must determine to what group of companies the target company belongs. Within that category the analysts must find an exemplar of the characteristics of that category, which is the analogy. The key metric of the target company is then the one suggested by the exemplar. This allows them to complete the forecasting suggested by much of the mainstream literature.

2.4.4 Conclusion and research direction

Despite the large body of research, of which the above is only a select sample, there is still much to learn about the calculative practices of financial analysts. As stated by Bradshaw (2011):

> "The tenor of most studies is that the researchers are interested in how analysts perform their tasks. However, with few exceptions, none provide direct evidence on how analysts go about generating forecasts or making stock recommendations. The problem appears to be a preference for archival research, which is subject to data and methodological constraints." (p. 33)

Bradshaw goes on to suggest that "alternative" research methodologies should be considered in the effort to penetrate the "black-box" of analysts' analysis. Beunza and Garud (2007) adopts such an alternative strategy, relying on Callon's (1998b) notion of framing. Beunza and Garud (2007) provides interesting insight into the various factors considered in the frame, and its various parts. Considering how analysts influence companies, and how managers influence analysts, however, this frame making cannot be considered a process that analysts conduct on their own. The influence of collective forces of their context, for example the managers, the markets, the other analysts and investors, must be considered in the analysis.

Further unpacking Beunza and Garud's contribution, the notion of the key metric seems to be representative of the interface of accounting and finance. The selection of the key metric

must certainly be inter-related with categorizing and analyzing. To extend the application of framing in research on the calculative processes, an investigation of the determination of the key metric, from the many available performance measures, as a collaborative effort would contribute to both the mainstream literature, which is concerned with how analysts choose information, and what they choose, and the social-theory based literature that takes the influence relationships and their effects as its focus.

The research direction to come of this examination is therefore to investigate how analysts determine which information they will use, that is, how they determine the key metric. This process must be examined in relation to the devices and individuals implicated in the process. I take as an initial direction, then, to investigate how analysts calculate in collaboration with the market, the managers, the information, other calculations, and the models they must use.

2.5 Summary and Research Questions

These studies indicate that there is a strong relationship between the companies and the analysts that follow them. As they interact, the information seems to evolve, as does the use of it. As managers turn to pro forma earnings and exclude recurring and non-recurring expenses, the analysts seem to try to anticipate this, and prepare their models of the company accordingly. As they are ultimately unable to completely anticipate which exclusions are made, they somehow adjust for them after the firms' results have been communicated, with a resulting muted effect on the share price. These studies suggest, and leave room for, an examination of the mechanism that the companies use to anticipate which exclusions they should take, and the activities of the analysts in their anticipation of these exclusions.

Much of the research that examines financial disclosure, information exchange, and use by analysts and investors is conflicting, and methodologically somewhat removed from the

actors' practices. The financial analyst literature begins with the notion that analysts serve an important information function in the capital market. If so, then the examination of the process through which they perform their analysis is key to understanding what they do, and what information they use to do it.

The disclosure literature's point of departure is that there are benefits to firms that effectively utilize mandatory and voluntary disclosure. While accounting research has provided a large body of research in terms of 'what' is disclosed, there remains the need for an examination of how information is calculated, presented, and communicated.

What remains to be investigated are the "how" and "why" questions that extend and augment the above findings. The direction taken from the extant literature leads to three research questions: How do managers prepare financial reports, and in doing so, how do they determine which items will be adjusted, calculated, and presented as pro forma earnings? How do managers communicate financial results to financial analysts? And how do analysts use financial information in their valuation models of a company?

Focusing on the disclosure of pro forma earnings, the voluntary disclosure literature will benefit from an examination of the processes that management uses to generate their pro forma disclosures. This literature will also benefit from an examination of how the interactions between analysts and management result in a depiction of the firm. And the literature on analysts' use of information will benefit from an examination of a specific case of financial analysts who gather data and use it in their models.

The investigation of these questions requires three things: 1) a different theoretical perspective that recognizes the complexity of information and the effect of its context, and the interaction of many different actors within the context; 2) an expanded notion of 'calculation';

and 3) a different methodological approach that engages the empirical site where controversies are settled through interactive practices. The theoretical perspective on information and the notion of 'calculation' are discussed in the next chapter. The methodological position for approaching a case that examines the financial reporting process from preparation and publication of financial reports, communication to analyst, and the use of the information by analyst in their models is discussed in Chapter 4.

Chapter 3 – Theoretical Direction

3.1 Introduction

How to theorize action and inter-action in financial markets, where new information is constantly available, reliance on technology is rampant, and conditions change rapidly? Knorr-Cetina (2011) identifies the temporary nature of financial information in this environment, and if it is stabilized as knowledge at all, this stability is quickly made obsolete by new information. This suggests that the stock valuation work of financial analysis can be thought of as an ongoing process of stabilization, uncertainty, and re-stabilization.

Beunza and Garud (2007) suggest that the stabilization of calculation when faced with uncertain future states, and many possible outcomes, is the biggest task facing financial analysts. The ability to do this work depends upon the analysts' ability and tools, and yet analysts don't seem to conduct this process alone. The work of corporate managers, in the preparation of financial information, seems to be intertwined with the processes of the users of that information as, identified in the previous chapter, analysts and managers influence each other throughout.

Operationalizing a theoretical basis for the interaction of various actors in a financial market seems to require one that considers calculation of value, mobilization of various heterogeneous actors, and multiple ways of doing so, to stabilize, if even momentarily, a valuation that is in constant fluctuation as new information flows (Knorr-Cetina, 2011) into the interaction. This perspective sees information as an accomplishment, resulting from the collaboration of many heterogeneous actors (Vollmer et al., 2009), and constituted by the theories and devices implicit in that collaboration that intervene in the result (Hacking, 1983).

This chapter makes the argument for theorizing the empirical study of this dissertation as one of distributed "financial cognition". As per Vollmer et al., (2009):

> "The notion of 'financial cognition' draws attention to the processes of interactive knowledge production and the roles that cognitive schemas – in combination with technical instruments, financial models, specific room layouts, group interactions etc. – play in the formation and execution of investment and trading strategies."
>
> (Vollmer et al., 2009, p.621).

That this cognitive process is distributed conceives financial analysts' equity valuation as an interactive process that includes heterogeneous actors such as managers, prior calculations, prices, theories, and commodities that are brought together to form a representation. That representation is a "collective", or network, of these actors, thus an "actor-network" (Latour, 1987, 2005). Within this collective, the devices that are used, including formulae, spreadsheets, and models, are important, as are the graphical outputs (including cost curves, prices, tables, etc.) they produce. These devices, conceived as "boundary objects" (Star and Greisemer, 1989; Briers and Chua, 2001), "mediating instruments" (Miller and O'Leary, 2007), and more recently as "market devices" (Muniesa et al., 1987) may form part of the collective, and participate in the action, forming a hybrid-collective, assemblage, or socio-technical agencement of people and tools (Callon, 2005). The graphical representations, or inscriptions (Latour, 1987; Robson, 1992), produced by the devices describe this network; the inscriptions produced represent parts of the network, but many of the prior calculations, other tools, and efforts of people become "black-boxed" (Latour, 2005) as their efforts become stabilized and this taken for granted in the representation, be it a table, or a figure, or a price.

The process of calculation is seen within this collective formation as one where the properties of a company are encapsulated in the valuation of the company's shares, and this value is more than a representation of objective qualities. It is the result of the settlement and acceptance of a number of uncertainties and assumptions, or translations, along the way. This

process requires collaboration and agreement, and is dependent upon prior calculations becoming stable and constituted.

Equity valuation is seen here as a process of calculative framing, and the collaborative effort of framing results in the "objectification" and "singularization" of the company, which renders it calculable (Callon and Muniesa, 2005). "Objectification" suggests an agreement upon the qualities represented, and "singularization", that this agreement is done in such a way as to be amenable to calculation (Callon and Muniesa, 2005). Framing is a process of taking the various qualities and arranging them in the formation of an entity to which a value can be assigned, that is, a result extracted. This process of detachment, association, and extraction (Callon and Muniesa, 2005) requires the assembling of various actors into a network representing the result, and stabilizing all of the uncertainties that they bring with them.

This conception of calculation is based on the sociology of translation, suggested by Actor-Network Theory, which provides a guide for the analysis of collective formation among diverse actors (Callon, 1986; Latour, 1987; Law, 1986). Suggestions have been made for the usefulness of the ANT approach to the study of accounting phenomena (Lounsbury, 2008), and it is the application of translation-as-calculation suggested by Callon (1998b) that is relevant to the study of financial markets (Callon, 1999) and financial cognition within them (Vollmer et al., 2009).

The discussion of the theoretical basis for this dissertation proceeds in this chapter by first examining the sociology of translation (Callon, 1986), and the suggestion that understanding the process requires an appreciation of boundary objects (Star and Greisemer, 1989). The advancements of this work towards the study of markets is then discussed, with the conception of information as a collaborative achievement of distributed financial cognition, and the

implications of the notion of performativity of theory (Callon, 2007; Vollmer et al., 2009) with an explication of calculation, or "framing" (Callon, 1998b), within a socio-technical agencement (Callon and Muniesa, 2005; Callon and Law, 2005; Hardie and MacKenzie, 2007). I then discuss how this notion has been applied to the work of financial analysts (Beunza and Garud, 2007), and how Beunza and Garud's (2007) conception of frame-making can be applied to my study, and how my study can contribute to extending the theory by narrowing the empirical focus to components of the frame.

3.2 Forming Collectives – The Sociology of Translation

The sociology of translation is an encompassing term for the Actor-Network Theory (ANT) advanced by Bruno Latour, Michel Callon, and John Law (Law, 1999). According to Callon, the point of concern is "…the capacity of certain actors to get other actors – whether they be human beings, institutions or natural entities – to comply with them…" (Callon, 1986, p. 201). The focus of ANT is therefore the process by which ideas are sustained by their progenitors, and come to be accepted as facts by their audiences (Gendron and Baker, 2005). The acceptance as fact comes from a collective forming around the idea, described as a "network of support" by Gendron and Barker, (2005):

> "An idea gains in acceptance when it is increasingly perceived as relevant and natural in solving certain problems to which individuals or groups are (allegedly) confronted. A network of support of people and resources then solidifies around the idea."
>
> (Gendron and Baker, 2005)

Thus conceived, financial analysis can be explored as a process where the various qualities of a company, and the indicators of its financial performance become accepted as valid representations of the company, and thus included in the calculation of the company's value.

During the process of financial analysis, the conditions for momentary stabilization of these qualities provide the possibility for establishing a calculative frame of possible intermediaries that can be arranged in a calculative space to perform the calculation. All of these have links to prior calculations, which simultaneously provide possible "conduits", or "overflows" (Callon, 1998b) to other possible calculated values (prices, rates, volumes, etc) that could have resulted in other possible outcomes.

The value that results is based on chains of prior settlements, leading to an agreed upon depiction of the company, as an object, and the quantification of the qualities that make up this object. The next section examines Callon's (1986) description of translation, the four moments of problematisation, interessement, enrollment, and mobilization. The notion of boundary object, as described by Star and Greisemer (1989), and its relationship to interessement, is then explored.

3.2.1 Translation

Callon defines translation as a process where "the identity of actors, the possibility of interaction and the margins of maneuver are negotiated and delimited" (Callon, 1986 p. 203). This process is described as four "moments", of problematisation, interessement, enrollment, and mobilization. Describing these moments as a process might suggest progression through a distinct and orderly succession, but the process, and the four moments, are anything but discrete and linear, and the identification and definition of actors overlaps, and reiterates, and is constantly in flux.

Also implicated in Callon's translation process are various "devices" that assist interessement, and subsequently enrollment, by stabilizing the identity of the other actors (Callon, 1986, p. 208). These devices can be technical artefacts, but they can also be ideas,

programmes and theories. Star and Greisemer (1989) debate Callon's notion of interessement, noting that there are different actors trying to translate simultaneously, and add to it the development of "boundary objects" as a way of translation between viewpoints.

Problematization is the moment where an actor, or set of actors, attempt to define a problem, and put forth a solution for which they want to garner support. In so doing, the actors are defined according to their relationship to each other, and the actors defining the roles assign an "obligatory passage point" through which the solution to the problem must pass through, thus making them indispensable to the network of associations they are creating.

These roles, including the obligatory passage point, are "imposed and stabilized" by those actors attempting to define the problem and solution. Callon suggests the etymology of the word "interessement" provides an explanation: "inter" between, "esse" things (Callon, 1986), and suggests that there are things between the actors that assist the stabilization. These things, "interessement devices", are those devices that pass between actors and stabilize their identity, preventing it from being otherwise defined. These can be material technical artefacts, such as tools, or more abstract things, such as theories and programs, "the range of possible strategies and mechanisms…is unlimited" (Callon, 1986, p.209).

Because of this unlimited range of possible devices, a process is required to designate the appropriate device from the set of options. Enrollment is the negotiation process through which the device is designated. Once so designated, the device defines the set of roles, and attributes them to the various actors.

Once so defined, the actors are then mobilized: "To mobilize, as the word indicates, is to render entities mobile which were not so beforehand" (Callon, 1986, p. 216). Those entities

serve as representatives, or "spokesmen" (sic) (ibid, p. 217) for all of the entities that precede them, who are now silenced.

The usefulness of the sociology of translation lies in its description of how different entities become defined and associated. The qualities of the relevant actors are described and stabilized, and defined in relation to each other. They are taken from one context, and reassembled in another context, in interdependence of purpose towards acceptance of a solution. They have been detached, reassembled, and reattached, thus they form a collective around the solution to a problem that, the definition of which has brought them, and the solution holds them in place.

Star and Greisemer (1989) extend Callon's notion of translation, focusing specifically on interessement and enrollment, and the devices that assist these processes. Star and Greisemer are concerned with how the devices become stable when there are multiple entities with their own goals competing for designation of the device that assigns and stabilizes identities in relation to those goals. Star and Greisemer (1989) suggests that:

> "…each translator must maintain the integrity of the interests of the other audiences in order to retain them as allies. Yet this must be done in such a way as to increase the centrality and importance of that entrepreneur's work….the challenge intersecting social worlds pose to the coherence of translations cannot be understood from a single viewpoint."
>
> (Star and Greisemer, 1989, p.389)

This raises the question of how multiple translations, or multiple worlds, can co-exist. To explore this, the authors introduce the concept of the boundary object, which attempts to describe the devices that Callon puts between actors:

> "Boundary objects are objects which are both plastic enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites."
>
> (Star and Greisemer, 1989, p. 393)

This definition of the devices allows for multiple worlds to exist at once, but at the same time recognizes how they can be brought together in the collectivization that creates successive worlds. The boundary object makes possible the chains of translations that Callon describes. And again, these boundary objects can be tables, charts, spreadsheets, graphs, or equity valuation models. They are recognizable, and have something of an agreed-upon definition, yet they are adaptable to individual contexts because that definition is not so rigid so as to prevent tailoring to those contexts.

This concept has been utilized in accounting research (see for example Briers and Chua, 2001), and has been further employed, with reference to Callon's terminology as a device, a "market device" (Muniesa et al, 2007) related to another of Callon's concepts, the socio-technical assemblage (Callon and Munies, 2005), below.

3.2.2 Hybrid-Collectives – Socio-technical Agencements

The notion of the hybrid-collective is another concept taken from Actor-Network Theory (Latour, 1987, 2005). As noted in the previous section, ANT describes how collectives form, thus stabilizing ideas. These collectives are made up not just of humans, as they include the devices that hold them together, some of which are technical artefacts. Because they are made up of both people and tools, the collective is "hybrid". But the notion of a hybrid-collective also denotes the inseparable nature of the human and the tool, in action. For Latour and Callon, action takes place within these hybrid-collectives, and the person cannot be separated from the tool in the analysis of that action.

Within the collective there are some tools that contribute to the action, and some that serve to hold others together, thus there are those that act, "mediators", and those that are acted upon, "intermediaries".

As the use of ANT has spread, and the application and terminology has evolved, Callon has developed the notion of the hybrid-collective into the socio-technical agencement to describe the social (human) and the technical (artefacts) components of the actor-network, and recognize the oftentimes inability to separate the human from the tool in the analysis of action.

3.2.2a Intermediaries

According to Callon (1991) an intermediary is "anything passing between actors, which defines the relationship between them" (Callon, 1991, p.134). Callon identifies four general types of intermediary:

> *1. Texts (Literary Inscriptions): reports, books, articles, patents and notes.*
> *2. Technical artefacts: scientific instruments, machines, robots and consumer goods. Stable and structured groups of non-human entities which together perform certain tasks.*
> *3. Human Beings*
> *4. Money, in all its different forms.*
>
> (Callon, 1991, p.135)

In practice, there are many hybrid intermediaries, where the technical cannot be distinguished from the human, as they act together.

> "…any entity able to associate texts, humans, non-humans and money. Accordingly, it is any entity that more or less successfully defines and builds a world filled by other entities with histories, identities, and interrelationship of their own. This initial definition suggests that intermediaries are synonymous with actors." (Callon, 1991, p. 141)

However, as Callon goes on to elaborate, and as clarified by Latour (2005), just as all cognacs are brandies, but not all brandies are cognac, all actors are intermediaries, but not all

intermediaries are actors. Intermediaries that put other intermediaries into action are actors. Thus there is an important distinction between intermediaries and mediators, the latter being synonymous with an actor. This is all the more relevant when extended to texts, or inscriptions, and technical artefacts, or devices; some inscriptions and devices act and cause action, and some are merely placeholders (Latour, 2005) and connect but do not act.

By not acting they play no part in the translation, other than helping carry ideas. Latour (2005) suggests that intermediaries "transport meaning….without transformation" (p. 39). Mediators, on the other hand, "transform, translate, distort, and modify the meaning or the elements…" (p. 39). Inscriptions and devices can be intermediaries, or they can be mediators. When they are mediators, they are actors.

3.2.2b Inscriptions

Latour (1987) brought attention to the importance of the research reports produced by scientists by identifying their importance as texts. In the research report, all of the work that has been done by the scientists, and all of the decisions that were made along the way, all of the people and tools that were enrolled along the way becomes "black-boxed" (Latour, 1987, p.131) and taken for granted. The inscription serves to carry all of the accomplishments of the elements that have been black-boxed, enrolling them in new accomplishments.

Preston et al., (1992) and Robson (1992) applied this idea to accounting, noting that the quantification of elements in accounting reports, such as budgets, served to reduce differences and controversies, thus bringing collectives together around ideas, supported by the inscription.

The relationship of these studies to the sociology of translation is that the inscription provides the space in which the heterogeneous entities are arranged, and that accounting reports

can be considered inscriptions in the sense that they, too, provide a calculative space in which previously unrelated entities can be associated, thus producing a new entity. Also important are the devices that do this, the "inscription devices".

3.2.2c Inscriptions, Inscription Devices, and Mediating Instruments

Miller and O'Leary (2007) suggests that mediating Instruments link otherwise separate domains, and actors, but as they do so they guide them, they intervene in them; they shape the outcomes otherwise impossible without the linkage. They at once represent and intervene. In a study of Moore's Law, the notion that semi-conductor capacity will increase at exponential rates over time, Miller and O'Leary study the intervention of this idea into capital investment strategies of the semi-conductor industry. They suggest that Moore's Law influenced the capital investment of the entire semi-conductor industry, thus forming a market for semi-conductors that was an outcome of the Law that predicted capacity advancements in the first place, thus driving those advancements.

Employing Callon's (1991) Technical-Economic Network, they identified how different devices mediated between the technical and the economic to produce a market that was conceived in Moore's Law, providing an example of instruments that mediate action. In so doing, they identified the importance of the devices that are at work that produce action, while also implementing an early rendition of the socio-technical agencement in accounting research.

3.2.2d The Socio-technical agencement.

The actor-network (Callon, 1986, Latour, 1987), the technical economic network (Callon, 1991), they hybrid-collective (Callon, 2005), are similar terms that all refer to a collective of actors in which action takes place. The evolution of these different manifestations of the same

idea has also recently been called the socio-technical agencement (Callon, 2005) and has become the favoured term (Callon, 2007; Muniesa et al., 2007), and has been employed in the study of market actors (Hardie and MacKenzie, 2007). The term socio-technical agencement (STA henceforth) will be used here, as it is not only the most recent, but also the most relevant term for the study of action in financial markets, such as the action studied in this dissertation, and will help understand the notion of calculation as distributed financial cognition, discussed below.

Muniesa et al., (2007) suggests that certainly the STA in its most basic meaning denotes a "display, assemblage, arrangement" (p.2), that is, a set of heterogeneous elements assembled in some physical or virtual space. But the term also suggests that set of elements acts collectively when so arranged. Callon (2005) uses the French word 'agencement'[8] :

> "…to stress the fact that agencies and arrangements are not separate. *Agencements* designate socio-technical arrangements when they are considered from the point view of their capacity to act and to give meaning to action."
>
> (Callon, 2005, p. 4)

Hardie and MacKenzie (2007) suggest that retaining the French word also maintains a subtle word play better than the English equivalent 'arrangement', as it suggests the agency of this arrangement, its ability to act. Thus the elements come together, or they are put together, and act together. The action serves to put elements that were separate and distinct for many reasons, e.g. legal, physical, social, and cultural, into a space where they are assimilated, and the qualities that defined their separation are now redefined to support their arrangement together, and together they carry and support ideas that are now accepted as facts. Callon calls these processes convergence, alignment, and co-ordination (Callon, 1991). Convergence suggests the construction of a "unified space for incommensurable elements" (Callon, 1991, p. 133), and

[8] Agencer – to arrange, or assemble a group of elements.

consists in alignment and coordination. Alignment is a process of translation where two or more elements are defined by an intermediary, and coordination is the assembling of those intermediaries in a unified space. Convergence suggests the success of the STA, as the more aligned and coordinated the STA, the more its elements work together, the less its status as an actors is in doubt and the more successful the translation (Callon, 1991).

The notion that a successful translation relies on the processes of disentangling, assembling, and re-entangling a heterogeneous set of elements in a unified space has been applied to the idea of calculation as a collective effort that does just that. The next section explores the relationship of the socio-technical agencement to distributed financial cognition and action, and performativity.

3.3 Calculation as distributed cognition and the performativity of calculation

The suggestion that action takes place in collectives extends to cognition, described as "distributed cognition" (Vollmer et al, 2009). Whether it is budgeting (Preston et al., 1992), capital investment (Miller and O'Leary, 2007), the development of performance measurement techniques (Qu and Cooper, 2011) or the popularity of the sociology of translation itself in accounting research (Gendron and Baker, 2005), action, and therefore decisions, are made in collectives.

Extended to capital markets, calculation can be thought of as distributed "financial cognition" (Vollmer et al., 2009):

> "The notion of 'financial cognition' draws attention to the process of interactive knowledge production and the roles that cognitive schemas – in combination with technical instruments, financial models, specific room layouts, group interactions, etc. – play in the formation and execution investment and trading strategies."
>
> (p. 621)

The decisions that actors make in financial markets can then be considered a collective endeavor, made possible by the various tools that they use, and the interaction among market participants. This definition suggests the importance of inscriptions and devices, in the formation of an STA. The recognition of the importance of financial economic theory supporting the various tools and decisions in capital markets also suggests that attention should be paid to the "performative" aspects of the intervention of theory in the devices and action in markets.

Performativity (Callon, 1998, 2007; MacKenzie, 2009) denotes the intervention of theory into processes of representation, identified earlier by Hacking (1983). This illuminates the importance of the theories that underpin technical processes, such as the best practices of financial analysis discussed in the previous chapter, in informing the way in which elements *should* be arranged in a calculative space. For example, the normative claims made by the efficient markets hypothesis (Fama, 1970), and agency theory (Jensen and Meckling, 1976) to name but two influences on finance theory, serve to intervene in the outcomes of investment decisions by directing the action of the actors making those decisions. Exemplified by the study of the Black-Scholes option pricing model (MacKenzie and Millo, 2003), theory can direct how the arrangements of heterogeneous elements in calculative space are configured, thus intervening in the outcomes based on the calculations performed in that calculative space.

When the implications of financial cognition and performativity in the calculative processes are considered, the calculation is seen as a collaborative accomplishment among actors forming a collective, and one that whose formation is assisted by a number of inscriptions and devices. This perspective on calculation has been described by as "framing" (Callon, 1998b, Callon and Muniesa, 2005; Beunza and Garud, 2007), discussed in the next section.

3.4 Calculation and Framing

Callon's conceptualization of calculation in economic markets echoes the ANT processes of disentangling, assembling, and re-entangling heterogeneous elements in a space where they can be acted upon; Callon and Muniesa suggests that calculation thus conceived is a three step process:

1. "First, in order to be calculated, the entities taken into account have to be detached. A finite number of entities are moved, arranged and ordered in a single space.
2. Once they have thus been sorted out, the entities considered (taken 'into account') are associated with one another and subjected to manipulations and transformations, still in a very material sense, as in the case of a mechanical calculator.
3. A third step is necessary to obtain an accomplished calculation: a result has to be extracted. A new entity must be produced (a sum, an ordered list, an evaluation, a binary choice, etc.) that corresponds precisely to the manipulations effected in the calculative space and, consequently, links (summarizes) the entities taken into account. This entity is not new, in the sense of springing from nowhere; it is prefigured by the considerations described above. But it has to be able to leave the calculative space and circulate elsewhere in an acceptable way (without taking with it the whole calculative apparatus)."

(Excerpted from Callon and Muniesa, 2005, p. 1231)

In order to calculate, *problematization, interessement, enrollment,* and *mobilization* (Callon, 1986) must occur. The nature of the problem has to be defined, and the solution set, or "finite number of entities", those relevant to the calculation, have to be arranged in a space. Within this space, the entities' identities are defined; similar to *interessement*, the various elements' relevance to the calculation has to be assigned. During *enrollment*, where the entities are subject to manipulations and calculations, the devices and inscriptions that represent the work of the elements become important, and concomitantly developed as with the devices of interessement and enrollment discussed and debated by Callon (1986) and Star and Greisemar (1989). The entities must then be *mobilized*, put into action in a space where the identities are governed by rules that guide behavior and outcomes, and lead to an extractable result.

Key to these three steps, and somewhat in summary of them, are the processes of objectification and singularization (Callon and Muniesa, 2005, p.1233) through which the properties of the calculable entity that define it as an object are limited, and the object can be defined in terms of the set of those properties. These are required in order for a value to be assigned.

> "To understand this… one has to bear in mind the twofold constraint weighing on a product if it is to become a good: that of objectification (it has to be a thing) and that of singularization (it has to be a thing whose properties have been adjusted to the buyer's world, if necessary by transforming that world."
>
> (Callon and Muniesa, 2005, p. 1234).

Similar to the processes described in the ANT roots, these processes of calculation require a long string of translations, where the properties of the calculable entity are gradually defined, and all of the work of the various actors that are brought together becomes black-boxed, and the singular object becomes an identifiable entity upon which a value can be placed, and which can circulate in other domains, i.e., the stock market, in the case of financial analysis.

Callon has also described this process as framing (Callon and Muniesa, 2005), and its applicability to the study of financial markets:

> "Financial markets also provide many examples of such framing…a good becomes singularizable, and thus calculable, only after this operation of extraction, translation and reformatting." (Callon and Muniesa, 2005, p. 1235)

Framing a calculable space denotes the establishment of boundaries within which calculation can take place. Within these boundaries, actors implicitly agree to conduct themselves according to certain behaviours, some of which have been explicitly stated, as in terms of securities regulations, and some of which have been established by prior experience, such as conference call etiquette. Within these boundaries certain furnishings, devices, and activities have been

delineated as acceptable for acting within the calculative space, and the outside world has been temporarily suspended.

Callon (1998b) notes his debt to Goffman (1974), for both the ordering rules of behavior and the agreement on space to act and how to act within it, while suspending but realizing the enduring presence of a world outside the boundaries of the framed space. Similarly, when determining the set of entities that are to be taken into account in calculation, the links of those entities to prior calculations, devices, and actors are set aside, but they cannot be "abolished". Callon has called these connections overflows (1998b), and builds upon earlier identification of "punctualization" (Callon, 1991, p. 52), those connections to the outside world where their effect could have generated a different result by taking the translation in a different direction.

The identification, measurement, and containment of these overflows are crucial to the ability to calculate. If we follow Callon's (1998b) suggestion that:

> "The actions within the frame are prepared and structured by the equipment, the theoretical statements, the skilled persons…the procedures and reports…each of these elements, at the very same time as it is helping to structure and frame the interaction of which it more or less forms the substance, is simultaneously a potential conduit for overflows." (p. 254)

then how these overflows can be contained must be explored. Callon suggests that in order to contain them, they must be identified and measured, which is no easy task, especially when faced with the uncertainty of future outcomes:

> "For calculative agents to be able to calculate the decisions they take, they must at the very least be able to a) draw up a list of possible world states; b) hierarchize and rank these world states; c) identify and describe the actions required to produce each of the possible world states. Once these actions have become calculable, transactions and negotiations can take place between the different agents."
>
> (Callon, 1998b, p. 260)

The ability to identify and measure overflows, and thus for calculation to take place, depends upon the identification of intermediaries (boundary objects, devices, etc) that cross the boundaries of the frame, making connections to the overflows, but also pacifying the uncertainties and possible conduits associated with them. These various intermediaries "punctuate" the calculation, as points of possible departure that have been "domesticated", with the possibilities of other states muted, or "black-boxed".

This conception of framing as disentangling, rearranging, and re-entangling and the containment of overflows has been applied and expanded upon empirically by Beunza and Garud (2007), in the study of financial analysts, discussed next.

3.4.1 Frame-making

Using Callon's (1998b) notion of the calculative frame, Beunza and Garud (2007) explores the construction of "the internally consistent network of associations, including (among others) categories, metrics and analogies." (Beunza and Garud, 2007, p.26). In order to study how frames are constructed, the authors break the components of a calculative frame of financial analysis into a *category*, an *analogy*, and a *key metric*. Motivated by research on analysts that suggests they behave as "critics" who reinforce accepted categories for role performance (Zuckerman, 1999; Zajac and Westphal, 2004) and the implications of that perspective considering the case of Amazon.com, Beunza and Garud (2007) suggests that, in order to evaluate what was at the time a new business model, the dot.com, the authors are concerned with financial analysis when faced with uncertain future states. The authors suggest that the analysts do more than reinforce existing categories, although that is part of their activity in analyzing a company as they first have to identify what existing category the company resembles. But in addition to that, they also must determine what is the appropriate ideal type exemplar or analogy

within that category, which helps define the appropriate performance measure, or key metric, for the company.

With Amazon, the categorical questions had to do with whether or not it was more like a bookstore, in which case Barnes and Noble would be an appropriate analogy, and net income would therefore be the appropriate metric, or whether it was more like a tech company, in which case Dell Computers would be the exemplar, and a focus on revenue would be more appropriate.

Beunza and Garud (2007) examines the financial analysts' reports for an indication of how the analysts perform their calculation, and suggests that, key to the analysts function is the ability to construct a frame that is convincing, and thus conclude calculation. This is dependent upon the ability to disentangle, rearrange, and re-entangle the appropriate measures, while at the same time identifying and measuring possible overflows. Beunza and Garud (2007) suggests that the notion of framing is an insightful lens through which to examine the production, communication, and use of accounting information, but also that expanding and extending the analysis would provide more insight into how this is truly a collaborative process.

3.5 Conclusion

The related concepts of inscriptions, inscription devices, framing, and socio-technical agencement are suited for the analysis of financial cognition in capital markets. The interaction between financial analysts and management in the preparation and presentation of accounting results, interaction in communicating them, and interaction in equity valuation seems to be a process that is rife with actors and devices, theories and models, values and prices, ensconced in the uncertainty of trying to determine which elements will help predict unknown future states. In order to conclude calculations the numerous overflows must be identified, their impact assessed, and their connection to entities outside the frame contained. This requires numerous devices

involved in trains of calculations that translate the available entities. As Beunza and Garud (2007) demonstrate, the notion of framing is useful for theorizing this process.

In order to build upon and extend this notion, however, it would be useful to open up the analysis to more of the actors and their tools that are involved in the calculation process, for, certainly the analysts don't construct this frame in isolation. Beunza and Garud necessarily focus on one part of the process, empirically supported by the available data, the analysts' report, which is surely an important text. However, the prior calculations and models, the interactions with management, and the financial statements that produce the sources of those key metrics seem to all be important instruments in the process, the examination of which would serve to expand and extend the investigation into frame-making. This also requires consideration of the devices involved that help to hold the actors together in a socio-technical agencement that performs the calculation.

The 'market device' (Muniesa et al., 2007) and the socio-technical agencement (Muniesa et al, 2007) usefully represent an arrangement of actors, domains, practices and instruments. This arrangement brings together people and tools that act in concert to produce ideas that are taken as facts. This concept, as applied to financial markets, is useful as a way of conceptualizing financial analysts' valuation models: these models bring together these actors, domains, theories, and technologies (Miller and O'Leary, 2007) to construct a representation of market value. But these are not the only devices, as the conclusion of calculation within these models depends upon previous devices in the string of calculation in the construction of value.

Conceptualizing the construction of value as enacted in calculation has important implications for equity valuation modelling. As Lépinay and Callon (2009) demonstrate in their study of financial derivatives, "…the *economic value* of goods and their measures are nothing

but the series of chains of derivations created by the transactional formulae." (Lépinay and Callon, 2009, p. 261, emphasis added). While equity valuation is commonly thought to reflect the value of a security, the suggestion that the calculation of value creates (or 'performs') the value, rather than discovering it, is applicable to these processes. In this sense, the equity valuation derived by the analysts' models can be considered a construction of the underlying financial economic theory underpinning the process and the prior devices, much as a calculation of underlying value.

In bringing together heterogeneous elements, the 'market device' (Muniesa et al, 2007) combines theoretical, technological, and calculative tools with their users. It serves as a way of understanding the importance of technology; 'technology' in the sense of automated systems, but also in the sense of 'tools' such as accounting, and analytical methods (e.g. Net Present Value Methods, Economic Value Added analysis, Residual Income calculations, etc.). The market device links various theories, interests, actors and agencies, and facilitates a relationship between them where one might not exist in its absence (Miller and O'Leary, 2007[9]).

Conceptualizing financial analysis this way envisions a distribution of agency, as the analyst, management, inscriptions, and devices act in concert in the practice of calculation, producing a "calculative agency":

> "Calculative agencies are not human individuals, but collective hybrids…. These agencies are equipped with instruments; calculation does not take place only in human minds, but is distributed among humans and non-humans." (Callon and Muniesa, 2005, p.1236)

[9] In employing the concept of the market device, Miller and O'Leary refer to the socio-technical arrangement defined by Callon (1998b) as a 'mediating instrument' (Miller and O'Leary, 2007: 707). Miller and O'Leary (2007) predates Muniesa et al., (2007), however, the concept employed is very similar to that espoused by Muniesa et al. (2007) and shares essentially the same theoretical basis, albeit employing different terms.

Allowing for the distribution of agency to the human and the analytical tool, and studying accounting as part of this collective hybrid device, offers a more elaborate understanding of the role of the valuation model and its effects on analysts' decisions. Some of the elaborations that are encouraged through the use of this concept include the investigation of how a model may guide interaction between the analysts and the companies they follow, how the model influences the information that is sought and that is provided, how that information is modified and excluded or included in the model, and how the resulting valuation is represented in the analysts' reports. Examining such elaborations is important because of the implications for how accounting information is presented, distributed, modified, discussed, defended, and sometimes defeated.

Utilizing this theoretical perspective illuminates an understanding of the empirical study in this dissertation by 1) providing a way of understanding the processes of interaction that leads to calculation; 2) understanding how calculation is a form of translation, and how information comes to be knowledge through culmination of a series of linked calculations; and 3) making sense out of the process through which, as calculations are stabilized, the previous calculations upon which they depend are black-boxed, and the resulting inscriptions helping define and stabilize the object of calculation.

Chapter 4 – Methodology

4.1 Introduction

As discussed in Chapter 2, extensive research on financial reporting and its use has offered insight into many aspects of the process, but, as suggested by both Kothari (2001) and Bradshaw (2011) there is more to learn about the processes of financial reporting and financial analysis. Much of what can be learned takes place at the "interface between accounting and finance" (Hopwood, 2009). It is at this interface where "the financial practices whose functioning is so often intertwined with that of the economic and financial calculations that we call accounting" (Hopwood, 2009, p.550), coalesce.

At this interface, however, the context-specific tasks of both managers and financial analysts are complex. While much has been gained from quantitative studies that investigate the financial reporting outputs of managers (Kothari, 2001), and the calculative outputs of financial analysts (Ramnath et al., 2008) the practices of these actors may be too complex to allow the simple, coherent explanations favoured by quantitative methodologies (Searcy and Mentzer, 2003). Both Graham et al., (2005), and Bradshaw (2009, 2011) call for alternative methodologies to add to the extant research in these two areas. In this chapter I outline a qualitative approach, based on interview and qualitative analysis, to learn more about the practices of managers and analysts, and the interaction between the two.

Successful examples of effective case-based and qualitative research in finance and accounting include research dealing with managers' financial disclosure (Gibbins et al., 1990; Holland and Doran, 1998) and corporate financial reporting preferences. (Graham et al., 2005). Roberts et al. (2006) and Barker et al. (2012) provide examples of the direct observation of

interactions of company management and analysts/investors. These approaches suggest that a qualitative, social theory-based approach adds valuable insight into these complex processes.

I employ a qualitative approach to an instrumental case (Stake, 1995) of managers at one public company that prepare and publish financial information, and the analysts that follow them. The 'who' and 'what' questions of financial reporting and equity analysis have generated a large body of research (Kothari, 2001; Libby et al., 2002; Ramnath et al., 2008). A qualitative approach is conducive to answering the how questions, taking seriously the perspectives of those involved in the process, and is appropriate for "examining and articulating" the process (Pratt, 2009). The case study methodology allows for the in-depth examination of the specific phenomena of concern to the "how" questions:

1. How does The Company prepare its financial reports, and in doing so, how does it determine which items will be adjusted, calculated and presented as pro forma earnings?
2. How are financial results communicated to financial analysts?
3. How do financial analysts use The Company's financial information in their valuation models of The Company?

In the exploration of these questions I follow a constructivist perspective, considering the valuation process to be one of "mobilizing various entities" (Latour, 2005, p. 91) in collaboration and collective forming that constitutes the frames (Callon, 1998a) that facilitate calculation. Supporting the view of valuation as a constructive process, this approach appreciates the importance of the actors' reality, understands the importance of description as an explanation of the construction of that reality, and acknowledges the heterogeneity of a process that involves humans and non-humans in that explanation. Viewing this process as one of collective formation, as elaborated by Latour (2005), pays "attention to the number of heterogeneous

realities entering into the fabrication of some state of affairs" (p.92) and offers an appreciation of how "artificiality and reality march[ing] in step" (p.90). This also provides the "ideal vantage point to witness the connections between humans and non-humans" (p.88), of which there are many throughout the process.

This case of a large, dual-listed North American public company that presents pro forma earnings and the analysts that follow it is suggestive of both the "instrumental case" described by Stake (1995), and the critical case described by Flyvbjerg (2004). The interest in The Company began with a study of its calculation and presentation of pro forma earnings. The Company reports pro forma earnings in every quarterly report, and makes many of the pro forma adjustments to GAAP earnings that Entwistle et al. (2005) suggests are common in Canadian and U.S. based corporations. It is a Canadian public company, listed on the Toronto Stock Exchange, with a dual listing on the New York Stock Exchange. It has a number of analysts and investors attempting to determine its investment value. As such, it offers a specific example of the phenomena of interest, that is, calculation at the interface of accounting and finance (Hopwood, 2009).

In order to explore the preliminary research questions, and the elaboration of the collective construction of value, I collect and analyze data from interviews, conference calls, company annual reports, financial analyst reports, and financial analysts' models of The Company. I use this data to trace the actors through the calculative processes that help constitute market value. I analyze the preparation of financial information, the communication of that information through interaction between management and financial analysts, and the resulting (but also concomitantly produced) analyst models and reports. I adopt and adapt the approach suggested by the Social

Studies of Finance (Beunza and Millo, 2008), which relies on Latour's (1987) rules of method, and Callon's (1998a) strategy for addressing calculative frames.

Taken separately, the data slices represent different instances of a socially constructed reality. The final step in the process, the effect (or not) on share values in capital markets, is unexamined, and subsequent processes can only be hypothesized. No attempt is made to determine whether or not the entity created during this collective formation is taken up by the capital markets, and affects is market value. Latour (1987) suggests that such formations are in the hands of subsequent actors, and they are not examined here.

In the following sections I discuss the qualitative case research methodology, the data collection methods, the relationship between the discrete parts of the process, the combinations of data that tell a story about those process, and the approaches to its analysis.

4.2 Qualitative Case Study Approach

Regarding case studies in general, Stake (1995) suggests that:

> "In qualitative case study, we seek greater understanding of Θ [theta], the case. We want to appreciate the uniqueness and complexity of Θ, its embeddedness and interaction with its contexts." (Stake, 1995, p. 16)

Two prominent aspects of this statement, "case study" and "qualitative" are inherently intertwined and taken together offer potential benefits in employing a constructivist approach to achieve an understanding of the case, in all of its complexity and uniqueness. The insight to be gained from examining a case of a specific instance of a phenomena, that is, the examination of an "instrumental case" (Stake, 1995) or "critical case" (Flyvbjerg, 2001), builds on literature in financial reporting and financial analysis by offering a nuanced description of a prototypical example. This literature, while offering numerous advances, has had difficulty in examining the

complexity of social situations, suggesting that a qualitative approach has promise to build on current understanding.

Limitations of this approach, however, include the perceived lack of generalizability of the case study method, the challenges associated with interview methods, the limitations of textual data, and the lacunae always present in case study approaches that rely, in part, on the testimony of actors. Despite these limitations, however, the qualitative case study approach leads to a rich description of the process that occurs at the interface of accounting and finance, and, as suggested by Latour (2005) coincides with an effective explanation of what occurs at that interface.

4.2.1 Case Study Approach

Studying a particular instance of calculation provides the opportunity to learn more about specific phenomena that do not lend themselves to large sample studies. This is because of the difficulty approaching complex situations that are not conducive to the reduction required for statistical analysis. Quantitative studies are appealing because of the generalizability of their statistical results, an aspect of case study research that is perceived to be lacking. And, despite the arguments that a "critical case" does indeed offer a certain type of generalizability (Flyvbjerg, 2001; Lukka and Kasenen, 1995), even a nuanced description of such a case suffers the limitation of various "lacunae" (Quattrone, 2006) inherent in the case study method.

The lack of generalizability of an "n of one" is a common criticism of case study research (Flyvbjerg, 2001). This stems from the typical mode of analysis in accounting research, that of statistical analysis (Searcy and Menzter, 2003). If we use Lukka and Kasanen's (1995) definition of generalizability, the usefulness of one case does seem limiting:

> "…by generalization we mean the derivation of and argumentation for conclusions covering many or all cases of a certain type based on one or more observations of the real world." (p. 72)

This definition at first seems similar to definitions that rely on observation of large samples and based on a positivistic ontology. Lukka and Kasenen (1995), however, go on to discuss other ways in which this generalization may be conceptualized and they clarify the responsibility of the case researcher to overcome this perceived obstacle.

> "We argue that, within the practically achievable standards of accounting research, high quality case studies may produce credibly generalizable results. In descriptive case studies, contextual generalization rhetoric provides a way to move from isolated observations to results of a more general status. Therefore the researcher has to understand and communicate the real business context and uncover deeper general structural relationships."
>
> (Lukka and Kasanen, 1995, p. 85).

By elaborating the notion of generalizability, this description shifts the onus onto the case researcher for providing a description that sufficiently demonstrates the applicability of the case results to other instances of the same phenomenon.

Flyvbjerg also suggests that the "…generalizability of case studies can be increased by the strategic selection of cases." (Flyvbjerg, 2004, p. 229). Similar to Stakes' (1995) instrumental case study, which offers a particular example of a phenomenon of interest, Flyvbjerg's "critical case" can be viewed as having "strategic importance in relation to the general problem" (Flyvbjerg, 2004, p. 229). My study likewise claims that a single case of The Company's presentation of pro forma earnings, the communication of them to financial analysts, and their use by financial analysts, also offers more general insight as a critical case that applies to other public firms and financial analysts, "if it is valid for this case, it is valid for all (or many) cases" (Flyvbjerg, 2004, p. 230).

Thus I argue that a carefully chosen case study, offering an instance of a particular phenomenon of interest, that is thoroughly analyzed and described, can overcome the perceived limitation posed by a lack of generalizability.

Like all research, even the most thorough case cannot possibly cover all aspects of a phenomenon; as with any case study that builds on the testimony of relevant actors, several "lacunae" remain (Quattrone, 2006). For example I am unable to observe all calculative practices. While I have access to actual interactions in conference calls, there is much that goes on behind the scenes that I am unable to observe. I have access to part of the story, but not all of it, a problem identified by Quattrone (2006). Part of this relates to the implications of releasing sensitive or proprietary information. Part of it is logistical. At any rate, it refers to what Quattrone calls a "lacuna" inherent in case study research, that

> "...the testimony refers to an absence, to something which is referred to but which is not there: the presence of an absence. Case study research becomes then the interrogation of, and the speculation on, this absence. A case study is thus a lacuna and its investigation becomes a way of constructing this space, knowing that it is not possible to fill it completely." (Quattrone, 2006, p.149)

These lacunae exist not only in case study research, however, but are inherent in any and all research studies.

4.2.2 Qualitative Approach

Ahrens and Chapman suggest that "doing qualitative field studies is not simply empirical but a profoundly theoretical activity." (Ahrens and Chapman, 2006, p. 820). The benefits of a qualitative approach, and those aspects that make it appropriate for addressing my research questions, are also consistent with a constructivist theoretical base. A qualitative approach, according to Pratt (2009), offers the promise of "addressing the "how questions – rather than

'how many'; for understanding the world form the perspective of those studied (i.e. informants); and for examining and articulating processes." (Pratt, 2009, p. 856).

Consistent with my research questions, I am exploring these "how" questions: how do market actors calculate. Such calculations involve (but are not limited to) the calculations and assessments made by the Company and the calculations and assessments made by analysts about the Company. In so doing, I allow the actors "room to express themselves" (Latour, 2005) from their own perspective, and in their own words, in addition to examining the artefacts that are constructed as a result. I also offer a description of the process, articulating the calculative practices that are used by both management and analysts.

This dissertation faces the challenge of studying lengthy and complex processes. As Silverman suggests, "The main strength of qualitative research is its ability to study phenomena which are simply unavailable elsewhere." (Silverman, 2006 p. 43). These complex phenomena require involvement on the part of the qualitative researcher to make sense out of them.

> "An important value of qualitative research is description and understanding of the actual human interactions, meanings, and processes that constitute real-life organizational settings." (Gephart, 2004, p. 455)

To effectively explore the complexity of these interactions requires flexibility to the nuances of the situation, and the ability to understand different factors that are not quantifiable because of their complexity. Further, an appealing aspect of a qualitative approach is that it allows for the development of the research question during the study.

> "The practice of doing qualitative field studies involves an ongoing reflection on data and its positioning against different theories such that the data can contribute to and develop further the chosen research questions."
>
> (Ahrens and Chapman, 2006: p. 820).

The prospect of the evolution of the research question during a qualitative study, and linking it to theory is one of the benefits of qualitative research (Charmaz, 2007). Ahrens and Chapman (2006) point out that hypothesis development is intertwined with "…theory, method, methodology, and knowledge gains in qualitative field studies." (Ahrens and Chapman, 2006 p. 819).

Similarly, through iterations with data and theory, and with the continued theoretical sampling of the actors and texts, the focus of my case study evolved as it progressed. My preliminary questions narrowed in terms of how the process of calculation and presentation of pro forma earnings, the communication of the figures to analysts, and the use by analysts is a calculative process of construction of value. Starting with the focus on pro forma earnings, it became evident that it is part of the overall process of calculation that is performed collaboratively between management and analysts. Calculation in this sense resembles the framing depicted by Beunza and Garud (2007). The notion of framing, and frames, in the Callonian sense (Callon, 1998a), builds upon the sociology of translation upon which it is based, through which the forming of a collective is a net-work effort. The construction of calculative frames is thus also a net-work, or collective, effort, where "the factors gathered in the past under the label of a "social domain" are simply some of the elements to be assembled in the future in what I will call not a society but a collective." (Latour, 2005, 14). The tracing of this collective, as described by the actors, will provide an articulation of the process of calculation, which seems to be a process of association that builds the collective. Further discussion of the challenges posed by relying on actors' descriptions follows in the next section, but I conclude here that the

qualitative case study is an appropriate method for addressing this research phenomenon, as suggested by S.B. Merriam:

> "…the key philosophical assumption…upon which all types of qualitative research are based is the view that reality is constructed by individuals interacting with their social worlds."
>
> (Merriam, 1998, p. 6)

Consistent with the desire to let the actors express themselves, and the notion that "description is explanation", both concepts from Latour (2005), a descriptive case study provides a specific example of an "exemplar" of this particular phenomenon. Flyvbjerg notes the benefits:

> "…it is worth repeating the insight of Kuhn (1987): that a discipline without a large number of thoroughly executed case studies is a discipline without systematic production of exemplars, and that a discipline without exemplars is an ineffective one. In social science, a greater number of good case studies could help remedy this situation."
>
> (Flyvbjerg, 2004, p. 242)

4.3 Data Sources and Collection

I use interviews and texts to compile a description of the process of valuation. Interviews allow the actors to express their activity in their own words, and an examination of the texts they produce serves as collective representations of constructed reality resulting from that activity. For my purposes, however, this approach to reality is one where, "...data are not untainted slices of objective reality but aspects of recorded activity that a study finds significant for theoretical reasons." (Ahrens and Chapman, 2006, p. 820). My approach to data collection is based on theoretical sampling, following the actors through the process of calculation led to additional interview subjects and specific texts. Rather than taking the data as evidence of objective reality, I see it as a representation of the process as the actors see it, similar to how Gephart (2004) suggests that "…qualitative research starts from and returns to words, talk, and

texts as meaningful representations of concepts." (Gephart, 2004, p. 455). But this statement suggests that reflection on the research activity also involves reality construction. Thus the collection and analysis of data from interviews and various texts provides a meaningful representation of the phenomenon of study, but is also a construction of the reality of that phenomenon.

4.3.1 Interview Data[10]

Graham et al. (2005) suggest that a combination of interviews and a questionnaire allow the researcher to "address issues that traditional empirical work based on large archival data sources cannot." (P. 4). However, Silverman (2013) raises the complication, and "…*important methodological issue* of whether interview responses are to be treated as giving direct access to 'experience' or as actively constructed 'narratives' involving activities which themselves demand analysis". Silverman (2013, p. 47, emphasis added)

Relying on interview data can make the research findings "heavily dependent on the interpretations of social action carried out by participants…interpretations are much more variable and inconsistent than is normally recognized." (Potter and Mulkay, 1985, p. 248).

In addressing the lacunae (Quattrone, 2006) in case studies discussed in the previous section, the influence of the researcher must also be considered, as "…interviewing, like communication in general, is as much collaboratively constructive of the meanings of experience as it is an efficient means of gathering information." (Gubrium et al, 2012, p. 3).

[10] In order to maintain confidentiality, I have left The Company's managers' data, and the two other managers' data without reference in all tables. While I have numbered respondents in the table, in the example extracts in Chapters 5, 6, 7, and 8 I have not made any reference to which respondent said what, in order to avoid an informed reader making possible connections between the statement and respondent.

Latour's suggestion of giving the actors "…some room to express themselves" (Latour, 2005, p. 142) allows the actors to speak in terms of what Preston et al. (1992) called the "discursive and cultural resources" which actors use in "explaining, justifying, and articulating the accounting technologies which are being proposed, resisted, or talked about." (Preston et al., 1992, p. 565).

Further reinforced by the suggestion that method should "…drop from the list of its methodological terms any which would make it impossible for new actors (actants, in fact) to define the world in their own terms, using their own dimensions and touchstones." (Latour, 1999, p. 20), I attempt to give the actors the room they need by using semi-structured interviews, while recognizing the limitations that freedom creates, as well as how it is subject to my own biases.

Table 4.1 Summary of All Interviews

Subject	Contacted	Interviewed	Time (Hours)
Management (The Company)	18	14	11.02
Management (Industry)	2	2	1
Financial Analysts	18	9	8.3
	38	**25**	**20.30**

Beginning in June, 2009, and continuing to March, 2014, I conducted interviews with managers from The Company, with managers from similar companies, and with financial analysts who follow and analyze The Company. I conducted all of the interviews in person, made a digital audio recording of the interview, and subsequently transcribed each interview myself. I contacted potential subjects and conducted interviews in accordance with the Research Ethics Board approval obtained from the University of Alberta Research Ethics Office, Study Identification number Pro00030189. Written consent was obtained for both the interview and the audio recording from all subjects. See Table 4.1 for an overview summary of all interviews.

I began the interview program with two Company managers directly involved in the financial reporting process: a senior accounting manager, who oversees the production of the financial information, and a senior manager from Investor Relations, who oversees the compilation of annual reports and conduct of conference calls. I then contacted an Executive Vice President, who agreed and then provided an introduction to the executive management team via email. I used this introduction to initiate contact with executive management, and as the interviews progressed, I used references to other managers made during the interviews as a way to facilitate further introductions that helped trace the actors involved in the financial reporting process. In total I contacted eighteen of The Company's upper- to executive-level managers and fourteen agreed to participate.

Table 4.2 The Company Management Interviews

Interview Date	**Length (minutes)**	**Time with Co** (Years)
24-Jun-09	28	20
2-Jul-09	42	6
18-Jan-13	60	2
26-Apr-13	47	17
29-Jan-14	50	7
16-Dec-13	50	18
11-Feb-14	73	27
26-Mar-14	43	8
8-Jan-14	40	10
15-Nov-13	60	18
19-Mar-14	72	10
8-Jan-14	47	19
29-Jan-14	49	14
8-May-14	46	10
Total time	11.02 (hours)	
Average	0.85 (hours)	13.3
Max	73.00 (minutes)	27
Min	28.00 (minutes)	2

The Company Management Interviews were conducted at The Company's office. See Table 4.2 for information on interviews with management.

In order to augment my understanding of The Company's market context, and to compare The Company managers' descriptions of that market context, I contacted two executive managers from other companies of similar size, scope, and geographical dispersion, with connections to the same commodity market as The Company. These two industry managers were at the Executive Vice President level at their respective companies. The two interviews were conducted at the managers' offices, and each lasted around thirty minutes. These interviews are referenced in Table 4.1.

To compile a contact list of financial analysts following The Company during 2013, I used a combination of the contact information provided by The Company, and the contact information provided by the analysts themselves in their reports (which I downloaded from Investext, see below). Of the eighteen analysts contacted, nine agreed to participate. Interviews were conducted mainly at the analysts' offices, with one exception[11], and ranged from forty-five minutes to almost an hour and a half. See Table 4.3 in the chapter appendix for detail of the interviews with analysts.

The interviews progressed as follows. After obtaining demographic information about the interview participant, I started with broad questions about the parts of the process of calculation that the participant engaged in, and then allowed the actors to speak about what was pertinent to them, and allowed the interview subjects to describe the process in their own terms. Using this semi-structured format, where general questions from the interview guides (See Exhibits 4.1 and 4.2) were followed, allowed the actors to speak, and as pertinent aspects of the process began to emerge, I narrowed the focus to specific aspects of the actors' activities, the

[11] One analyst was in transit between meetings outside of his office, and agreed to meet at a coffee shop in between locations. I don't believe this setting adversely affected the interview quality or content in any way. The audio recording was clear, the interaction was comfortable, and the resulting data was rich and useful.

relationship between the actors, the controversies over value, and the different devices employed in the settlement of the controversies. This format facilitated the flexibility in response to the research question development suggested by Ahrens and Chapman (2006), and allowed the freedom for both the participants and the researcher to pursue various aspects of the actors' activities in depth. After the interviews I transcribed them, using NVivo 10 to prepare a time coded transcript, which I forwarded to the interviewee for review and comment.

4.3.2 Textual Data

As the interviews progressed, I identified, obtained and analyzed various texts that appeared to be important intermediaries and inscriptions in the financial reporting and financial analysis process. According to Silverman (2006, p. 153) texts are "…data consisting of words and/or images which have become recorded without the intervention of a researcher". In this case, texts include The Company's Annual Reports, the Conference Call audio recordings and transcripts, the analysts' reports, and the analysts' models. These texts constitute a major source of data for this study, and were analyzed for their empirical content as data slices, but also in advance of interviews with the company managers and financial analysts to identify controversies over value in preparation for the interviews, and as part of a strategy of early and ongoing analysis (Corbin and Strauss, 2008).

The advantages of texts lie in their richness, relevance and effect, natural occurrence, and availability (Silverman, 2006). I purposefully selected texts that were produced during the process of calculation, treating them not as a true, enduring and objective reality, but rather as a result of a process of reality construction and with a concern for how these texts participate in that construction. The texts reveal how the actors create, perceive, communicate, and calculate. Lastly, because most these texts exist in the public domain, they were readily accessible and

cost-free, providing an available and convenient source of data. The analyst models, however, are not publicly available, and while fewer in number than the other texts, offer a rich and unique source of proprietary data.

4.3.3 Annual Reports

I collected Annual Reports for The Company for the years ending December 31 2007 to 2013. I started with the 2007 year end because the initial pro forma earnings adjustment for unusual items started in that year, and the related conference call was held in early 2008. I also obtained quarterly reports for all of the first three quarters starting with the first quarter of 2008, to the third quarter of 2013. I deemed the fourth quarter of each of these years to be redundant, as the annual report contained sufficient information to isolate the fourth quarter results, and the annual conference call encompassed the fourth quarter results. The annual reports were collected through to the end of 2013 to coincide with the completion of interviews in 2014, and the obtaining of the analysts' models.

4.3.4 Conference Call – Audio and Transcripts

I obtained conference call audio and transcripts from The Company's website for all quarterly conference calls, starting with the 2007 year end conference call, held in early 2008, and ending with the 2013 year end call, for the same reasons as noted above. I focus on the quarterly calls that follow and discuss the quarterly results, in which analysts and investors will ask questions of management regarding the recently released quarterly financial report. I took this data source to be reliable, as the presentation and reporting of The Company's information for investor consumption is governed by the rules of the Ontario Securities Commission, and the Securities and Exchange Commission in the United States. I analyzed over eighteen hours of

conference calls, representing three hundred and twenty-seven pages of transcripts. See Table 4.4 in the chapter appendix for a list of conference calls.

4.3.5 Analyst Reports

I obtained analyst reports from the Investext database, available through the University of Alberta Library. Investext has been used and deemed to be reliable in similar case studies centered on one public company (See for example, Hilton and O'Brien, 2009), but it is not entirely complete. Not all analysts listed on The Company's website publish their reports for subscribers to information services such as Investext. Therefore there are some analysts who were interviewed, but their reports not analyzed.[12] I downloaded the analysts' reports that 1) coincided with or referred to the corresponding conference call, and 2) related to specific transactions or announcements that corresponded to the unusual pro forma earnings adjustments. In total, there were 27 analysts covering The Company during the period of study, and three hundred and forty-five reports reviewed, totalling three thousand, two-hundred and fifty-five pages. These reports summarize the earnings release information, suggest requirements for further information, contain the results of the analyst's valuation model, represented by tables and graphics, and render an opinion on the performance of The Company. See Table 4.3 in the chapter appendix for a detailed breakdown of the reports by year and analyst.

4.3.6 Analyst Models

During the interviews with financial analysts I requested to see their spreadsheet models for The Company. Five of the analysts offered to send their "live", working model, in Excel, via email, with the understanding of strict confidentiality. A sixth analyst would not allow me to see

[12] I only contacted analysts that were following The Company during 2013, and therefore there are several analysts who were not interviewed, but their reports were analyzed.

his model, but offered to send a description of the process, which turned out to be somewhat limited in offering insight into the modeling process. The models and the analysts are referenced in table 4.3.

4.4 Data Analysis

I analyzed the data by coding it in a series of iterations, beginning with the interview data. I coded the interviews first according to the initial research questions from the interview guides. I then recoded the interview data, and coded the annual reports, conference calls, and analyst reports according to Beunza and Millo's (2008) approach to the analysis of valuation, itself based on Latour (1987) and Callon (1998a). Using this approach as a guide, I coded the data according by "in vivo" codes, as suggested by Corbin and Strauss (2008). In vivo coding is an analysis strategy which "identifies concepts using the actual words of research participants rather than being named by the [researcher]" (Corbin and Strauss, 2008, p.65).

I initially combined the data temporally, according to the sub-processes of the overall financial reporting and financial analysis processes: corporate reporting, communication/interaction, and analyst modeling (see Figure 4.1 in the appendix to this chapter that shows the data organization by sub-process). This separation is an artificial one, for the purposes of analysis, as a detailed description was sought for each of these sub-processes, but is also guided by the respondents' answers to the initial interview questions. The results of the analysis, shown in Chapters 5, 6, and 7 demonstrate that the processes are iterative, concomitant, and dependent; anything but the linear process that I initially depict (See figure 4. 2 in the appendix to this chapter that shows the process). This approach to data analysis is consistent with many aspects of grounded theory (Corbin and Strauss, 2008; Suddaby, 2006) that suggest

an iterative process between data and theory, letting the actors speak, and the pursuit of the description of a specific phenomenon.

I used NVivo 10 qualitative data analysis software for both the transcription of interviews and the coding of all data. My strategy of early and ongoing analysis (Corbin and Strauss, 2008) began with the interviews themselves, and carried through the transcription and coding of the interviews.

I began coding by response to the questions, as per the interview guide (See Exhibits 4.1 and 4.2 in the chapter appendix), in order to build a description of the process. I then coded the annual reports, conference calls, and analysts' reports. This follows the flow of information that somewhat drives the process: The Company releases their annual report, holds a conference call, and the analysts write a report. I iterated between the call transcript, the analyst reports, and the annual reports, identifying non-GAAP earnings measures and controversies, and indications of back-and forth interactions between analysts and managers. Using the framework of analysis suggested by Beunza and Millo (2008) I focused coding on the peculiarities of calculation, and related controversies over value as they emerged, and through iterations with the data and the literature on financial disclosure, financial analysts, and calculation, concentrated on areas where participants indicated the importance of certain people, and the use of formulae, devices and inscriptions in calculation. I followed controversies through to the analysts' reports, and their models.

Latour (1987) suggests rules of method for following such controversies (See Exhibit 4.3) Following these rules, I examine the controversies over valuation as they unfold, through conference calls and analyst reports (Rule 1), and how the various actors transform and take up claims through the process (Rule 2), to examine how the different appeals to experts, theories,

calculations, and models (Rule 4) are used (Rule 3) to support or refute claims of value made by managers and analysts (Rule 5), in the creation of the various texts that both support, are a result of, and represent the collective (Rule 6) to add to Beunza and Garud's (2007) findings of frame construction, and the conceptualized cognitive processes as "mental models" (Rule 7).

Beunza and Millo (2008) suggest a way to examine such controversies in the exploration of calculations that shape value, also based on Latour's (1987) rules of method. Specifically, they suggest an SSF approach to calculation:

1. Identify a new decision-making tool: a formula, visualization, machine, artifact
2. Examine how the tool was designed
    a. What actors were involved?
    b. What issues were taken into account?
    c. What theories/models informed their choice
3. Explore how actors use it in practice
4. How does the tool shape value?

This approach combines the foundational work of Latour (1987) with the application to markets suggested by Callon (2005), suggesting an effective approach to the analysis of activity at the interface of accounting and finance. Both of these methodologies have been applied in previous research: Latour's (1987) rules of method have been applied in accounting research (for example, Preston et al., 1992), and Callon's approach has been applied to the examination of financial analysts (Beunza and Garud, 2007).

The use of this approach is consistent with a constructivist approach that appreciates the importance of language, theories, and technologies (such as financial models) in the interaction that constructs value. This approach is also useful in the compilation of a narrative description (Corbin and Strauss, 2008) that serves as an explanation of value construction. This approach also requires reflexivity and the acknowledgement that the resulting explanation should also be similarly recognized as a construction, or "method assemblage" (Law 2004).

This focus has affinities with the analysis of the work of market actors in the construction of the textual representation of the value of a public company. There are numerous actors, including management, financial analysts, and other market participants, that employ various models and other technologies that enact theories in the calculation that results in a valuation. The "enactment" of theory suggests that the theoretical bases for financial calculation serve as an intervention in its valuation, in addition to building a representation of value (MacKenzie, 2008).

Callon (1998a) suggests that framing in calculation relies on the processes of disentangling, assembling, and re-entangling involved in objectification and singularization. This is a collaborative process that results in a new entity, if only temporarily stable, at once an assemblage that is made up *of* actors (people, devices, and theories), and made up *by* those actors.

The methodology developed by Beunza and Millo (2008) appreciates the importance of framing. The process of valuation involves the process of calculation, and as it progresses, new tools are developed to address the various controversies over value. As the analysts develop their models, The Company develops its own models and its reporting is adapted in conjunction with these developments on both sides. This leads to "framing controversies: sustained difference in valuation that arise from a disparity in calculative frames" (Beunza and Garud, 2007, p. 29).

Beunza and Garud (2007) describe the frames that financial analysts use to analyze companies as "mental models" that are comprised of a category, an analogy, and a key metric (see Figure 4.2 in the chapter appendix). First determining what kind of company it is (the "category"), the analyst justifies this category by comparing it to an established company (the "analogy") in that category. The analyst then employs the relevant measure (the "key metric")

that is commonplace for evaluating companies in that category, for example, revenue versus net income, as the starting point for valuation.

I enter the process before these frames are constructed (Latour's Rule 1, arriving before the "facts" are established) to examine the process that constructs them. The interactions between management and analysts are taken as a process of construction that is part of a larger process, and is prior to the establishment of the frame (see Figure 4.2, which shows Beunza and Garud's depiction of the frame as part of the process that I examine), but assists in the establishment of those frames. Studying the construction of the frames is useful, because, as Law (2004) suggests, in summary of Latour and Woolgar (1987):

> "Reality is neither independent nor anterior to its apparatus of production. Neither is it definite and singular until that apparatus of production is in place. Realities are made. They are effects of the apparatuses of inscription. At the same time, since there are such apparatuses already in place, we also live in and experience a real world filled with real and more or less stable objects." Law, 2004, p. 32.

To build on Beunza and Garud's work, I examine the part of the process where the frame is constructed, how the company and the analysts frame their calculation, and, subsequently, how "frames mediate the incorporation of new information into existing valuations." (Beunza and Garud, 2007, p. 28).

This approach is consistent with the grounded theory approach that I employ, as it shares an ontological basis of constructivism, and can be directed towards the goal of developing a description that lets the actors speak:

> "Grounded theory, therefore, is a method that is more appropriate for some questions than others. Clearly, it is most suited to efforts to understand the process by which actors construct meaning out of intersubjective experience. Grounded theory should also be

> used in a way that is logically consistent with key assumptions about social reality and how that reality is "known.""
>
> (Suddaby, 2006, p. 634)

I have addressed the issues of using interview data above, and I acknowledge the dangers of using *at post rem* explanations. The danger of interview interaction as such was described by Czarniawska (2001), where the interviewee might answer in "abstract terms that define his (sic) role rather than describe his (sic) actions." (p. 253). In an interview setting, both managers and analysts may describe their role in terms of what it is supposed to be, rather than what it is. They may either intentionally or unintentionally be deceiving both themselves and the interviewer. Using multiple sources of textual data, in addition to the interview data, allows for cross-referencing their descriptions to their output. When actors are using words they are constructing their everyday reality, and I take these words as a representative of how that reality is known to the actors. The iterations between data slices and coding will evaluate that reality, while also allowing the actors to speak (Latour, 2005), without censoring the way they describe themselves, or judging the way in which they analyze their context (Callon, 1986). See Table 4.5 in the chapter appendix for examples of coding, starting with the interview questions, and through the identification of controversies over value, using the in-vivo codes suggested by the data.

Employing the approach that I have explained here requires reflexivity on the part of the researcher. Reflexivity here is important, because as Law (2004) suggests, as much as what I am trying to describe is an assemblage constructed by the actors involved, the description that I write is a "methods assemblage", that is, I as the researcher am engaged in the construction of an assemblage. The description that I write is also a process of disentangling, assembling, and re-entangling, and my attempt to write a coherent description of associations between physically

dispersed heterogeneous actors may bring order that intervenes in, as well as represents, a rather disorderly social process.

4.5 Conclusion

The case method promises the opportunity to learn much about the construction of value at the interface of accounting and finance. As Cooper and Morgan (2008) suggest:

> "The case study research approach is useful where the researcher is investigating:
>
> - Complex and dynamic phenomena where many variables (including variables that are not quantifiable) are involved;
> - Actual practices, including the details of significant activities that may be ordinary, unusual, or infrequent (e.g., changes in accounting regulation); and
> - Phenomena in which the context is crucial because the context affects the phenomena being studied (and where the phenomena may also interact with and influence its context)"
>
> (Cooper and Morgan, 2008, p.160)

The calculation that occurs at the interface of financial reporting and financial analysis seems to represent the type of phenomenon that Cooper and Morgan (2008) had in mind. The process of constructing value subsumes a multitude of variables in dynamic, changing contexts, where competing influences are rife, logics are diverse, and theory and practice are often at odds. Controversies arise as the uncertainty of future states, inherent in financial analysis, requires market actors to engage in the framing of their analysis in way that allows for conclusion, if only temporarily, on some representation of value. Taking this process, exemplified by The Company and its interaction with financial analysts, as a critical case, has a "strategic importance in relation to [the] general problem" (Cooper and Morgan, 2008, p.165) of understanding calculation. My combination of elements of grounded theory with approaches suggested by

Beunza and Millo (2008) results in a description of calculation that serves as an explanation of calculation (Latour, 2005).

> "…a researcher need not go all the way to theory. He or she could stop after concept identification and do a very nice descriptive study, adding elements of context and process, as he or she feels competent to do." (Corbin and Strauss, 2008, p. 162)

In order to develop this description, I begin with interview data, and iterate a process of theoretical sampling to employ conference call data, Company financial reports, financial analyst reports, and financial analyst models to follow the actors through a process of constructing value.

By focusing on these data sources, I am extending Beunza and Garud (2007) where they examine the "mental models" of the financial analysts (p. 23). Using the actual models, as well as interviews and observation of interaction in conference calls, provides an understanding of how these mental models are representative of distributed action, that is, how they are co-constructed through negotiation of controversies between the various actors and devices throughout the process. Describing this process is a common outcome of a grounded theory approach, as well as being the basis for the explanation of the process suggested by Latour (2005).

While this case study may not result in explanations that can be applied to all financial analysts and public companies, much can be learned from studying context specific practices that can be added to the existing body of knowledge to increase our understanding of how managers and financial analysts interact in the construction of value, how calculation is performed in practice, and why certain inputs are chosen over others. Addressing these 'how and why' questions appears to fulfill the suggestions for future research that have recently been put forward:

> "A solid contribution of future research would be to adopt a research design that demonstrates a more direct link between the composition of income statement items that managers actually exclude from their earnings guidance, the timing of analysts' reaction to this guidance, and the composition of items that analysts actually exclude when preparing their analyses."
>
> (Bradshaw, 2011, p.12)

A case-based approach to the processes that occur at the interface of accounting and finance provides insight into how financial calculation works in practice, why some information is included and some excluded, and how analysts and managers interact with the models, the information, and frames that are constructed through this interaction. This insight will be gained from a description of how different experts, devices, and inscriptions are enrolled in a collective portrayal of financial results, how The Company interacts with financial analysts to communicate these results in a growing assemblage (Muniesa et al., 2007), and the way in which the collective formed is an actor-world that includes the analyst, the calculations, The Company, and numerous devices.

Table 4. 3 Analyst Data Summary

Analyst #	Years Following (During study)	Reports 2008	2009	2010	2011	2012	2013	Total Pages	Contacted for Interview	Interviewed	Inteview Length (mins)	Model
1	5		N/A	N/A	N/A	N/A	N/A		a	a	73	
2	6	10	5	4	4	7	5	207	a	a	45	a
3	1						5	66	a			
4	4	1	6	4	6			137				
5	2					1	2	47	a	a	46	
6	2				2	2		69	a			
7	3				2	10	5	116	a			
8	2	4	3					98				
9	2	4	4					45				
10	3		1	2	5			73				
11	5		4	3	4	4	3	116	a			
12	1						2	20	a			
13	2					9	6	170	a			
14	4	1	9	4	3			128	a			
15	6	N/A	N/A	N/A	N/A	N/A	N/A		a	a	49	
16	4		3	3	3	6		219				
17	6	8	9	4	5	15	8	484	a	a	58	a
18	6	4	6	3	3	10	3	200	a	a	53	a
19	4	4	4	7	3			85				
20	2					6	6	140	a	a	50	a
21	2					2	5	43				
22	3				4	22	15	249	a	a	61	a
23	3	7	5	5				104				
24	1						6	146	a			
25	1					6		32				
26	6	N/A	N/A	N/A	N/A	N/A	N/A		a	a	62	
27	6	7	7	4	3	7	1	261	a			
27		**40**	**61**	**39**	**43**	**100**	**62**	**3255**	**18**	**9**	**8.3**	**5**
											Hours	

Table 4.4 Conference call Summary			
		Recording	**Transcript**
Fiscal Year	**Quarter**	**Time (H:M:S)**	**Pages**
2007	Q4	1:00:24	19
2008	Q1	0:53:32	17
2008	Q2	0:34:37	16
2008	Q3	0:36:29	16
2008	Q4	0:46:43	15
2009	Q1	0:38:36	12
2009	Q2	0:51:50	17
2009	Q3	0:40:37	13
2009	Q4	0:45:50	16
2010	Q1	0:31:23	9
2010	Q2	0:45:03	14
2010	Q3	0:41:33	9
2010	Q4	0:47:48	12
2011	Q1	0:31:06	8
2011	Q2	0:28:22	8
2011	Q3	0:35:45	10
2011	Q4	0:41:17	10
2012	Q1	0:34:31	10
2012	Q2	0:43:00	12
2012	Q3	0:40:33	10
2012	Q4	1:12:00	20
2013	Q1	0:49:53	15
2013	Q2	1:00:03	17
2013	Q3	0:28:49	8
2013	Q4	0:58:20	14
25		**18:18:04**	**327**

Table 4.5 Data Coding Examples

Financial Analyst Interview Questions	
Questions	**Representative Response from Data (All sources)**
Demographic Questions	
How long have you been an analyst? Total time	**See Table 4.6 for a summary of this data.** (Note, to ensure confidentiality, Place of Education, Position, and Prior Firm has not been included in Table 4.6)
Level of Education? (list all)	
Place of Education? (list all)	
Professional Designations? (list all)	
Years with current firm?	
Position?	
Prior Firms and years with each?	
General Questions about Work/Firm/Organization	
How did you choose the companies that you follow?	It's a combination of both. I cover large capitalization Canadian mining companies. There aren't that many. So...do I pick, yes, I pick which companies I want to cover. But there are certain companies I have to cover. So, it's a combination of both.
How many companies do you follow?	Okay, so, I cover 22 names in the base metal...jr base metal, minor metals base. I've got one associate, and I'm part of a larger mining group that cover precious metals, bulk commodities...
Is there a particular industry that you follow?	I'm a bit unique in that I cover both base metals and golds, which is somewhat unusual. Typically you'd focus on one or the other, as an analyst.
Were you assigned/trained/educated/personally interested in the industry/companies that you follow?	I choose them because I think they're interesting stories...good management teams, and ...there's a level of interest from our buy-side clients who want to understand the company and want to get to know it better.
How is working in your environment (Govt/Sell/Buy/Institutional) different than other analysts?	Oh absolutely...yeah...but there are only so many ways to slice an apple...or whatever they call it...You...in mining, we do very long term models, we build it up mine by mine, so we have a mine module for each individual mine. A discounted cash-flow analysis, and we build up mine by mine by mine...so there is only so many ways that you can do that.
Questions about the model	
How did you begin to model the companies that you follow?	Yeah, so, we start from the ground up. A mine is a mine, it's mining rock, with a certain amount of metal in it, whether it's gold or copper, or zinc, or whatever....so, we build up the mine from...as basic as we can get...how

	many tons are mined, what's the grade, what's the recovery, and...the technical reports the companies provide, or write, we use that as the basis...and then..uhh...we have to make decisions on what we think costs will be versus their projections, what we think production will be versus their projections...and run all the sensitivities around that. So...the quantitaive is, quote unquote "easy", I think. Putting the right spin on those numbers is where the experience comes in, and having seen hundreds of these things, and visited hundreds of mines, and twenty years of experience, and what you think is doable, and what you don't think is doable...
Was the method for modeling them based on a template, or did you create it yourself?	We create our own models from scratch. I have my own template, that we use, it's a bit different whether it's base metals or golds, but it is something we've built up over the last twenty years....or thereabouts. So, we do things a certain way, but it is certainly not a template that was forced on me by [company], no.
If based on a template, where did it come from?	Researcher note: all analysts contend that they built their own models.
What is the relationship between theory and practice in modeling equity valuations?	I would say...uh...you know, only about 10% derived from, sort of, the MBA feedback. About 40 or 50% from the CFA. And then the remainder, or the majority of it is from, over time, establishing what clients want to see. Right? How they want to see the numbers run. What do they want the model to tell them. You build the model that way. So, most of it has come from industry contacts, and institutional client queries, on what they want to get out of a model. And you build it for that.
How closely does your modeling correspond to what you learned in school/professional programs?	(laughing)....look...I did my MBA...almost 25 years ago now...we had a course on net present value, modeling...not a course, I think one lecture. Right? And that was it. So, it...basically, I've learned as I went along.
How/why is it different?	I mean, that's…so, you can build, you could model a mining operation from first principles... But you've got to be able to update the thing, so…there's no sense, for the most part, doing that.
What earnings measures are important to you? GAAP vs Non-GAAP? Why would one be more important than another?	.....(Long pause) I would say that the rule of thumb that I use is that, we use the pro forma numbers because some of the accounting adjustments we can't model for. Right? Things like the derivative adjustment, or F/X adjustments, gains or losses. If it can't be modelled, uhhhh, then we...we sort of try to back it out...and that leads us to the pro forma analysis.

Is there firm proprietary software that you use for valuation modeling?	Just Excel. Uhh…..I…when I got to Burns there were some hand-written ledger paper models that we lying around, but, yeah. Well, back then it wasn't Excel, it was Lotus, but, the same thing
How does the availability of information affect the model?	Uhh...you know...a lot. They have to provide us guidance, or we're working with nothing, thin air. Uhhhm...so, management will typically say...[The Company] for example, will tell you, "we're going to produce this many pounds of [commodity] this year from this mine..." We have technical studies that tell us, more or less, what the tonnes and grade are going to be. And then...we...we basically run with that, and, you know, do we think they'll meet their guidance, yes or no, do we think their costs will be what they say they'll be, yes or no, and try and work around that.
How do you decide what information is included/excluded?	We try and strip all that away and come down to an operating number. Which they do provide now. They provide you with a breakdown of the various adjustments are. More and more companies are doing that, so that we come down to what the operating number is....'cause going into the quarter, we forecast a certain EPS number. We don't know what all the adjustments are going to be, we just have an operating EPS. Typically we don't know. So, we're trying to strip down what they report to what is equivalent to the number that we estimate.
What would cause you to change this decision?	Yeah. If management decides to suddenly disclose something critical about one of the operations, which is rarely the case, especially with [The Company]. They're...like...it's down to a science, what they disclose, and everyone's on board, they all know exactly what they're allowed to say, what they're not allowed to say. But if they were to say, for example, you know, when we're having a little bit of extra trouble at [Project]....[Project] is a project that is starting up this year....maybe they say, you know, the first couple of test holes that they drilled weren't as successful as they were hoping, and they just let that slip. That might change our view. We might have to push back by one quarter our [Project] startup. We would update our model. But, again, saving what we just had. And then publish a new report, with that new model data incorporated.
What qualitative information do you consider when you are modeling?	A lot of the qualitative stuff is through, you know, seed level interviews. And you're trying to get to management credibility, right? Whether or not you actually can

	reconcile to how they see the business, and whether or not these targets are achievable. I mean, that's the key thing. And that's by discussion, by discussion with management as often as you can. One of the most important things that you do, in my franchise, anyway, is to go on the road with management. To do non-deal roadshows, which is essentially chaperoning them to go see shareholders. To understand the types of questions that shareholders are asking, and how they answer them. And that is, without a doubt, the single most important thing in the qualitative aspects of understanding company strategy.
How do you quantify that?	Uhhh....It doesn't....uhmm...well, there's two ways...firstly...how...how aggressive are you going to be at the base case. We have these technical reports, that's management's guidance. Right? How do we handicap that? Right? A more credible management team, well, maybe we'll bake into, you know, a lower cost inflation premium, or some type of escalation, because management has proven, through track record, that they can hit their cost targets, for example. Or capital cost, where the company says the mine is going to be 2 billion, and usually we can handicap it by saying, well, you know, we're going to give you 30% escalation factor. But the more credible management teams, who have a track record of building mines in time and on budget, we'll use a lower, right? Companies that have a stronger track record, and a more credible management team, we'll use a lower discount rate for those cash flows. And, so, there is a lot of ways that you can...you can factor in that. There's also the aspect of the multiple at which the company will trade at, this is also a function of management's credibility as well, because this is how the market will handicap that asset...the value of that asset.
How do you decide what information is reliable/relevant?	We pore all over it. Yeah... all the filings. I think that…as mining analysts we've been instrumental, after the Bre-X fiasco, with all that, to avoid disclosure, in a format, proper, diligent, disciplined way. And 43-101's still require a lot of wrinkles to be adjusted, and some of them are really at the edge, so, uh…and we know what they are. You know, once you're a pro, you read them, and you know exactly what you're looking for, and you don't take everything as is. Or you don't really take…you take the things out of it that you require for your decision making process. Uh….production. Costs…commodity prices. Uhm….taxes. Depreciation, to some extent, cash

	flow focus. All of the critical issues. Like we don't really…exploration spending, if it's a major company spending 200 million dollars in exploration. If you're spending 20 million dollars I don't care that much, okay? But, we don't care about small stuff. You know…admin costs, or whatever. We keep a general line for the sector.
What aspects of your relationship with management are important?	uhm….well it depends what level of management. So, if there's information I'm missing from the model…uhhmm…I mean, for the most part it's all written down somewhere, but if there's some, if I need some help with gaps in the information or interpreting it, or what have you, that…information that's going into the model, then I'll talk to, for the most part, just their IR group, and get clarification, that's easy. Whether it's on taxes, or whatever. But, in terms of my interaction with…uhm…senior management, the senior executive group, that's…doesn't really go directly into the model, it's more interpretation of…the output model I guess…yeah…I'm not phoning [CEO} to ask him what numbers to put in my model, that's for sure.
<u>The process of 'modeling'</u>	
Are their different stages to your process of modeling?	There are two separate files, or models, I guess, but they're not…one of it just keeps track of quarterly data, and so the NAV's going to change with the Balance Sheet, quarterly, so that's updated. And then anything that needs changing in the operations or in the financial assumptions in the annual model gets updated once they've…and particularly that, because it's annual, and they'll give you new annual guidance. So, we rejig everything. So, I don't know, they report, I don't remember when they report now…these guys have generally been hopeless at timing. They're getting better, but it'll take…depending on…well….this quarter, probably won't take more than half an hour to fiddle with the model. The year end, model's got to be updated, all of the financial actuals have to entered, because we forecast, what we put in the model, first and foremost, is the reported statements, so you've got to model to that. And, so, all that, balance sheet, statements of changes, income statement, it's all got to be, all that data's got to be entered, and all the segmented data. Because that's where you get…derive all of the cost per pound numbers for example. That's not really what we're going after, but

	that's how you generate it, out of all that, so you've got to update it all. So, year-end'll take, I don't know, it can be done in pieces, but to measure it in hours, a couple hours, probably.
What is the relevant informational input at the various stages of the model?	Well....multiple sources of information...obviously the MD&A is very important. And we go through that with a fairly fine tooth comb. There's time limits to what time we can devote to this...
How does the model change when you make updates to it?	...Yeah....so, their conference call is on Monday...and....after the upcoming one. But, actually Friday after market is when they've said they're going to publish their....a news release with all of their operating numbers. So, what we'll do is, on Friday after market, because it's after market, I mean, there's no point in putting out a research report that day. Because all of our clients have gone home. So, we'll have the weekend to be able to work on it. So, we'll get the numbers on Friday. We'll take our model. We'll save a back-up of it, so we know what our numbers were before. And then we'll put in the new numbers, updating the area of our model that previously had projections for the fourth quarter of 2013, they now become actual data. So, there's going to be a difference between what we were projecting and what was actually the case as reported by the company, and it's those two sets of data, what we were looking for and what came in, that will show in a research report that we will publish, on, hopefully, Monday morning. So, at [my firm], you know, we tend to....depending on, I mean, on an Annual Report, we'll probably put out two separate reports. So, we'll probably put out a shorter update, when we get the numbers, initially. And then will come the conference call, and then if we learn anything more on the conference call, that changes our view, or clarifies certain things that we think are important, we'll put out a second report with that extra information in there.
Do you have to change assumptions, calculations?	Sure. We build a quarterly model, in terms of its time frame. And it essentially...the structure is to start off with the broad economic assumptions of what are the key external drivers of [the Company's} business. Which is essentially the uranium price, the [Agreement] price. Currencies. CPI. The general macro indicators that are not really under their control, but which have a key driver of earnings. Then, subsequent to that, we get into the actual operations themselves. The production, by asset,

	by mine, of all their business segments, which there are roughly about five. And so we do a mine by mine analysis based on the technical information that the company provides. Our own feedback from our own site visits, to generate this pro forma production profile. Pro forma cost profile. Capital cost profile, and basically, within every asset, and in every business segment, we're trying to create sort of a mini-company, on its own, as a sum of the parts, what is this business line worth? Right? So, each asset of itself has its own income statement, balance sheet, capital cost production profile. So it is, almost, within a vacuum, and then of course that all comes together in a consolidated fashion to create the company valuation.
Questions about information gathering	
Are you following company X?	Since the IPO.
How do you go about modeling company X?	Uhm…there's the..there are two pieces to it. There are two separate files, or models, I guess, but they're not…one of it just keeps track of quarterly data, and so the NAV's going to change with the Balance Sheet, quarterly, so that's updated. And then anything that needs changing in the operations or in the financial assumptions in the annual model gets updated once they've…and particularly that, because it's annual, and they'll give you new annual guidance. So, we rejig everything. So, I don't know, they report, I don't remember when they report now…these guys have generally been hopeless at timing. They're getting better, but it'll take…depending on…well….this quarter, probably won't take more than half an hour to fiddle with the model. The year end, model's got to be updated, all of the financial actuals have to entered, because we forecast, what we put in the model, first and foremost, is the reported statements, so you've got to model to that. And, so, all that, balance sheet, statements of changes, income statement, it's all got to be, all that data's got to be entered, and all the segmented data. Because that's where you get…derive all of the cost per pound numbers for example. That's not really what we're going after, but that's how you generate it, out of all that, so you've got to update it all. So, year-end'll take, I don't know, it can be done in pieces, but to measure it in hours, a couple hours,

	probably.
What characteristics of company X make if different/challenging to model?	Costs….No…cost by individual operation. Or…or that they would report operating statements for each individual operation. So, that's…the other companies either report costs, or…that's not how I would model it in any event, on their reported costs…
What's the most important source of information about company X?	Uhm…the annual financial statements. The AIF. To the extent that that's…there's some stuff that some companies put in there that they don't put in their annual report, for example. Uhm…you know, press releases. Technical reports, now. And…to get the detail on the operations. Though, I don't, actually, use that much for [The Company]. Uh…and, I don't know what else…conversations with the company. And …that probably does it. I mean it's, yeah, I mean, there's some stuff that shows up in the press, but that's not usually for modeling.
Is the conference call important?	Oh, you've gotta listen to the conference calls. Yeah. Because you've got to go through the disclosure every quarter when they report. And any other times they might schedule them. And, the calls are, yeah, you've got to listen to the calls. Sometimes they're useful, sometimes they're not. But, you don't know until they're over, so…
How do you do a "management assessment" of Company X?	Not really, but there is an adjustment that we do do...you know, we try to derive this kinda singular number of what the value of the company is in relation to the share price. And then we attach a multiple to that, right? On where we think, not only will the company trade, but where the company will trade in relation to its peers, based on their strategic position amongst their peers. So a company with a lower quality management, or not a very good, strong track record when it comes to meeting targets, should trade at the lower multiple, right?
Company Management Interview Questions	
Please describe your background, education, professional affiliation if any, and experience.	Please see table 4.7 for a summary of this data. (Note, to maintain confidentiality, certain data has not been included in Table 4.7)
How is the corporate financial reporting function organized within your company?	Yeah, the hierarchy…I'll start with my role. Vice-President…beneath me there is an assistant controller, a manager of financial reporting who is currently fully immersed in the IFRS conversion project, ah, we also have a supervisor of financial reporting and numerous senior account/accountant level people, virtually all of the people involved in our financial reporting process are

	designated accountants, ahh, those who are not are actively pursuing a designation of one form or another… just in terms of…the reporting itself…the process that, you know, we go through in order to go through it is very comprehensive. So, you know, any time anything goes out from here it's been scrubbed, you know, it's gone through legal, it's gone through finance, and it's gone through our, you know, our management upstairs, it's gone through our audit committee, it's gone through our board. So everybody's had a chance to look at it, and everybody has to sign off on it before it goes out to make sure that, number one, it's accurate, it's not misleading, that, you know, it's clear what we're saying, everybody understands this is what it means.
Can you describe the philosophy of your company's approach to financial reporting?	Well, certainly in terms of the reporting we try to be as transparent as we possibly can, and help people understand our business and where we're going. We provide some guidance in terms of, you know, year in advance. We don't provide earnings guidance. We provide some revenue, some cost guidance, and things like that, but we don't provide earnings guidance. Uhm, but really we just try and help people understand our business…
What is your involvement in the reporting of adjustments to Net Earnings? That is, how are you involved in the compilation, calculation, authorization, etc. of the figures that are reported as adjustments to Net Earnings to arrive at Adjusted Net Earnings?	So that's why my involvement would be quite heavy in setting up the appropriate process for setting up a market valuation. Then my involvement would be to back out of that, because I would not present myself as either a QP or a Subject Matter Expert on deriving those market values. So, the assumptions behind them have to come from others who we can point to who have the credibility and the credentials in those areas. Then I would be involved in the calculation of value based on those inputs by others. Part of the process of sitting down with the other Sr. Vice Presidents who represent those areas to make sure we're all in agreement and sign off on that. I would be involved in the discussions with the external auditors on the process we put in place and the number we derived. And then I would...if the external auditor wasn't comfortable with what we did or decided their own valuation group should have a look, then I would be the recipient of their methodology and their analysis.
Which of the adjustments are you	That's correct…and kind of in all facets, I guess, of, first

involved in making?	of all I tend to find opportunities for adjustment, partially in the compilation and calculation as well and authorization as well as the disclosure and description of them and the MD&A and other financial disclosure areas.
Can you describe the processes through which the GAAP revenues and expenses that are to be adjusted are determined?	...they are...so, if it's...there's a materiality factor which we loosely use say, about a $10 million guideline. If we have something that's non-recurring, that's kind of a one time thing, something that you wouldn't expect to see from period to period, that's something that we would adjust for. In Q3 of this past...you've probably seen this all before, but in Q3, of this year, we had a couple of write-downs of two exploration investments, and, by themselves they were less than $10 million, so if you were looking at them just with that kind of criteria, we wouldn't adjust for them. But, the reason for doing some of the...we had a few different write-downs that were all tied to a change in our exploration strategy, so we though, because it's linked to that, and cumulatively it's all more than $10 million, we adjusted for that. And it's just, really, because it's a....it's not something that, for comparative purposes, if you're reading the statements, it's not something that you would see from period to period, so it's something that would stand out that would be not normal.
Why were the items adjusted for the year chosen?	...so, the main, the one you'll see all the time is the adjustment of derivatives...that started back when...we used to...when the hedge accounting rules came out in, I don't know, 2006, 2007, it made it really difficult to hedge account. You need a lot of background documentation, you need a lot of work...a lot of work has to go on behind the scenes even to be allowed to do hedge accounting. So, I think we may have done that for perhaps a year or two, and then just decided it's way too much work to get the impact of hedge accounting. And we quit hedge accounting. You could elect to just get out of hedge accounting. So we did that. And, so in 2008, I think it was, is when we started, we would just adjust out the impact, to make it look as if we still were hedge accounting, and that's what our derivative adjustment is. So, you'll always see that, so that's not something that we even have to decide on period to period. We do a standard calculation, every month to say, okay, if we were doing hedge accounting, from a high level, this is

	what our earnings would have looked like, adjusting that out.
How are various groups and individuals from different areas of the organization (e.g. Mineral Resources Management, Legal, Treasury, etc.) involved in these identification and decision making processes?	So, the MD&A is drafted by our investor relations folks. The core disclosure group is three of the Sr. Vice Presidents, and ...it will, on a go forward basis, include the CEO, but it hasn't historically. Our past CEO's weren't particularly interested in being a part of the process. They wanted to be a gate at the end of the process. Our current CEO wants to be more involved in the process, which I welcome. That's actually a good development. So, it will be three of the Sr. Vice Presidents, the CEO. It'll be the Manager..sorry, the Director of Investor Relations. Our chief securities lawyer, in the company, and our VP Controller. Depending on what are the main fact changes, we will supplement the core disclosure group with the relevant people.
What is the practice common to your industry when it comes to the adjustments that you are involved in?	…in reviewing our peer group that we have, some use it some don't and the circumstances really tend to vary…ahhh… how would I describe it…I'm not sure if the analysis we've done would indicate there is a pattern of any kind.
How important is it for your company to present non-GAAP financial information that conforms to the general practice in your industry?	Certainly we look at their other documents just to see…because it's always a challenge to put these documents together, to make them readable for somebody. So we will look around at other companies and go…not so much in the uranium business, because we've probably been in it longer and most of the companies are much smaller, that are reporting, so they don't have many of the same issues that we do. They don't have, you know, a conversion segment; they don't have a generation segment. So we will look at other companies that are a little bit more vertically integrated, maybe oil and gas, or like, we'll look at [other company]. And just look at how they're reporting things, to see if we can make improvements, or if we like something that they're doing. We'll try and pull something like that in. So we do certainly look.
How important is it to conform to other general norms, for example, professional guidance from accounting, engineering and other	

regulatory bodies?	
Who do you think makes use of the non-GAAP adjustments reported in your company's financial information, and how do they use them?	I would say that it is specifically important to our sell-side analysts that cover us. And probably on the buy side as well, with the analysts that are, you know, modelling [The Company], and, I don't know… they will look at those, certainly to see what's been adjusted out, because normally their earnings forecasts would not include those numbers, because they would have no way of, sort of, modelling them, they would have no way of knowing what those adjustments would be on a quarter to quarter basis. So, we provide that adjusted number, because it would more closely reflect what they will be modelling, and what their estimates would have been for the quarter, or for the year. So, those numbers would be most important to them, to see what we've pulled out, and to see if it's comparable, then, to what they're modelling. 'Cause they'll, they'll be able to pick up the pieces in, you know, the revenue, cause we do provide some guidance on that, and we provide some guidance on cost, and uhm…and what have you, but they, those numbers are the things that just fluctuate from quarter to quarter, you know, depending on what the exchange rate is doing, or, you know, those sorts of things, so they just can't model them, in any way accurately, so they definitely use those numbers to…more as a comparison to… that adjusted net earnings would be more comparable to their estimate than just our GAAP earnings.
To what extent are the GAAP numbers important to these users?	If I think about the hundreds, if not getting to thousand, investor one-on-one meetings that I've done now, I can't think of a single investor who brought the financial statements with them to the meeting. A lot of them are armed with the MD&A, but, they're not carrying the IFRS statements with them. In fact, I'm not sure who those are actually for, but that's a different research project that somebody else can work on.
To what extent are the non-GAAP adjustments important to these users?	The Non-GAAP would be much more…reflective of what they're modelling…so….
What are the main vehicles for conveying the financial information to these users (e.g. analyst conference calls, earnings press	The primary vehicle for our communications with our investors is the MD&A. That becomes the written public disclosure. And it's supplemented through the course of the year with investor conferences, and it's supplemented

releases, securities filings, etc.)?	with investor one-on-one meetings. But, those are first and second derivative of the written public disclosure.
Which are most important? Does this vary over time, issue, etc?	Well, they'll pick this up [The Annual Report], so, you know, they'll phone us and ask "when are you reporting, what time is your report gonna come out"…they're waiting for it. Uhm…and they'll want to know, they would like to know the exact hour you're going to put it out, so…and that's one thing that we did change because we used to prepare it, and often it would get released at eleven o'clock at night, because it takes us that long just to get through the process to actually release it. Which meant that the analysts were sitting at work waiting, or they'd go home and eat supper and then they'd be waiting. So we've actually switched it so we embargo it over night and release it before the markets open the next morning so then at least the know when it's coming. So, they'll pick it up right away off the wire and go to our website and start, you know, pulling the numbers, and comparing them, and immediately, you know, many of them will put out a little brief report, saying "[The Company], earnings"… you know…"in line with our estimates", or whatever. And then, with our conference call that we hold shortly after we release the results most of them will be on that call and if they have questions during that time they can ask them. Many of them will call us after as well, so they'll just phone and confirm, you know…don't understand this, or, you know, can you explain that…so they, just really, it's a number of channels, but, the primary one will be initially this release, and the conference call, that first conference call.
Do the expectations of these users affect the type of information that your organization provides?	Yeah. We've made a lot of changes based on questions that have been coming up. We never used to put...we have operating properties, but we'll also purchase [commodity] products on the spot-market. So, we had never disclosed before what the cost of our purchased material was. Analysts were interested in that, so we started putting that in our MD&A.
Does the decision making process discussed in question 4 consider the users of information discussed in question 7?	If we were impairing an asset because, with IFRS treatment, you do your...uh...your undiscounted cash flow in order to cover...to get your recoverable value for the property, and it's tied to today's uranium, price, and if we believe that that actually wasn't a proper reflection of that asset, and how we would make a decision on that asset, because we'd be making decision about...what we believe the future [commodity] price was... ...we might adjust that

	out. We might say that, under IFRS there is an impairment because you're basically utilizing today's market values. You know, if it's a fair value assessment you're sticking a for sale sign on it today. And what would it likely sell for. But if we believed that asset was part of our longer term strategy, and therefore it's the uranium price in the future that should dictate it, we would take an impairment, and call that an extraordinary item, and adjust it out. But those are really the only two things that we would navigate by.
What do you think the effects on your organization of **not** reporting Adjusted Net Earnings would be?	Well, I think they'd have a hard time reconciling their models. And we'd get a lot more calls. So, you know…'cause they'd be going "well…you know, we were way off that quarter…why were we so far off?". And you know, we're either going to be a huge disappointment every quarter, or we're going to be great, but they're going to want to understand why, and so, you know, you're going to have to walk them through this process: "…well, you know there was hedging, and we had to make these adjustments…" because they are just not going to have any sense of what those are.

SSF Manual - Calculation	
Identify a new decision-making tool: a formula, visualization, machine, or artefact.	..yes…we have a...actually, in the course of the last few years we found that we were always recreating the wheel, so last year we implemented....actually, a standardized valuation model
Examine how the tool was designed.	For us it's a fairly pure and simple exercise because we just use Excel. Now...we might use Excel with some risk programs on the side, where you can do some Monte Carlo, or probabilistic analysis. If you can assign what I'll call 'ranges'...so, maybe worst case/best case, but some distributions around some of your key variables. So, price or OpEx or CapEx, foreign exchange rates, some of the key items you identify as key risks for the project, and then you can do probabilistic analysis. It's kind of.....it's basically building a distribution curve around what that potential value...so you can get a sense of how risky it is. I mean, is it, you know, right on the borderline of, it could be worth plus a billion or negative a billion, or is kinda worth 500 million plus or minus a hundred million? So, you get a sense of the riskiness of the asset. Well, we build all those in house, basically using Excel
What actors were involved?	So, the geo's will use Vulcan, or whatever geological models they use, NTR or whatever, to build the geological database. Then our mine engineers and metallurgists will use whatever systems they use in order to, you know, they'll do 3-D mine plans on a conceptual model to develop, you know, whether they're going to use long-hole stoping or, whatever kind of mining method, what's the most efficient, and then generate capital and OpEx estimates which we then drag in. So, all we're basically dragging in is the numbers. Production volumes, grades, OpEx, CapEx, so it's.....we're basically numbers driven, but we're trying to make sure that technical information is being translated into proper financial information. In order to make sure that our model is representative of what we think this asset can...can do.
What issues were taken into account?	Suppose we had a mineral property that we were looking at as...on a fair value basis under IFRS. Its carrying value would be greater than its fair value. But mineral properties that aren't in production, you actually have to make some assumptions about what a pound in the ground is worth. You do that by doing a bit of a proximate evaluation. So, you look at the recent transactions, so, recent is subject to assumptions. You look at transactions for similar type properties, geologically, in similar type jurisdictions, geologically. Okay? And you do that proximate evaluation, so you line up other transactions you try to determine what would be an appropriate price for the resources

	that you have in the ground, for that mineral property that's not producing, and probably won't be producing for another decade. So, in terms of thinking about the uranium price today that you're going to assign, because, remember, fair value is its mark-to-market today. We would turn to the price reporters.
What theories/models informed their choice?	So, we produce a range of estimates which formulate discounted cash flow. And then we'll come in and we'll apply, you know, projections from marketing on future views of [commodity] prices and marketing strategies. We'll look at taxes and royalties with the help of our treasury folks. And, so, we'll produce a fairly detailed DCF model in order to come up with initial views of valuation.
Explore how actors use it in practice.	But the ultimate model itself gets reviewed by, I would say, for instance, me...I might be running the project, but then we'll have a second, a kind of like a cold-eye review. A second person within our Corporate Development department will come in and make sure the functioning of the model, to the extent there have been any modification, is still valid. So, they won't necessarily come in and validate all of the assumptions, but they'll make sure that there are no bugs, or dis-functionality within the model itself, that it's producing a true result. And then ultimately we go before the management team. So, the six executives on the sixth floor. So, we produce, in a fair amount of detail, our valuation estimates, and the key assumptions behind those. And we may get into a discussion around the variability of some of those, depending on how the key variables change, so the probability, or the sensitivity to the valuation for key variables. And once management is comfortable, and has signed off that this is something that we'd like to go after, then it gets elevated to the sub-committee of the board.
How does the tool shape value?	But I would say our primary focus is on the DCF. And we've had a good history of using our technical resources...I'll show you...I'll use an example...so, there was an asset in [foreign country] owned by a public company, it was eventually taken over by a Chinese sovereign company. But, they had initially produced cost estimates, both capital and operating, for that asset. We came in and did our own desk-top due diligence with our cross-functional team...I believe we came up with a CapEx estimate that was roughly triple, and an operating cost estimate that was roughly double what they were producing for public

	consumption....juniors typically low-ball stuff, I mean, that's how they survive. But, over the course of time, those estimates, as they went through PFS and feasibility study, migrated towards our original estimates. So, for us, it gives us comfort that we are having the right kind of people look at our projects, and evaluate what the value could be.

Exhibit 4.1 Analyst Interview Questions

Demographical Questions:

How long have you been an analyst? Total time

Level of Education? (list all)

Place of Education? (list all)

Professional Designations? (list all)

Years with current firm?

Position?

Prior Firms and years with each?

General Questions about Work/Firm/Organization

How did you choose the companies that you follow?

How many companies do you follow?

Is there a particular industry that you follow?

Were you assigned/trained/educated/personally interested in the industry/companies that you follow?

How is working in your environment (Govt/Sell/Buy/Institutional) different than other analysts?

Questions about the Model

How did you begin to model the companies that you follow?

Was the method for modeling them based on a template, or did you create it yourself?

If based on a template, where did it come from?

Is there firm proprietary software that you use for valuation modeling?

How does the availability of information affect the model?

How do you decide what information is included/excluded?

What would cause you to change this decision?

What qualitative information do you consider when you are modeling?

How do you quantify that?

How do you decide what information is reliable/relevant?

What aspects of your relationship with management are important?

What is the relationship between theory and practice in modeling equity valuations?

> How closely does your modeling correspond to what you learned in school/professional programs?
>
> How/why is it different?

What earnings measures are important to you? GAAP vs Non-GAAP? Why would one be more important than another?

<u>The process of 'modeling'</u>

Are their different stages to your process of modeling?

What is the relevant informational input at the various stages of the model?

How does the model change when you make updates to it?

> Do you have to change assumptions, calculations?

<u>Questions about Information Gathering</u>

Are you following company X?

How do you go about modeling company X?

What characteristics of company X make if different/challenging to model?

What's the most important source of information about company X?

Is the conference call important?

How do you do a "management assessment" of Company X?

Exhibit 4.2 Manager Interview Questions

The following questions have to do with your involvement in the financial reporting process of your organization, as it relates to non-GAAP earnings measures. In the following questions, 'adjustment(s)' will refer to the pro forma adjustments made to the GAAP revenues and expenses reported in your company's audited financial statements. These adjustments have been made in the calculation of 'Adjusted Net Earnings' as reported in press releases, financial statements, and securities filings for the year end reporting requirements.

Please feel free to add any additional comments that you believe will be useful in enhancing the researcher's understanding of the calculation and reporting of non-GAAP earnings measures.

1. Please describe your background, education, professional affiliation if any, and experience.

2. How is the corporate financial reporting function organized within your company? Can you describe the philosophy of your company's approach to financial reporting?

3. What is your involvement in the reporting of adjustments to Net Earnings? That is, how are you involved in the compilation, calculation, authorization, etc. of the figures that are reported as adjustments to Net Earnings to arrive at Adjusted Net Earnings? Which of the adjustments are you involved in making?

4. Can you describe the processes through which the GAAP revenues and expenses that are to be adjusted are determined? Why were the items adjusted for the year chosen?

5. How are various groups and individuals from different areas of the organization (e.g. Mineral Resources Management, Legal, Treasury, etc.) involved in these identification and decision making processes?

6. What is the practice common to your industry when it comes to the adjustments that you are involved in? How important is it for your company to present non-GAAP financial information that conforms to the general practice in your industry? How important is it to conform to other general norms, for example, professional guidance from accounting, engineering and other regulatory bodies?

7. Who do you think makes use of the non-GAAP adjustments reported in your company's financial information, and how do they use them? To what extent are the GAAP numbers important to these users? To what extent are the non-GAAP adjustments important to these users?

8. What are the main vehicles for conveying the financial information to these users (e.g. analyst conference calls, earnings press releases, securities filings, etc.)? Which are most important? Does this vary over time, issue, etc?

9. Do the expectations of these users affect the type of information that your organization provides? Does the decision making process discussed in question 4 consider the users of information discussed in question 7?

10. What do you think the effects on your organization of **not** reporting Adjusted Net Earnings would be?

Exhibit 4.3 Latour's (1987) Rules of Method

Rule 1 We study science in action and not ready made science or technology; to do, so, we either arrive before the facts and machines are black-boxed or we follow the controversies that reopen them. (Introduction)

Rule 2 To determine the objectivity or subjectivity of a claim, the efficiency or perfection of a mechanism, we do not look for their intrinsic qualities but at all the transformations they undergo later in the hands of others.
(Chapter 1)

Rule 3 Since the settlement of a controversy is the cause of Nature's representation, not its consequence, we can never use this consequence, Nature, to explain how and why a controversy has been settled. (Chapter 2)

Rule 4 Since the settlement of a controversy is the cause of Society's stability, we cannot use Society to explain how and why a controversy has been settled. We should consider symmetrically the efforts to enrol human and non-human resources. (Chapter 3)

Rule 5 We have to be as undecided as the various actors we follow as to what technoscience is made of; every time an inside/outside divide is built, we should study the two sides simultaneously and make the list, no matter how long and heterogeneous, of those who do the work. (Chapter 4)

Rule 6 Confronted with the accusation of irrationality, we look neither at what rule of logic has been broken, nor at what structure of society could explain the distortion, but to the angle and direction of the observer's displacement, and to the length of the network thus being built. (Chapter 5)

Rule 7 Before attributing any special quality to the mind or to the method of people, let us examine first the many ways through which inscriptions are gathered, combined, tied together and sent back. Only if there is something unexplained once the networks have been studied shall we start to speak of cognitive factors. (Chapter 6) (258)

Source: Latour, 1987, p. 258)

Figure 4.1 Data Overview

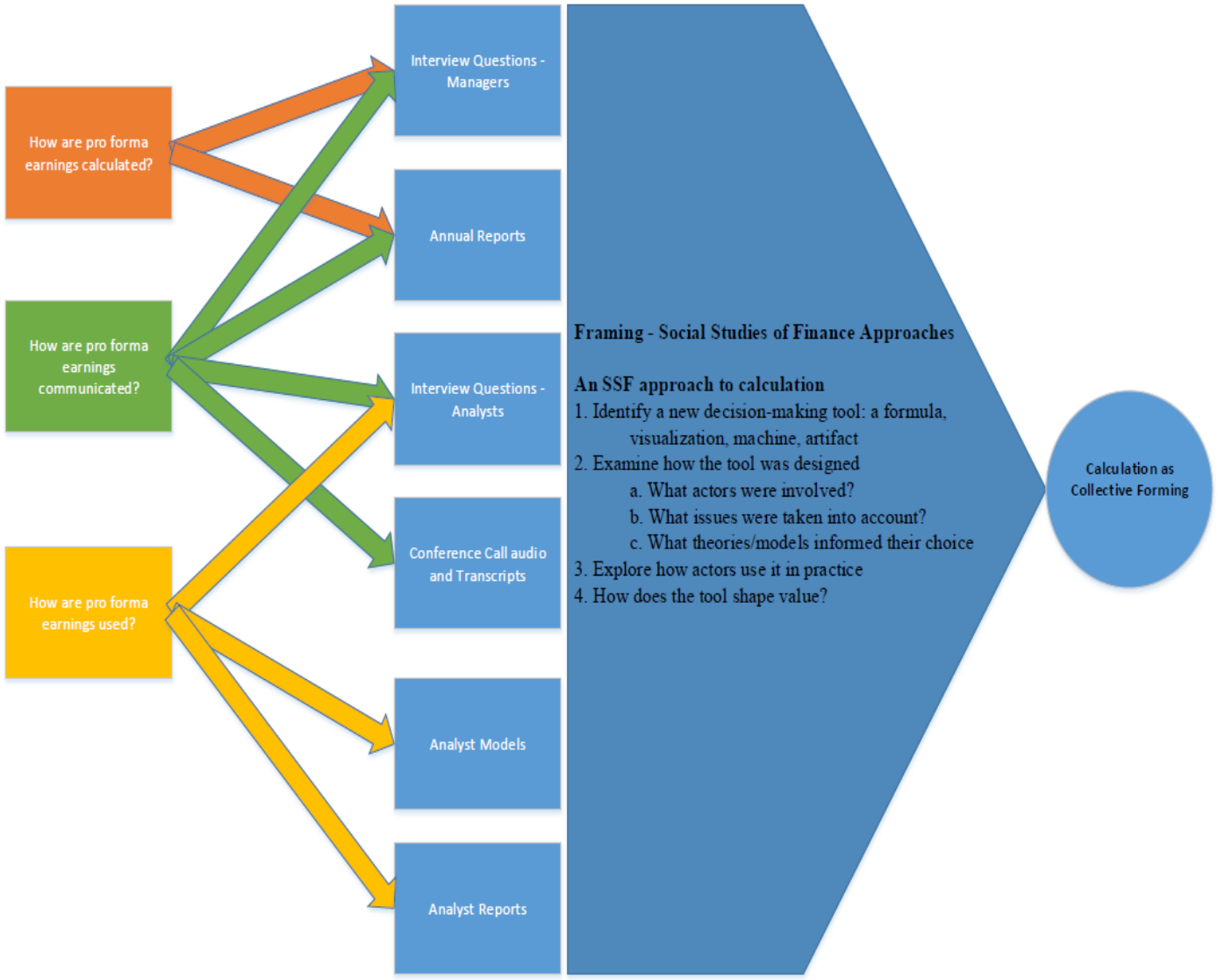


Figure 4.2 Calculative Frames (Beunza and Garud, 2007, p.26)

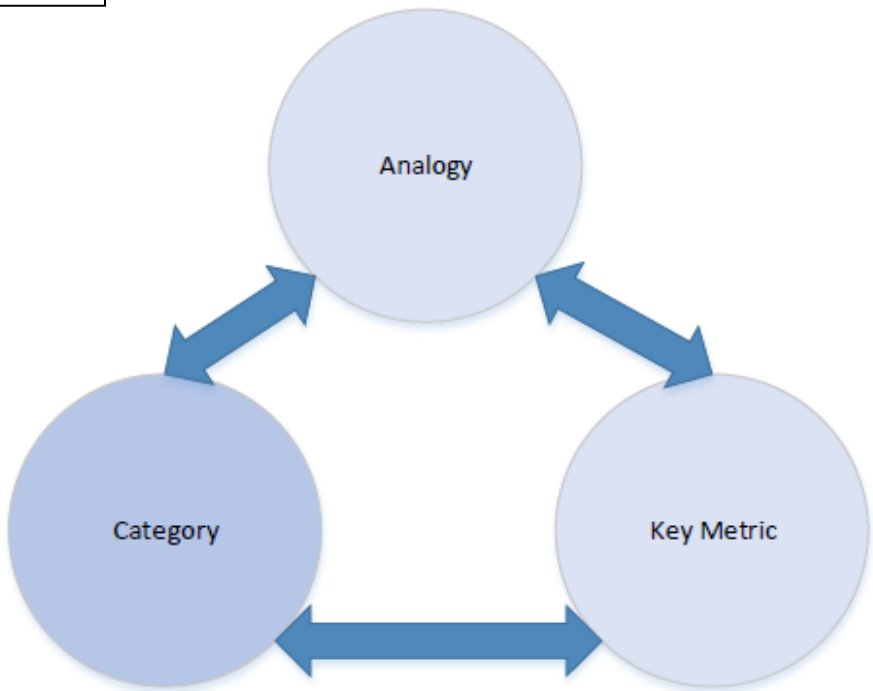


Figure 4.3 The Framing Process- the interface of accounting and finance.

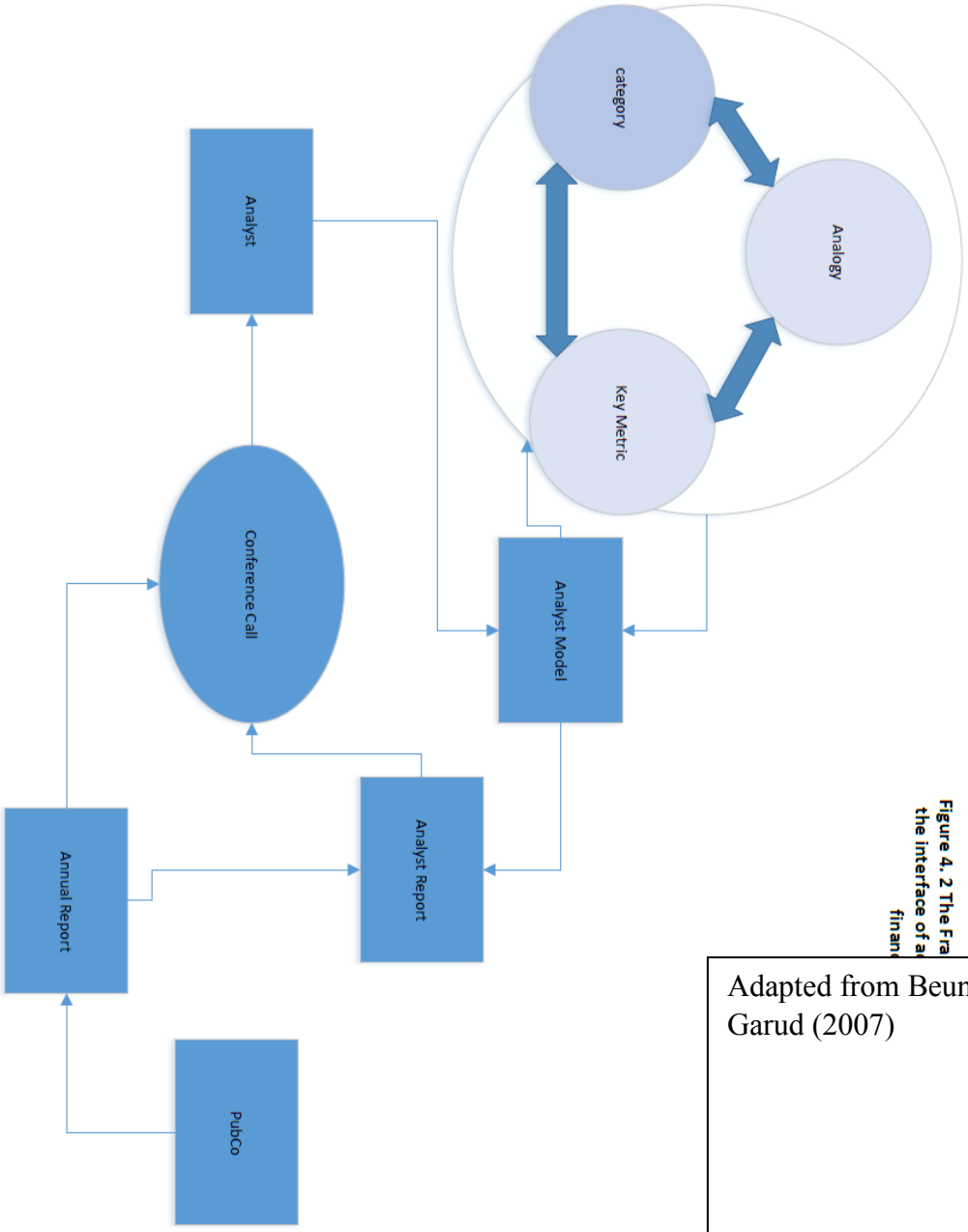


Figure 4. 2 The Fra
the interface of ac
finan

Adapted from Beunza and Garud (2007)

Chapter 5– The Production of Pro Forma Earnings

5.1 Introduction

This chapter examines the evolution of The Company's relationship with financial analysts, the evolution of The Company's financial reporting process, the relationship between the two, and the resulting current process for producing pro forma earnings. Describing the existing financial reporting process and how the process has changed over time illuminates various boundary objects that bring together The Company and different actor-worlds. These hybrid collectives support the process of framing the financial performance of The Company as pro forma, or Adjusted Net Income, rather than as IFRS Net Income. Through a calculative process that disentangles, associates, and reassembles different entities, The Company is able to frame a temporary, stable measure of value that it can justify and defend, despite the numerous uncertainties associated with calculation (Callon, 1998a), not the least of which is posed by determining the price of the commodity within The Company's somewhat unique product market. The chapter addresses the questions of how and why The Company calculates and frames pro forma earnings as Adjusted Net Income.

The management interview data and The Company's financial reports are used to demonstrate the influence of the analysts on The Company's disclosure practices, a finding which is consistent with much of the social theory-based research on the relationship between financial analysts and corporations (see for example, Zuckerman, 1999). The examination of this data, however, also demonstrates how The Company adopts disclosure practices to support the analysts in their calculation, while concomitantly controlling the amount and type of voluntary

disclosure, and the methods of certain mandatory disclosures. The Company also identifies and assigns roles for the analysts as spokespersons on behalf of the company. At the same time, knowledge of the analysts' modeling practices helps management construct their own valuation model, which serves as a boundary object that facilities the assembling of various entities, allowing connections to different actor-worlds.

The two opposing forces of influence and association suggest that the financial reporting process should be seen as part of the formation of a hybrid-collective (Latour, 2005)[13] made up of experts, inscriptions, models, numbers, spokespersons, and the commodity that The Company produces. This assemblage cannot be understood simply in terms of uni-directional power and influence of financial analysts on the firm. Nor can be it understood by focus on management as one "obligatory passage point" (Star and Greisemer, 1989). Demonstrating how different boundary objects connect the company to its different worlds, and are used to support and culminate calculations that are momentarily stable, thus becoming The Company's "story", allows an understanding of the settling of controversies over value as the accomplishment of a collective process (Latour, 2005). Within this collective that is formed, the process of framing The Company's Adjusted Net Income requires "the performance and organization of a large number of entities" (Callon, 2008), and is better understood as a multi-linear tangle of associations (Deleuze, 1991).

The chapter begins with a discussion of The Company's context. The development of the relationship with financial analysts is then illustrated. A description of the evolution of The Company's financial reporting process follows, and then the current financial reporting process is examined, identifying important meetings, documents, and processes. A focus on the process

[13] see also agencement (Callon, 2005), or assemblage (Callon, 1998a) or socio-technical agencement (Callon and Muniesa, 2005; Hardie and MacKenzie, 2007),

for reporting the value in one transaction is then used to demonstrate how The Company frames the value of a mineral resource investment, determining the write-down amount according to IFRS. Because the Company does not believe the IFRS number is sufficient, it further adjusts the number, resulting in a new/ elaborated depiction of Net Income that The Company calls Adjusted Net Income. Having provided a fairly lengthy description both of the process and the detail of a crucial transaction, the chapter provides an analysis based on the concepts and theories outline in chapter 3. Most notably, I use the notion of socio-technical agencement (Callon and Muniesa, 2005) to show how the process is dependent upon the work of many people, devices, and calculation.

5.2 The Company and its Context

Similarly to many industries, The Company's specific segment of the mineral resource exploration, extraction, and processing industry has implications for the financial reporting process. The history of The Company, as a private company turned public, in an industry with few similar public companies, poses strategic disclosure considerations around proprietary information. This is further complicated by the structure of The Company's product market, which lacks the terminal exchange facilitating price discovery that many commodity markets enjoy, and which creates some specific challenges when valuation of The Company's assets is attempted and subsequently communicated to the capital market.

When The Company went public in the late 1980's, its financial reporting function was directed towards internal reporting, and its investor relations function (and experience) was very limited. It had to develop its financial reporting practices for a public company audience, and it had to gain experience dealing with investors in an environment where both the company and its business were not very well known in the national and international investment community.

The Company is one of the few organizations s in its market that has public company financial reporting obligations. With very little information circulating in the market on price, and very few participants publicly reporting their activity, The Company is sensitive to the amount of proprietary information that it publishes, due to the possible negative effects on customer relationships: since The Company negotiates a contract price customer by customer, there is a concern that a favourable price gained by one customer would have an effect on the relationship with other customers.

Further, the resource industry in general has recently been marked by consolidation and write-downs, after a period of rapid expansion and investment through acquisition (Koven, 2013). This period of acquisition corresponded with a period of increases in commodity prices, and a subsequent slump that resulted in headline-making losses of many major acquisitions by many of the leading companies in the industry. Certainly, the cyclicality of the resource sector is well-known and taken for granted. However, in conceiving and executing its strategy, and in compiling its disclosure, The Company must consider all of these aspects, as it contends with market expectations, differences in long-term and short-term perspectives, and the release of proprietary information. Further, market perceptions of value are based on a highly uncertain future commodity price in an opaque and illiquid market. However, many firms in many sectors face comparable uncertainties, such as other mining, high-tech and bio-tech organizations, particularly those sensitive to multiple interest rate and currency fluctuations.

The Company operates in a segment of the resource sector that, while large in terms of dollar value and volume, has few participants and few transactions. These transactions are mostly based on long-term contracts between producer and buyer, where price is negotiated in the absence of a terminal exchange for the commodity that The Company produces.

Many sectors of the resource industry have an established, evolved market for their commodities that includes a number of actors and institutions, such as producers, consumers, traders and terminal exchanges that facilitate price discovery and assist in the valuation of resource projects. In The Company's segment, however, there are a small number of producers and consumers, there is no terminal exchange for the commodity, and there are few established traders. Many of both the producers and the consumers are state-owned entities, and have no public financial reporting obligations. Rather than the process of price discovery that is apparent in markets for resources like gold or copper, The Company's commodity price is derived by two main consulting companies that calculate price indicators based on the application of proprietary algorithms to market intelligence.

These two consulting companies serve as price reporters[14]. The price reporters compile information, obtained through direct contact with producers and consumers, about sales and purchase contract details regarding price, volume, and delivery.

> "… the price itself, is actually set by the same two companies that it's always been set by. So, [Price Reporter A], and [Price Reporter B], so...and is...it seems like it's done by, really, their intelligence that they gather, and people reporting to them…"
>
> (The Company Manager Interview)

> "Buyers and sellers....uh...somebody in that relationship always has an interest in talking to the two price reporters in our industry, [Price Reporter A] and [Price Reporter B]. If the market is rising it's the sellers who have an interest in telling [Price Reporter A] and [Price Reporter B]. If the market is falling, it is the buyers. But someone always has an incentive to talk."
>
> (The Company Manager Interview)

To reduce some of the reliance on the price reporters, The Company's Marketing department employs six analysts devoted to forecasting commodity prices. The Company performs its own market intelligence, and relies on its own experience with supply and demand,

[14] In an effort to maintain confidentiality regarding The Company, I have used pseudonyms for many prominent actors to avoid revealing the industry and The Company.

and its knowledge of its own contract portfolio, to try to forecast a commodity price. The spot and long-term indicators produced by the external price reporters, however, are also considered during this process.

The market structure is significant for The Company because of the relationship between The Company's contract sales, its efforts to derive its own forecast of the commodity price, and its resource property valuation. The spot and long-term indicators are important to The Company's negotiation with consumers, as sales are mainly done on a long-term contract basis. Some of the prices for these sales are based on the reported price indicators, plus some factor estimated for the price changes at the time of delivery. As most of these contracts range between five and ten years, the uncertainty of future prices, and the lack of market fundamentals, creates some controversy over value. These assessments of value are made by the Company as well as financial analysts to price the Company's securities, determine investment and disinvestment opportunities, and assess the future outlook for the Company.

When The Company has to examine its mineral projects on a quarterly basis for continuing value, as required under International Financial Reporting Standards, they are required to use some reference point for deriving a fair value for the deposit; one consideration in this process is the reported price indicator. As The Company often adjusts extraordinary gains and losses out of IFRS Net Income to calculate Adjusted Net Income, the market arrangement also has implications for the analysts framing of The Company's financial performance.

5.3 The Relationship with Financial Analysts

An important aspect of The Company's history is its initial lack of experience in dealing with the capital market, and an Investor Relations (IR) department was set up to close this gap. As the IR department developed, The Company's relationship with financial analysts became

more important, and progressed concomitantly. When it first went public, The Company was relatively unknown in the capital markets, and in order to grow the network of institutional investors and to increase The Company's profile, the IR group relied on the financial analysts, and developed contact with the wider investment community through them.

> "Oh....didn't know us at all. Even in Canada, they didn't know us....so, I can...I mean, when we started the IR program, that's when we depended on sell-side, to try to get us in front of some people. And then...and they did...I mean, they did a good job. They got us in front of mining...it was kind of ...well, where should we...that was the question: who should we market you to? I guess you're a mining stock, right? So, they go and sell this idea of mining...so...but, in the early days, I can remember that, yeah, it was the sell-side that got us in."
>
> (The Company Manager Interview)

This kind of reliance on, and contact with the analysts continues to this day.

> "Yes…Ah…sell-side we wouldn't generally go and visit, often the sell-side will take us, so we might ask the sell-side analysts…you know, we want to go to New York, can you set up meetings? Or, here's the list of people we want to see, um, can you arrange it, and then they'll arrange it all and take us…take us around. Sometimes we do it ourselves, too. Uhm…but that's what we use them for is access…"
>
> (The Company Manager Interview)

The ongoing contact with the financial analysts occurs through different channels and in different venues. Currently, the IR department conducts conference calls (which are open to the public, in addition to the analysts the follow the company) that are regularly attended by financial analysts; site tours, where the analysts are invited to tour The Company's facilities, escorted by IR and higher level executives; investment conferences where the interaction is somewhat less formal; and individual telephone calls, where the analysts will call the IR department to make specific enquiries.

> "We do… the Director, more so, than I do. He makes, you know, he spends a lot of time just phoning them to make sure, you know, if there is an issue, or whatever, and he gets a lot of calls. We do track them, uhm…I'm trying to think how many in a month we

> would …after a call, after a conference call it wouldn't be unusual for us to have fifteen to twenty calls just on the quarter results."
>
> (The Company Manager Interview)

While telephone interaction with the financial analysts on a day to day basis is mostly an IR function, specific analyst sometimes are referred to someone with more specific expertise:

> "There is the three of us (IR Managers)…and, uh, but we draw on, you know, all of our operational groups when we need information, so if we don't have an answer to a question and it's an operational question, we'll go to the operations group and we'll, you know, we'll say "here, we've got a question on this can you help explain it?" and we'll get an explanation and go back to them, so we do draw on pretty much everybody throughout the organization in order to answer those questions."
>
> (The Company Manager Interview)

The relationship has developed as mutually beneficial. The analysts have helped The Company "meet" the investment community and The Company assumes a shared interest in helping the analysts get their analysis done:

> "Uhm…and then their analysis of the company, they want to be as accurate as they can because if it's harder for them to model they don't want to follow the company, because they're going to always be way off, and their, you know, their reputation's going to take a hit. *So, we want, as much as possible, to be able to help them, uh, you know, get reasonable estimates* (emphasis added). And so, that's one way of doing it, is just say, "We'll help you adjust, we'll give you the adjustments that we've made that you wouldn't have been able to account for"."
>
> (The Company Manager Interview)

The Company does not know, specifically, what is in the analysts' models, but has indirect means of finding out what the analysts require. Several of The Company's management indicated awareness that directly working with the analysts on their models would show disclosure favouritism, and that it was probably prohibited under securities legislation. The Company did, however, make efforts to understand what the analysts needed, by acknowledging

their information requests, implementing a formal annual survey, and attempting to reverse-engineer their reports.

> "We aren't allowed to. We have a policy against actually handling their models. We work with a couple of former analysts, and they've shown us some ways we can basically take their...an analyst's report and back...reverse engineer it to kinda get close to...determine where it is. And, so, recently we've started with...uh....an internal model, which we are working to compare...not just us, but this is actually in the strategy department, and they're working on this internal model to improve our capital allocation process which, during the high times, like any company, it's, hey, we want to do this, this is the money we need, okay, we'll divvy it up, as opposed to saying, this is how much money we have, you guys tell me what you can do with it. And, so, we're kinda flipping things on its head, obviously being crappier times in [the commodity]. And so this Strategy group is now developing the formal model that really, I mean, I've seen the inputs, the spreadsheets, the stuff they've put into it, significant amount of work over a couple of years. And so that, I think will enable us to...*compare our numbers, our factual numbers and our view of the future to that of our analysts, and start to maybe get a little bit of a sense for where they're off, and determine where we can provide more disclosure and help them out* [emphasis added]. …That's kind of unique, I guess, but, all in all the point is, we'd like to know more about what's in their models but we have a policy against them sending us their model and us going through it. But we do have a few...detailed looks at what they provide where we can."
>
> (The Company Manager Interview)

This indicates that the analysts' models are important to The Company, and that they make considerable effort to be aware of what the analysts are doing and the information that they need to get to do it. And yet, there was some contradiction as to the importance of the model, and it's prominence in the management mindset.

> "Our analysts, sometimes they're resource analysts, our portfolio managers sometimes come from the mining or resource sector. Sometimes they come from the utilities sector. These are completely different mindsets. And, we just try to provide them the information. How they model us is how they model us. And we don't put out a model, we don't...I don't ask them about their model..."
>
> (The Company Manager Interview)

There seems to be the idea that they're working with the analysts, and also some indication that the analysts are offering a diverse viewpoint that provides a way for testing management's assertions. But at the same time The Company seems to be identifying a specific role for the analysts to play in the relationship; an ally, if not strictly an advocate, a shared responsibility for The Company's story, but not the model. The analysts' model is seen as their own responsibility.

> "...the reason we list the analysts who follow us, and don't have any problem telling you who they are is because we're actually encouraging you to go and get different perspectives on our view...I mean, test our view, validate it."
>
> (The Company Manager Interview)

> "Oh yeah. Yeah. It's...it's important because they will tell...they need to understand the story because they're promoting...otherwise promoting or not promoting, but they're the ones selling your story, and so, it's important they understand it."
>
> (The Company Manager Interview)

The diverse views that analysts provide can be critical of The Company, and the relationship can be controversial. Certain past criticisms seem to have had a lasting effect on management. At one point, an analyst called The Company "Sleepy Hollow" because it was not engaged in the merger and acquisition activity that was rampant in the industry. The Company's perspective on acquisition at that time was that the commodity price was too high, making acquisition a low-return strategy. But The Company was also sitting on a fairly large cash balance and was under pressure to invest it, or return it to shareholders. Criticism levelled at The Company from one analyst served as a long-lasting, and somewhat bitter, example of tension in the relationship, where the analyst did not agree with what The Company was trying to do:

> "...and you have to remember the history of that, well, you wouldn't remember this, but I do, when we were leading up to the big run up in [commodity] price, we were being

> soundly criticized for not buying anything. Oh yeah. We were the sleepy...you know, the sleepy company, too....kinda...too stupid to know to buy anything at this point, and...I remember the time we were looking at it....the messaging has to be now, because I was getting quite irritated by this....we're not over paying for stuff! Who buys stuff at the top of the market? You know? You people should be ashamed of yourselves for giving the CEO such a bad time! So, we started to kind of get the message out that we're not over-paying. You had to be careful, because there were lots of companies spending billions on projects."
>
> (The Company Manager Interview)

> "So, we're a conservative operation. We always have been, in various instances. Even in our acquisitions. Like, we don't...we've received criticism on that in the past, where we've sat on a lot of cash, or the debt that we have isn't significant. I always gotta laugh...one analyst called it Sleepy Hollow here. But we focus on things that we have a lot of expertise with, and try not to stray too far away from that."
>
> (The Company Manager Interview)

> "...it just got frothy, and I saw my former employer, [Rival Company], go out at the time and they bought some assets, and they paid 2.5 Billion Euros for...you know, they've written it all off. But that's the, you know, the excitement you get into. And so, we didn't do that. And we got criticized here for being Sleepy Hollow. They said, oh my god, everybody's out acquiring assets and companies, and you guys are snoozing."
>
> (The Company Manager Interview)

The dynamic relationship between The Company and the analysts is collaborative, but not without conflict. There is a sense that The Company is working with the analysts to construct a narrative, to tell a story, about The Company, and that story can be confusing, and sometimes unfavourable, as in the 'Sleepy Hollow' case. The conflict seems at once necessary and insulting: necessary, in order for The Company to establish itself as "conservative" (discussed further in the next section), both in its activities and in its financial reporting. Despite this necessity The Company seems taken aback by how the analyst would "dare" insult the management with the Sleepy Hollow label.

Even after two decades of developing a relationship with analysts, management views their role as an ongoing task in explaining The Company's performance in terms of its strategy.

> "And, so, we've got some long-term analysts that do understand the story. And even they don't, like, know it a hundred per cent, but they've got a very good understanding, comparatively speaking to twenty...you know, twenty years ago when nobody knew it....what it was...they didn't understand it."
>
> (The Company Manager Interview)

One important vehicle for ongoing communication with the analysts, and considered a way to promote understanding, is the financial reporting function. The Company believes that the Annual Report, including the Management Discussion and Analysis, supplemental information, and the audited financial statements with note disclosure, is the first point of contact with the analysts, who then serve as a significant contact to the larger investment community. As the relationship with the financial analysts has developed and strengthened, the financial reporting of The Company has also evolved. The financial reporting process is examined next.

5.4 The Production of Financial Reporting

Despite describing the overall corporate financial reporting philosophy as conservative, The Company is not completely adverse to change, and there were some changes to the financial reporting process over time, as new departments became increasingly important and new practices were adopted. The financial reporting function has evolved over the course of the developing relationship with the financial analysts, in terms of process, disclosures, and the focus which changed from IFRS Net Income to a pro forma earnings measure. The process for preparing the regular quarterly reports has grown to include the Investor Relations group in addition to the Finance department. The disclosures began to include more information directed

at The Company's perceived financial analysts' difficulties with modelling, such as averaged realized price and sensitivity graphs. The focus began to move towards the Adjusted Net Income number, a non-GAAP earnings measure that removes certain regular and unusual transactions that are required under IFRS.

What is disclosed and included in the annual report has changed over time. Significant changes identified by management include a price table that demonstrates The Company's average realized price on sales, and the sensitivity of the value of its contract portfolio based on near-term future changes to the spot price. The most significant change is the inclusion of pro forma earnings, called Adjusted Net Income, where The Company does a series of regular and extraordinary adjustments to the IFRS-based Net Income figure to arrive at an earnings figure that it feels is more representative of its performance.

Beginning with an examination of the corporate financial reporting philosophy undergirding The Company's approach to financial reporting, the changes in responsibility for financial reporting, the changed approach to mandatory disclosure, and the slow shift towards increased disclosure aimed at financial analysts are discussed in this section. A significant change in the responsibility for the process is the emergence of the Investor Relations department as a prominent force in the crafting of the financial disclosure. A change in mandatory disclosure is evidenced by describing the change in cash flow calculation method that the company used under IFRS. Examining the adoption of voluntary disclosure practices looks at the inclusion of the average realized price table, and the sensitivity graph that shows the effect of the changes in spot prices on The Company's contract portfolio. The emergence of pro forma earnings reporting, from the first unique transactions that lead to the adoption of the practice, to the regular and unusual items that have become a matter of course is then unpacked.

5.4.1 Corporate Financial Reporting Philosophy

The Company's management, across departments and levels, described the process for financial reporting as conservative, with stress on a commitment to transparency.

> "So, we're...and The Company as a whole, we're pretty conservative, in any sort of disclosure that we do, so, we always err on the very conservative side. So, anything that's kind of risky, and...they usually take a pretty conservative approach."
>
> (The Company Manager Interview)

> "well, I mean...The Company has...is fairly...has always been conservative."
>
> (The Company Manager Interview)

This perception that The Company is conservative applies to its own perception of its activities in general:

> "My perception would be that we're probably quite conservative [in our Financial Reporting], because we tend to be that way in everything, and so, I would say that we would take, probably a conservative approach to things."
>
> (The Company Manager Interview)

Upon further reflection, managers began to draw connections to the disclosure and how The Company is "really" doing, indicating that IFRS does not provide a true picture of corporate performance, and leading to a justification for using pro forma earnings.

> "We're trying to extract certain things to allow our followers to get a better sense of how the company is really performing. We've also done reviews through our IR group with those who follow us just to get a sense of whether or not they like what we're doing here with the adjustments, and for the most part they adjust these things out for themselves is the feedback we get, so they appreciate our view and us doing it for them."
>
> (The Company Manager Interview)

When the financial reporting philosophy was considered, it was the analysts' needs in particular that were prominent:

> "Well, so, you got a story...every MD&A, every quarter, you're talking about the earnings, you're talking about your operations, so, Investor Relations are the ones that form the story. You had good earnings this quarter. Well, why, and how are you going to...how are you going to frame that? If you had a loss this quarter...again, how do you frame that? How do you provide context to that number, and just to, again, it's to try and inform the investor, the shareholders, as best as possible, without misleading. So, we're...and [The Company] as a whole, we're pretty conservative, in any sort of disclosure that we do, so, we always err on the very conservative side."
>
> (The Company Manager Interview)

But the desire to provide information was also tempered by the perceived uniqueness of the industry, causing a sensitivity to disclosing proprietary information. Because The Company's sales are based on long-term contracted prices, management is very concerned with price information being published that would adversely affect the relationship with customers. At the same time, however, management is aware that financial analysts would be able to make use of more information regarding actual realized contract prices.

> "Like, we have a set list of what our investors want to see, we add to it, take from it, as things become important over time. But every quarter, with that Tone Meeting, we do push and say, this is what they want to see. And then we'll have [Manager] or somebody in the Corporate Development side or somebody in the Marketing side say, okay, that's nice, again, we're not ready to show that yet. And so there is a dialogue back and forth, to ensure that we're giving as much as we can, and, we've changed over time."
>
> (The Company Manager Interview)

The IR department presents itself as a liaison between the market and the rest of The Company, and advocates for more information to be released. The idea that the company is conservative towards financial reporting seems to prevail. This conservatism was extended to the non-GAAP earnings measures as well, for both the regular adjustment for foreign exchange fluctuations on derivatives, and the unusual items:

> "…the reason we put in the adjusted earnings for hedging is because we're conservative. We want....even though we're comfortable discontinuing hedge accounting and having

> that volatility, we want to make sure we get our story out so people don't get swayed by...uhh...volatility that might be misleading...to investors. So, again, by the adjusted earnings we hope that that actually helps them understand what's going on, as opposed to just...they don't understand our results."
>
> (The Company Manager Interview)

> "… and its coming back really to fairness and conservatism and what not, we're not cherry-picking: pulling out the bad stuff and keeping the good stuff in this respect, we are being consistent in the application of what we consider to be unusual items."
>
> (The Company Manager Interview)

The Company at once has to deal with its desire to build a relationship with the financial analysts and to ensure that they "get the story right", especially in light of The Company's early relative obscurity. At the same time it is faced with being one of the few entities with public company reporting requirements in its industry. The problem is made more complex by the opacity of that market, where the financial analysts have very limited access to the information they require. The Company is faced with a delicate balancing act that leads to internal controversies over framing the numbers: mitigating the risk of releasing proprietary information that might potentially damage customer relationships while recognizing that it is important to get some of that proprietary information into the hands of financial analysts so that they may accurately tell The Company's story.

The Company has taken conciliatory measures over time to communicate more effectively with the analysts, and to release the desired price information. Some of these are examined in the following section.

The Company has changed the financial reporting process to involve more directly the IR department in the drafting of the narrative for the Annual Report. The Company also changed the method of cash flow presentation, from a lesser known but more complicated method of

which the Finance department seemed somewhat proud, to a more common method that the analysts could make sense out of. The Company also added voluntary disclosure on average realized price, and the sensitivity of the contract portfolio to changes in commodity spot price, to help the analysts more accurately forecast the future performance of The Company.

The preparation of the Annual Report used to be the sole responsibility of the Finance department, which used to write the MD&A. This changed as the IR function grew, and as the investor audience became more prominent, IR took a more significant role in the production of the quarterly financial information. The IR function assumed responsibility for the Management Discussion and Analysis section, and now figures prominently in the iterative process with Finance in preparing the voluntary disclosure.

This was a significant change, as the Finance department had enjoyed discretion over financial reporting, and demonstrated their accounting proficiency by using a cash flow presentation of the Direct Method under Canadian GAAP, which was considered to be more complicated than the more popular (easier to prepare and understand) Indirect Method. The reluctant change was to include a reconciliation. Finance continued to produce a Cash Flow statement under the Direct Method, with a reconciliation to the Indirect Method in the back of the annual report.

Further changes related to a disclosure that management was reluctant to provide for proprietary reasons: that relating to the realized prices on sales contracts. As a concession, the Marketing department began producing an average realized price obtained on sales in the current year, and a forecast sensitivity table that shows different scenarios of future spot prices, and the resulting effect on average realized price of the contract portfolio.

> "When I started in IR, the Finance group wrote the MD&A. The whole thing. And, so, as we worked together on it, you know, we kind of found...no disrespect meant...that the Finance people wrote for themselves. So, they were kind of writing for other accountants, right? So, we'd say...yeah...you know, the average person doesn't really understand what you're talking about...so...so then, as we worked together...I don't remember the actual year, but it would have been, probably in the mid-nineties...some time...late nineties...it switched over, and the IR group runs the MD&A...they write it and they get the input from the Finance people, the Operations people, and the Treasury people."
>
> (The Company Manager Interview)

> "Yeah...because it's...there's enough adjustments and craziness that happens in financial statements...and it's different enough that they don't always understand, you know, what you're doing with it...uhm...when I first started in IR, we were the only...one of the few companies, I think, in the world...in Canada that...North America...that did, what did they call that? Direct Cash Flow, instead of Indirect Cash Flow? Yeah, so whichever way is not common? We did that. And, I remember, every quarter I'd go out, and I have to sit down with all of the analysts, investors, and say, okay, and here's how you get from this cash flow to this cash flow, because nobody used [the other method]. Although all the accounting people would say, like, at the University, they applauded us...like, that's the right way to do cash flow...and....and our CFO was firm about it back then. That CFO. And I'd say "but NOBODY KNOWS what that means...."
>
> (The Company Manager Interview)

The Company's Finance group seemed to enjoy this demonstration of its accounting prowess. As the relationship with the analysts developed, and as IR became more involved in the process, however, small concessions like the reconciliation of the more complicated cash flow method to the less complicated method allowed The Company to demonstrate that it considers what he believed were the needs of the analysts.

Relatedly, a significant development in The Company's financial report is the use of pro forma earnings, designated Adjusted Net Income in the Annual Report. In conjunction with the preparation of the IFRS financial statements, Finance prepares a set of adjustments to IFRS Net Income, and these are presented in an Adjusted Net Income reconciliation table in the Management Discussion and Analysis section of the Annual Report.

Management believes that this set of numbers is particularly helpful in augmenting the financial analysts' understanding, and that the analysts prefer the adjusted numbers to the IFRS numbers.

> "I would say that it is specifically important to our sell-side analysts that cover us. And probably on the buy side as well, with the analysts that are, you know, modelling [The Company], and, I don't know… they will look at those, certainly to see what's been adjusted out, because normally their earnings forecasts would not include those numbers, because they would have no way of, sort of, modelling them, they would have no way of knowing what those adjustments would be on a quarter to quarter basis."
>
> (The Company Manager Interview)

> "Uhm…and then their analysis of the company, they want to be as accurate as they can because if it's harder for them to model they don't want to follow the company, because they're going to always be way off, and their, you know, their reputation's going to take a hit. So, we want, as much as possible, to be able to help them, uh, you know, get reasonable estimates. And so, that's one way of doing it, is just say, "We'll help you adjust, we'll give you the adjustments that we've made that you wouldn't have been able to account for"."
>
> (The Company Manager Interview)

> "We're trying to extract certain things to allow our followers to get a better sense of how the company is really performing. We've also done reviews through our IR group with those who follow us just to get a sense of whether or not they like what we're doing here with the adjustments, and for the most part they adjust these things out for themselves is the feedback we get, so they appreciate our view and us doing it for them."
>
> (The Company Manager Interview)

Management's conception of the analyst modeling process suggests The Company is facilitating the analysts' modeling of The Company through providing information that they wouldn't be able to estimate on their own. Management tries to establish itself as an ally of the financial analysts, by preparing information that facilitates the modeling of The Company, but while still controlling both mandatory and voluntary disclosure in a way that is limiting: the risk of releasing too much proprietary information is controlled, and the analysts still need management's help to do their modelling.

Despite the internal controversies with respect to how much and what kind of information The Company is going to provide to the analysts, a distinct awareness of the analysts' models' requirements has emerged over time. The implementation of pro forma earnings figures prominently in that awareness, and its background and process is explored in more detail in the next section.

5.4.2 The evolution of pro forma earnings: the history of adjusted net income

The Company's utilization of pro forma earnings began with the unusual effects of two transactions. First, in 2003, The Company received a large provincial tax credit due to a change in tax legislation resulting in an $81 million[15] tax recovery. Subsequently, in 2004 The Company reported a $94 million gain on the restructuring of a foreign operation. According to Canadian GAAP, both of these transactions resulted in non-recurring items included in Net Income. The Company felt that these two items, however, made year to year comparisons of net income difficult. Further, they did not want to appear to be taking advantage of these two windfalls to inflate revenues. In 2004, both items were acknowledged in the notes to the financial statements, and were displayed in comparative 2003 and 2004 'Financial Highlights' tables showing 'Adjusted Net Income' with the items removed, and in footnotes to the tables explaining the non-recurring transactions.

> "That was a pretty sizeable number. One year we had earnings, GAAP–based earnings, of about 275 million, of which around 80 million was related to the tax amount, so we adjusted that down to give a more apples to apples year over year comparison"
>
> (The Company Manager Interview)

[15] The company reports financial information in Canadian Dollars; all figures in this paper related to the company are in Canadian Dollars. At the time of the transactions, The Company was reporting in Canadian GAAP, with a reconciliation of any differences to US GAAP.

The Company reacted to questions that it received from financial analysts during conference calls, investor presentations, and analyst commentary in the financial media about non-recurring items, and for guidance about the application of GAAP: the restructuring of the foreign operation gave rise to a complicated GAAP transaction. While the resulting gain gave a large boost to GAAP net income, it also affected the 'smoothness' of earnings year over year, and The Company's management seemed to think that the analysts would be more likely to use a number that adjusts out the GAAP items that affect that smoothness:

> "…yeah, with the analysts…and mind you, I don't speak with them directly, they rely more heavily on the Non-GAAP measures, because, when they're putting out earnings estimates and what not they totally exclude those sorts of unusual items and they want to tie back to it what we ultimately publish. The word back through Investor Relations is that they much appreciate what we're doing, that they're glad that we're doing it, and I don't know quite honestly how much attention they actually pay to the GAAP-based measures."
>
> (The Company Manager Interview)

The presentation of Adjusted Net Income in The Company's annual report continued in 2005, when the GAAP-based net income was adjusted down for the net gain resulting from the loss on restructuring of one division of the company, and the gain on the sale of another foreign operation. The net gain of $7 million was removed from GAAP net income, resulting in a lower number presented as Adjusted Net Income. This was displayed in a table showing the financial highlights for the year, with year over year comparisons for 2004 and 2005.

In 2006, the same 'Financial Highlights' table was again used to present Adjusted Net Income in a year over year comparison between 2005 and 2006, which again was lower than the GAAP-based net income figure for the year. The adjustments again excluded tax-related net gains, but included the gain on the sale of a joint venture project. The "Financial Highlights"

table had grown in size, and now took up half of a page in the Annual Report, whereas in prior years it was a small graphic that occupied perhaps a quarter of a page.

In 2007, there were significant changes to Adjusted Net Income: the presentation was different; the 'Financial Highlights' table had grown to a five-year comparison, and now took up an entire page in the annual report. Also notable, for the first time the Adjusted Net Income (ANI) figure showed an increase over GAAP-based Net Income, of almost $187 million. In addition to the exclusion of a gain related to another tax break, the 2007 figure took out GAAP-based expenses related to stock compensation, and cash charges related to the restructuring of the foreign operation that had shown a gain in 2004.

Table 5.1 - Net Income and Adjusted Net Income 2004 - 2012

$(000)	2004	2005	2006	2007	2008	2009	2010	2011	2012
NI	267	210	354	413	351	1,051	537	396	275
ANI	174	203	261	597	488	253	210	584	462

(Source: The Company Annual Reports)

Table 5.1 shows The Company's IFRS Net Income, and Adjusted Net Income, from 2004 through 2012. There are large fluctuations from year to year in both NI and ANI, and there are also large gaps between NI and ANI. Since 2008, the Company has presented the non-GAAP number as Adjusted Net Income in a schedule reconciling it to GAAP net income, as per securities regulations.

> "And, you know, if you looked back, probably…it would have to be a year ago… you wouldn't see that table in there. You would have seen, just, probably an explanation of

> some adjustments that were made, and, you know through the course of just looking at other reports, we've sort of discovered that other people were summarizing in a table at the back, and that, just referring…so then we introduced that because it was just a little bit more readable, for people to look and see, here are all the adjustments that have been made, rather than having to look through a big long paragraph that described each one. They could at least look at this quickly and go "oh, yeah, okay, there's the adjustments that they've made".
>
> (The Company Manager Interview)

The Company's continued presentation of Adjusted Net Income includes a regular adjustment for foreign exchange gains or losses on hedging, and also extraordinary or unusual adjustments for unique items, as they arise from quarter to quarter.

The examination of this process begins with a description of the financial reporting process, including the identification of parts of the process that have changed over time, with a focus on the interactions through meetings, documents, and calculations that culminate in an Annual Report for The Company.

5.5 The Financial Reporting Process

The current process for producing an Annual Report includes the writing of the Management Discussion and Analysis, as well as the preparation of the audited Financial Statements, and the accompanying Notes to the Financial Statements, prepared under International Financial Reporting Standards. The process for reporting pro forma earnings is embedded in the quarterly corporate financial reporting process, and the Adjusted Net Income reconciliation table is found in the MD&A of the Annual Report.

While the preparation of the financial statements proper, however, is the exclusive domain of Finance, the preparation of the Annual Report is a collaborative process that involves many departments and individuals within The Company. A significant amount of financial

information is integrated in the preparation of the MD&A, which is largely directed by the Investor Relations department, with significant interaction between IR and Finance.

Throughout the fiscal year, Finance continuously compiles results and identifies "trigger" points where they are required to consider loss in asset value. The process for actually preparing the quarterly and annual statements, however, begins with the receipt of the quarter-end reporting results from the various segments and subsidiary locations. A series of document updates and meetings ultimately lead to a set of IFRS-based financial statements, and an MD&A (in addition to the numerous other required securities filings).

In the following sections, using the empirical data from the interviews with management, the people, systems, and documents that mediate the process to produce the Annual Report are identified, with a focus on identifying the roles that are assigned to the various actors, and the inscriptions and boundary objects that help settle controversies over value.

5.5.1 People, systems, and documents

The Financial Reporting process encompasses numerous departments and individuals throughout the organization. The Company has a designated Disclosure Committee that has ultimate responsibility for preparing the Annual Report, and the Board of Directors has final approval over disclosure. The process includes several interactions, however, through a series of meetings, and that develop several successive draft versions of the Annual Report, with many supporting documents generated from peripheral systems that culminate in a final Annual Report draft.

5.5.1a People

The Disclosure Committee is made up of three of the senior vice presidents (the CFO, the Chief Commercial Officer, and the Chief Legal Officer), the VP Controller, and the Director of Investor Relations. This group plays a significant role in the disclosure process, and is aided in the production of the Annual Report by several other actors within the organization. There are numerous Finance, Marketing, and Corporate Development personnel who provide information and perform calculations. Throughout the process, another set of particularly important corporate actors are those designated as Subject Matter Experts (SME) and Qualified Persons (QP).

"Subject Matter Expert" is an internal designation that The Company uses to identify key personnel that have specific knowledge about segments of the business or certain activities across segments. These are managers and directors outside of the core executive team that have specific knowledge and expertise that senior management relies on, "…others who we can point to who have the credibility and the credentials in those areas".

A manager assigned the role of an SME acts as such throughout the fiscal year, but the designations takes on a particular significance during the financial reporting process, as the SME is called upon to advise IR and the Disclosure Committee as to appropriate details for framing certain transactions or business activities.

A "Qualified Person" is defined under National Instrument 43-101, approved by the Canadian Securities Administrators, and adopted by the Ontario Securities Commission:

""qualified person" means an individual who

> (a) is an engineer or geoscientist with at least five years of experience in mineral exploration, mine development or operation or mineral project assessment, or any combination of these;
>
> (b) has experience relevant to the subject matter of the mineral project and the technical report; and
>
> (c) is in good standing with a professional association and, in the case of a foreign association listed in Appendix A, has the corresponding designation in Appendix A;"
>
> (CSA, 2005, p. 3)

As a resource company that requires engineers and geologists to perform reserve and resource assessments for its various mineral projects, The Company employs some individuals that must comply with the definition of a QP under securities regulation in order to sign-off on The Company's reserves assessment that is included as supplemental information in Annual Report. An SME and a QP, therefore, sometimes may be the same person, because of the definition with respect to resource evaluation.

The SME's and the QP's provide expertise and perspective on the parts of the business they represent, and are often closer to the effects of the transaction than the executives on the disclosure committee. They are also important allies, as they provide an "expert" opinion that reinforces management decisions and provides justification in terms of the force added by their expert opinion. They also participate in the translation of the information that puts the narrative in terms that are at once technical, but also understandable to different audiences. This process is also aided by review and revision performed by IR, where the description and language are simplified for market consumption, and numbers are explained in narrative form:

> "So, we try to, obviously, simplify the language a little bit if we can, and narrow down the numbers, but, in general, it's just a back and forth between Finance and ourselves.

> With Finance, I think....initial drafting done by Finance, in terms of how they want it to look in the note, and then we will bring it down to the MD&A."
>
> (The Company Manager Interview)

In the translation of the technical and financial information into an understandable narrative, the notion of "simplified" language is important, and The Company goes to great lengths to analyze the phrasing and framing of the information in the Annual Report, including employing a writer that is dedicated to writing the narrative in the MD&A in "simple" language.

> "We have an internal writer, she's an English major, and just, incredibly good. Came out of Queen's and she does a very good job of...bringing things down to the reader's level, but not so much that our people are like, "Aw, you've lost the message because you've had to go simplify it too much". So, she's involved in that. It gives her a really good feel for...she always writes at least, usually about a page, two page summary of the market in the last quarter."
>
> (The Company Manager Interview)

The writer's narrative is compiled within the main document through a shared access system document compilation system, discussed next, and becomes part of the main MD&A, which is reviewed throughout the process by the other company actors, through a series of meetings, discussed subsequently, as the document goes through its stages towards completion.

5.5.1b Systems

The Annual Report document production is an iterative process that uses a software package that is updated with new numbers and text as the organization progresses through the process. The Company uses a shareware program, called Sharepoint™ to collaborate on the creation of the document. Information is input manually to the templates in the shareware document, including that from The Company's contract management system, and from several

Excel spreadsheets. For the purpose of the discussion of the Annual Report preparation, the focus is on Sharepoint™ and the contract management system.

Sharepoint™:

> "...Well, now that we have...it's called Sharepoint™...so, it's basically a kind of a document holding spot where the MD&A just resides on...in the data base, where we just basically go into the table and, basically...transfer numbers from our Excel™ working papers into the MD&A...that's really....and then through...once we populate all...the numbers are populated quite early on in the process for a lot of the tables. We then....we then have a lot of paper copies distributed amongst the group, kind of checking, rechecking, just standard...kind of follow-up checking. But, as far as them getting in there...it's...uhm....we really just put them in there."

There are three "editors" that have access to make changes in SharePoint™, two in IR and one in Finance.

> "So, the Editors, there is myself, one other in the group and then one in Finance, and so, Finance goes in and really inputs all the numbers for us, and we build the narrative...IR builds the narrative around the numbers."

The numbers that come from Finance are translated into text to provide a description that is consistent with the story that The Company wants to tell. As discussed below, there is a "tone" that is set at an initial meeting; the IR department constructs a narrative according to direction given by the "compass points" set at the Tone meeting.

Of course, the numbers are an important base for the Annual Report. Finance compiles and processes information daily, and reports on a monthly basis. The quarter and year end processes are distinct processes, however, in addition to the regular, on-going activity. The preparation of the financial information that goes into the Annual Report is an especially significant process that starts well in advance of the finalization of the report, and therefore the

numbers that are in the first draft are tentative numbers, estimated given the trends suggested by the continuous compilation of data.

> "But, for timing of the Annual Report, it starts prior to having all of our numbers finalized. So, what the Controller does is, basically, we'll know roughly where we expect certain things, so if we'll have an earnings of an order of magnitude of a certain amount, if Admin will be higher or lower than last year...so, she'll start populating our MD&A with those trends. Because, the first meeting that happens is more of a trend explanation. So, it's disclosure, primarily. We want to make sure that the committee has a good understanding of what occurred during the year. And rather than waiting for us to have actual numbers, they start that process earlier, basically. So, that's kind of the first, the start of it, basically. So, she'll add numbers in, but they're basically just guesses. So, then, as we get our actuals finalized our group corrects these, so, our MD&A, it used to be more of a paper back and forth. We've changed, to use SharePoint™, so we, certain people have access to a live document. So, we can make changes as we see fit. And, there is some back and forth with that."
>
> (The Company Manager Interview)

The Contract Administration System

The information for certain tables comes from a different system, used by the Marketing department, that compiles information from sales contract terms, such as price and duration. Marketing uses this system as one of many inputs to its internal price forecast, but it is also used to summarize the contract portfolio, and to prepare the sensitivity analysis and average realized price tables that go into the MD&A.

> "...well, it's pretty much math, you know. It's....that table is, you know, like, we'll write up the market related piece for that, we'll develop...the table is just based on, you know, all the contracts that we administer. Like, we've got a system and...and...and…you plug in the market price and you can generate what our expected prices are in every single contract given that they've all got a certain mechanism that's either...uhm.....either relates to the market price, or doesn't ...or the market price doesn't have any impact on it...so...and then we generate that. We create that table, and give it to IR."
>
> (The Company Manager Interview)

SharePoint[tm] and the Contract Administration System are only two of the many systems that feed into the Annual Report document, but they are significant, and examined here, because the SharePoint™ system is the central location where the translation of various information occurs to create the ultimate Annual Report, and the contract tracking system is used to derive important figures that are used internally, and put in table that is perceived by management to be important to external users.

Other important tables and figures are significant in the report production process, and these are discussed next.

5.5.1c Documents

Production target levels table

An important part of The Company's strategy has been a focus on doubling production over a five year period. As the pressures from the low commodity price seemed to have no end in sight, The Company scaled back the strategy to a reduced target, and has taken the emphasis off of production.

> "Yeah. And then, another piece that we just removed this time around was, there is a five year table which we had in place...the purpose of it was to guide the market, guide the sell-side to production levels over the coming years as we approached what was initially Double-Double and then a 36 million pound production target. Last year was unfortunate. Last year that table went up to 2017 in the five year look. And it ended up...ah, I can't remember off the top of my head. 32 million pounds. Just short of 36. So, that allows them to give some predictability to our earnings. But, of course, now we've taken that production target off the table, so it was deemed unnecessary to have that in there."
>
> (The Company Manager Interview)

This was one of the few forward-looking pieces of information that could be considered "guidance" that The Company produced, and has now stopped providing it. The Company

believed that the table accurately conveyed the strategy to double production, but as that strategy changed, the table was removed, with no replacement.

Adjusted net income table

Both the Ontario Securities Commission in Canada, and the Securities and Exchange Commission in the United States require pro forma earnings measures to be reconciled to the nearest GAAP number in a table that notes the specific adjustments that have been made to arrive at the alternate measure. When first used, The Company's initial practice had been commenting on the Adjusted Net Income in a paragraph, in text form. When the regulation was introduced, the Adjusted Net Income measure was prominently presented in a table in the Management Discussion and Analysis section that complied with the regulation.

> "…yeah, just the one, yeah, it'll be in the document, it's just the way its presented might have been slightly different, so this way we've summarized it all, and moved it to the back, the table to the back, before we used to have sort of a paragraph explaining it, I think. Not so much a table…I'm trying to think back. I think there was a paragraph that would try and explain the adjustments, or some of the adjustments, why we used the Adjusted Net Earnings, and it would be, somewhere else, a couple places in the document…so you ended up with a lot of repetition and…also a little bit harder to read in text form…a little bit easier to look at the table, and pick out the pieces, so just the way that we've presented it has changed, not so much the information, but just the presentation of it."
>
> (The Company Manager Interview)

> "...so really, all the numbers from...the numbers from that Adjusted Earnings Table, all these numbers come from our group. So, that adjustments on derivatives, the tax on that adjustment, and then the non-producing property charge. Those numbers all come from our group. And we, yeah, we filter these numbers into the MD&A. The MD&A process is really, while Investor Relations is the main....they pull together all the information from the various departments. We do, though, have a hand in… just the process that we use is that we can actually go into the document and do edits to it...type things in. So, we put in the financial...these numbers, we would go in and put in ourselves."
>
> (The Company Manager Interview)

The table is included in the SharePoint™ system that allows the Finance Department editors to access it and make changes to it.

Price table (sensitivity table)

The Company's Marketing department is responsible for a number of functions, and produces information that is used by other departments, with a resulting effect on the Annual Report content and the financial statement figures. Of significance are the analysts that are engaged in forecasting commodity prices. These analysts compile market intelligence in an attempt to forecast a forward demand curve for the commodity price that is used in developing the strategy of The Company, but is also used in the valuation of The Company's assets.

> "…we have kind of a Marketing group that's broken up a little bit. We've got...this is our biggest group, we've got about 23 people here right now, and we manage...we do all of our marketing strategy work is out of here, so we have about six analysts, and we do supply and demand, price forecasting, work on special projects around the company, and a lot of the stuff, the numbers, the revenue forecast for the company comes out of here because it's all based on the...the forecast that's coming out of our customer deliveries, and that, so, that all gets...uhm...done out of this group…"
>
> (The Company Manager Interview)

The six analysts in the Marketing department that are involved in forecasting the commodity price also participate in the creation of a price sensitivity table that depicts the performance of The Company's sales contract portfolio over a range of possible future prices. This table stops short of providing guidance on The Company's analysts' own price projections, but it does offer some limited perspective on the value of The Company's contracts, without disclosing too much to The Company's competitors and its customers.

> "...yeah...so, that's based on a price forecast, but that...that's not even a price forecast, cause it basically is just a table that says...at 40, 50, 60, 70, 80, given [The Company]'s portfolio of contracts, which, some are market related and some are base price related, what impact does that price have and what does [The Company] realize in

> that environment. So, yeah, that's a really....that's kind of a controversial table, actually, it does...but it does give investors, which is exactly what they want...they want to see what kind of exposure [The Company] has to the market, are we, you know, exposed in a good way, in a bad way, and what impact do we have...you know, how much do we realize when the price goes to a hundred given our existing portfolio, or what are capped out at, in order to get those contracts along the way, I guess."
>
> (The Company Manager Interview)

The table is meant to deal with some of the uncertainty caused by uncertain future states surrounding the commodity price, and at once offers some information on the sensitivity of The Company's contract portfolio, but is considered to be insufficient to disclose too much proprietary information about individual contracts, individual customers, or specifically about where The Company believes the commodity price is headed.

The sensitivity related to the provision of this table is embodied in its "controversy": the company is reluctant to be one of the few sources of information about price and its effect on its customer relationships, but is also attempting to provide some disclosure in an otherwise limited information market.

> "Oh...I was…it's only controversial because, you know, it's pretty, I would say...it's...not all our competitors would show that information, so it gives our competitors, too, a very clear view of where we sit with our portfolio of contracts. I'm not sure it's, you know, harmful. Impactful. But it would also show our customers, you know, they would know, sort of, where our prices sit. And so if you're a customer with an $80 contract, and it looks like our average realized prices, and all that, is you know, $50...then...you know...yeah....it's a difficult conversation....so, from that respect it, for sure...it's challenging...."
>
> (The Company Manager Interview)

The table discloses enough information for interpretation, but is still faced with uncertainty about how that interpretation will be formed, and by whom. The consideration for its contract customers must be weighed in accordance with its desire to provide information to the capital market.

5.6 Meetings

A set of meetings, between various groups of corporate management, at different levels of authority, drives the iterations of the Annual Report document production process. The first meeting, held early in the quarter, is the Executive Tone Meeting, where the general 'tone' of the quarter is discussed with the Disclosure Committee. This core disclosure group makes decisions at this meeting that affect the overall description of The Company's performance, how the disclosure will frame the representation of that performance. This meeting also initiates discussions for any unusual items occurring during the quarter, and decisions about whether or not those items will be adjusted out of Net Income in the Adjusted Net Income calculation.

Using the Sharepoint™ system, a preliminary draft of the MD&A and financial statements is prepared before the meetings by one of the managers in Finance, using preliminary figures and narrative:

> "...so, you'll get circulated the MD&A, and you'll get circulated the financial statements, and, I mean, it happens...we have a couple of them prior to release, so...I mean, your first draft, your fist cut of the MD&A a lot of times has numbers in it that are, I hate to say 'made up', but they are sort of made up. It's just to have a base to circulate to people as a starting point."
>
> (The Company Manager Interview)

The IR department then goes through a process to build the narrative by discussing the key performance items with the identified SME's and QP's, and circulating documents for them to fill in the details about the transactions that were deemed important at the Tone meeting. IR uses these documents to prepare a draft of the MD&A, along with the preliminary financial statements, for distribution and discussion at the first large group disclosure meeting, described by one executive as the "Cast of Thousands". At this large meeting, the management and the

SME's and QP's review and discuss the draft annual report, page by page, with relevant SME's and QP's and corporate management present to determine the wording of the descriptions that will end up as the final narrative MD&A.

The process culminates with the Bring Down Due Diligence meeting where all relevant executive management, SME's and QP's, and Finance and IR representatives perform an official sign-off of the annual report. I describe each meeting individually, and identify processes within that lead to the annual report draft that is ultimately sent to the Board of Directors for approval.

5.6.1 Executive Tone Meeting

At this meeting, the executives first identify the important areas of change from quarter to quarter that are important for financial reporting, using the earliest draft of the MD&A and financial statements. This is an early step in the calculative process, where disclosure inclusions and exclusions are first identified, and potential pro forma adjustments are first discussed.

> "And it involves a process of…and if you think of it in a sequence of meetings...as a quarter's wrapping up, we get together as a senior executive team, and talk about what are the key things that...what are the key fact changes from our last quarter. Okay? So, those are: what are the key fact changes to the market, what are key fact changes to our operations, what are the key fact changes to the regulatory environment, or the political environment. What are the things that anybody who is interested in investing in [The Company] needs to know, that they wouldn't know reading the last quarter. So, we do that, sort of, what are the fact change analyses? That then becomes the areas of focus for those who draft the MD&A. They now reach out to all the Subject Matter Experts and Qualified Personnel, and they send out this "what are the fact changes in your area?" But they're armed now, with those broader pivot points, as well. Because, in the past, if you didn't have those broader pivot points, well, every subject matter expert believed their area was the most important area in the world, and they would send in reams and reams of information."

(The Company Manager Interview)

The Tone meeting sets the direction for the financial statements with these "fact changes" that provide "compass points" for those identified as SME's and QP's. Thus management narrows down the roles of the SME's and the QP's by directing their attention to specific areas of the business where their expertise is to be exercised. The direction provided limits the range of issues to which their expertise could be applied.

> "They now reach out to all the Subject Matter Experts and Qualified Personnel, and they send out this "what are the fact changes in your area?" But they're armed now, with those broader pivot points, as well. Because, in the past, if you didn't have those broader pivot points, well, every subject matter expert believed their area was the most important area in the world, and they would send in reams and reams of information."
>
> (The Company Manager Interview)

A desired consistent message is communicated, that depends somewhat on the draft financial statements, but also directs the production of those statements, particularly any write-downs of asset values.

> "We'll get a heads-up in some earlier meetings as to what potential...like, we have a tone meeting, that we're actually going to hold next week, which, I mean, we're still a couple of weeks away from evening starting the quarterly process. But we start a Tone with the Executive where we sit down, usually Finance isn't in that one, that's just IR. And they essentially tell us, this quarter, how do you want things to be? Slightly more negative than last, slightly more positive? What kind of news feeds have impacted your thoughts on the industry this quarter? And, gauge some direction. And then at that meeting, usually, we'll get some heads-up as to, okay, we're looking at writing down this."
>
> (The Company Manager Interview)

Taking direction from the discussion in the Tone meeting, the IR director starts a process of gathering information from the relevant SME's responsible for the areas of concern identified to have "fact changes".

> "Now those who draft the MD&A have these compass points, because they know what the fact changes are, as seen by the executive committee. So the subject matter experts

> and qualified personnel then put their inputs into the MD&A, the points that, the pieces of information they're responsible for, they update."
>
> (The Company Manager Interview)

Templates are circulated to the relevant experts, and compiled by the IR department for input into the MD&A document. Through a series of iterations between IR and the SME's, language and wording is decided upon, and an updated narrative is drafted in anticipation of a larger meeting that includes the Disclosure Committee and the SME's.

5.6.2 SME Disclosure Meeting: "Cast of Thousands"

The next step in the process is to gather the Disclosure Committee in one large meeting with SME's and QP's from various departments. At this meeting, the draft MD&A compiled by IR is reviewed, page by page, for wording and meaning.

> "As the subject matter experts and the qualified personnel put in their information that then leads to a draft of the MD&A. And then we have our first major disclosure meeting where all of the qp's and sme's are invited, along with the senior executive. And, you know, that can be a group of 35 people. Even more. And we sit around and we go through the MD&A, page by page. We do a...we start with what are the key fact changes, and then we do a page flip. And everybody plays a role in "is it the right word", "is it captured right?". So, for example the way a corporate development person might be describing a transaction might, he or she might be using language that a securities lawyers say "you can't use that language". So then every expert gets an opportunity, not just to comment on their own area, but how other parts of the MD&A would be seen through their eyes. That's...we call that our "cast of thousands" meeting, it's a very big meeting, it's an unwieldy meeting, but it is an important part of the process."
>
> (The Company Manager Interview)

The process at The Company requires the active participation of the relevant specialists, gathering the designated specialists in active participation, assigning roles and identities in a collaborative effort to create the text of the Annual Report.

> "We take it a step further, and we say, no, actually you all have to be there. And you all have to comment, and you all have to hear about the other parts of the MD&A as well, not just the part that pertains to you, in case something we're saying in one part of the MD&A, through your expert eyes, is either factually incorrect, or is not communicated properly. In the expert language that you would use. So, that's a bit unique for us, to do it like that. Once we do that Cast of Thousands meeting, we then take everybody's edits and comments, and put it back into the second document. The second document, then, really is primarily read by the core disclosure group."
>
> (The Company Manager Interview)

This results in another draft that is taken into a closed meeting of the Disclosure Committee for final review and approval.

5.6.3 Disclosure Committee Meeting

The core disclosure group meets to review the draft. This group consists of the same group of senior vice-presidents, managers, and IR personnel that were in the Tone Meeting, but is also supplemented by relevant spokespeople from the areas where "fact changes" have been identified as significant. These fact changes have been commented upon, and changes made based on the SME Meeting, but they are further reviewed for "factual correctness".

> "Depending on what are the main fact changes, we will supplement the core disclosure group with the relevant people. So, for example, a big fact change for us this year is the beginning of [Division]. [Division] is intended to come into production in the third quarter of 2013. [Division] has driven our operational reputation since the first [disaster]. A lot of attention is paid to [division]. So when we think about that quarter three MD&A, it's likely that the Chief Operating Officer is going to be...supp...we're going to supplement the core disclosure committee with the Chief Operating Officer, and probably the Vice President responsible, to make sure we get that piece of the narrative right, so that it is factually correct."
>
> (The Company Manager Interview)

5.6.4 Bring Down Due Diligence Meeting

The draft that was reviewed in the Disclosure Committee Meeting is then proof read and finalized, and sent to the Board of Directors, along with other mandatory securities documents, for preview before the final Board of Directors meeting where the documents are approved. After the documents are mailed to the Board members, a final meeting with the Executive, and the relevant SME's and QP's is held for official attestation. The SME's and QP's have been substantially narrowed down from the large group in the SME Meeting, and this group assumes responsibility for the final version that will end up as the Annual Report.

> "And then we'll meet with the board and audit committee. And just prior to that we have what we call the "Bring Down Due Diligence" meeting. And that's where, again, I provide the document that went to the board and the audit committee to …it's usually VP's, and Directors…and say "here's the final document, you need to sign off and say, you know, ensure that what is said in your area of expertise is one hundred percent accurate, and not misleading, and all those sorts of things. So, we have a meeting where they have to go through a series of questions with the legal group, and they have to answer…and if there are issues than I have to take them back and correct them, and send them back to those people to review them again. And then ultimately the audit committee has to approve it, the board has to approve it. And then that final document gets published."
>
> (The Company Manager Interview)

The "fact changes" have now become "100 percent accurate". The collaboration of the SME's and the QP's with executive management has produced a document that can be presented with confidence, as it is the result of numerous actors fulfilling their roles as experts, and executing their appropriate level and area of responsibility. The verbal oath can now be taken, bestowing legitimacy upon the final numbers.

> "..and then we have a final meeting, it's called our Bring Down Due Diligence, where we walk through all the legal requirements of saying "have I read it" "Yes I have",

> uhm...."these numbers properly represent what we're reporting" and all that kind of thing, and we have to attest that...that it's true and fair statements in there."
>
> (The Company Manager Interview)

> "Because, you actually have to attest, at the meeting as a Subject Matter Expert....that's...it's kind of an informal oath, almost...."
>
> (The Company Manager Interview)

At this point, the oath is considered something of a formality, as the process has already resulted in a document that has the support of the SME's and the QP's. Nonetheless, the oaths are offered in response to a series of questions posed by The Company's legal representative.

> "And then it goes down to what's called the Bring Down Due Diligence. And that's really a formality in terms of...official acceptance by the Qualified Persons. So, it's kind of a funny process because, the...our legal counsel, Director of Legal Counsel he... he will read off the formal questions that are dictated, I think, by the exchanges, by the SEC, what ever it is, and then the CFO and the CEO have to answer 'yes' to certain ones, verbally, for the whole group, and then...it's all the legal...the legal stuff. So, the Bring Down Due Diligence is kind of that last chance for that same group of subject matter experts to say I disagree or I agree with this, and usually we'll get their written sign off just prior to that meeting, so we know everything's fine. And then, they go through the steps of the entire group saying, yes, we agree that the information is blah blah blah...."
>
> (The Company Manager Interview)

The final Adjusted Net Income figure has now been calculated, constructed, and performed for The Company. The final stage is approval at the Board of Directors meeting, but from The Company's perspective they now have a strong and stable position on what are the relevant facts for judging the performance of The Company.

5.7 Adjustment of IFRS Earnings to Arrive at Pro Forma Earnings

One perspective on the financial reporting process is that it is the IFRS statements that are the most important, and that the ANI numbers are just part of that process.

> "...yeah...uhhum...yeah, again, so, you'll concentrate on getting your GAAP earnings done....all your SOX controls, all your internal controls are geared towards making sure that you're following GAAP, and you get GAAP statements out...so that any sort of adjustments that you do, again, it's kind of a...it's a separate process that's done right at the tail end of your GAAP earnings, and you just layer it on top, as a...as a...an entry that.....that is tagged for adjustment. So, again, it's not that...you're doing your core work to develop your financial statements. Anything to do with your adjustments are more of a tail end process decision that's signed off and documented that, this is what we did."
>
> (The Company Manager Interview)

However, the focus of the financial reporting process seems to have shifted towards the Adjusted Net Income figures, and a significant part of the process, above, is aimed at producing the adjustments, and the narrative that goes with it. There are two types of pro forma adjustments that The Company makes, regular adjustments, and unusual items. These are examined next.

5.7.1 Regular Adjustments - Recurring Items

The company makes sales in US dollars, incurs expenses in numerous currencies (although, mainly Canadian dollars) and prepares its financial reports in Canadian Dollars. In 2008, The Company stopped applying hedge accounting, while continuing the actual practice of hedging their sales contracts with currency derivatives. Because they do not use hedge accounting to mitigate the currency fluctuations in the financial statements, IFRS net income can be subject to large periodic swings in either direction. The Company uses a quarterly and annual pro forma adjustment to IFRS Net Income to compensate for the volatility, by showing an Adjusted Net Income number with these volatile effects removed.

> "…we really only make one adjustment now...on a normal course basis, and that's the adjustment to the F/X hedging...and the intuition, or the logic behind it is, F/X hedging is used for, to tell a cash story, but your quarterly reporting's is to tell an earnings story, so you're translating a cash management logic into an earnings logic and under IFRS you're taking your entire hedge portfolio, which is layering of contracts signed at various points in time, and at any one point in time when you're reporting on a quarter, you're taking a

> vertical slice through that entire...hump of contract portfolios, and you're making an assumption. You're making the fair value assumption that's behind every IFRS treatment which is, assume every single contract expired today. What would it be worth, so then we adjust on that basis. And as a result it can be quite counter-intuitive. The adjustment could actually go, the cumulative adjustment could go in a direction that the currency hasn't actually been going, the Canadian to the U.S. dollar, because it's picking up past contracts as well, that may not have been signed in the current period where the contracts are happening. That's the only normal course adjustment we make."
>
> (The Company Manager Interview)

5.7.2 Unusual Items

The decision to adjust an extraordinary item from IFRS Net Income to arrive at Adjusted Net Income is based on informal criteria that have evolved over time in the Finance department, based on dollar value, cash implications, and relationship to The Company's view of its own core business. There is an informal criteria, not contained in a written policy that allows flexibility in application according to the situation. The informal criteria include a $10 million dollar (USD) value, whether the item is cash or non-cash, and whether or not if fits with the core business, as The Company sees it.

The final decision rests with discussion between Finance, IR, and the executive management. The process, as discussed above, is comprehensive, and may include a range of actors across The Company, but the final decision is a high-level decision.

> "...no...that's more...it would be more, the discussions would be more Finance, Corporate Relations, and the executive...that's...it wouldn't go any farther than that. In terms of actually coming up with the write-down amounts, and how are we calculating it, how...you know...the actual original accounting entry, well, yeah, that might cross a whole bunch of departments, trying to figure out what's the proper accounting. But, whether to adjust it in or out, that's a pretty limited discussion, at The Company."
>
> (The Company Manager Interview)

While this high-level decision is thus "limited", or restricted, the process for calculating the write-downs and the adjustments is collaborative. The IFRS requirements for determining the amount of the write-down require input from a number of departments in the calculation of value. The further calculation of a pro forma adjustment to Net Income also requires a number of individuals.

Individually, the criteria are not easily defined, and are subject to differences in perspective. In order to arrive at the $10 million value, for example, decisions must be made regarding upon what to base that value. The forecast developed by Marketing is one possibility.

> "...Marketing is always...a few times a year they do a market out-look from all of their research that...from all of the market research that they gather. And, so they do, right from next year's spot price...and they do long-term, and so they do spot price and they do the long term indicators. And, so we use their information in our tests."
>
> (The Company Manager Interview)

Despite being a "rough" guideline itself, this "materiality" is hard to define. Somewhat simpler is the Cash versus non-Cash decision. If an item is the result of an accounting treatment that has transitory persistence in earnings, the decision is often to adjust it. If there is more permanent persistence, then the item might tend to stay in the calculation of Adjusted Net Income. So, even if it were within the $10 million range, if it was an actual cash charge, the item would tend to not be adjusted.

> "...that's kind of the general rule. I think the other thing is if it's cash versus non-cash. So, a lot of impairment type things, or write-downs that are non-cash, we would do write-downs, but if we actually....if there was cash impact we generally don't adjust for that as much as we would a non-cash adjustment."
>
> (The Company Manager Interview)

> "Cash/non-Cash kind of plays a part. Whether it's just some unusual, weird accounting thing that investors don't care about anyway, and would rather take that out of earnings.

> Because it's not an actual economic reflection of what future earnings will be. So, those types of things, which would be the [Argyle] impairment."
>
> (The Company Manager Interview)

The Company's strategy is an important consideration in determining pro forma adjustments. The strategy, as seen above, is subject to scrutiny by analysts and investors, and is complicated by market conditions and different perspectives on time and events. The valuation of the mineral resource properties is a significant factor, and related to the strategy as well. Whether or not the economics of the project make sense within the current cost and commodity price environment are debated.

> "..I mean, we do all...you....we do the calcs on the...like your NPV on these things, to know that you need a spot price of X dollars for this to be profitable, right? And, so, they're not....when you get to that point where they're not profitable, you don't keep sinking money into it until you know that there's some promise that...the spot price is turning...."
>
> (The Company Manager Interview)

These criteria are considered in concert, with no single criterion necessarily taking precedence over another. When consideration is given to adjusting unusual items out, they often have to be considered together in order to arrive at a decision.

> "...there's a materiality factor which we loosely use, say, about a $10 million guideline. If we have something that's non-recurring, that's kind of a one-time thing, something that you wouldn't expect to see from period to period, that's something that we would adjust for. In Q3 of this past...you've probably seen this all before, but in Q3, of this year, we had a couple of write-downs of two exploration investments, and, by themselves they were less than $10 million, so if you were looking at them just with that kind of criteria, we wouldn't adjust for them. But, the reason for doing some of the...we had a few different write-downs that were all tied to a change in our exploration strategy, so we though, because it's linked to that, and cumulatively it's all more than $10 million, we adjusted for that. And it's just, really, because it's a....it's not something that, for

> comparative purposes, if you're reading the statements, it's not something that you would see from period to period, so it's something that would stand out that would be not normal."
>
> (The Company Manager Interview)

In order to analyze the calculative activity involved in deriving value for The Company's mineral projects, it is useful to analyze an individual transaction that is an exemplar of the process described thus far. The Argyle investment and subsequent write-down, touched on briefly, above, provide such an opportunity for analysis.

5.8 Adjustment for the write-down of "Argyle"

Narrowing the focus to one unusual transaction and the decision to adjust the transaction, required by IFRS to be included in Net Income, out of the Adjusted Net Income figure, offers a specific example to explore the calculation and framing of what is included or excluded from The Company's construction of Adjusted Net Income.

Looking at this one transaction exemplifies the role of the prototypical Subject Matter Expert in the calculation of pro forma earnings: from the valuation of an acquisition, to the subsequent re-evaluation and write-down of that acquisition. This transaction demonstrates how information, devices, prices and actors from different parts of The Company, time perspectives, and the market are brought together, disentangled, associated, and reassembled in a single space and time for supporting "fact changes" that are to be considered "100% accurate", as noted in the process of framing Adjusted Net Income, above.

5.8.1 Argyle

Part of The Company's long-term strategy was to expand its development base for future production through acquisition. It purchased a development property in a foreign country that

had tremendous potential for adding to production, and the downturn in the commodity market presented opportunities to acquire the property for a lower price than had been seen in quite some time.

The commodity price, however, continued to decline subsequent to the acquisition, and the results of the further geological work performed by the company did not show the expected resource quality or quantity. Thus, with the value of a "pound in the ground" being insufficient to justify development of the deposit, and the "blue-sky" potential not being what was predicted, a write-down of the property was warranted.

Such a write-down under IFRS is an extraordinary loss that is included in Net Income. The Company calculated a $168 million write-down, and presented it in its 2012 income statement. It then added the $168 million back to Adjusted Net Income in the Adjusted Net Income table in the MD&A.

The activity of an Subject Matter Expert involved in the write-down of a mineral resource project, named "Argyle" here, is described, and followed through the different people, devices, numbers, and calculations used in valuing the write-down, and adjustment to arrive at Adjusted Net Income.

5.8.2 The background for the Argyle purchase

After a sudden boom in the commodity price resulted in heightened merger and acquisition activity in The Company's sector, a similarly sudden disaster destroyed demand for the commodity, and caused a steady and prolonged price decline. Anticipating a rebound in demand, and appreciating the opportunities presented by historically low asset values, The Company acquired Argyle as part of a strategy to increase production in the future, a strategy

that was intended to eventually double The Company's production. The strategy included additions to the resource base by both exploration conducted by The Company's geologists, and the acquisition of properties that had already been preliminarily identified as resource deposits with potential for future exploration and development to expand the resource base.

From the Annual Report:

> "The Company acquired a 70% interest in [Argyle], an advanced exploration project in [Foreign Country], to further our strategy to expand our portfolio of [commodity] assets. If successfully developed, [Argyle] will add potential for open pit production and offers geographic diversification." (Annual Report of the Company, 2008)

The acquisition strategy was facilitated by The Company's Corporate Development group, with many of its directors designated as Subject Matter Experts for different segments of the business. The Subject matter Expert for the Argyle deposit described the process for valuing mineral resource deposit acquisition targets, based on a model that aggregates technical and market information, and is used to determine an offering price for a potential acquisition.

> "So, the geo's will use Vulcan, or whatever geological models they use, NTR or whatever, to build the geological database. Then our mine engineers and metallurgists will use whatever systems they use in order to, you know, they'll do 3-D mine plans on a conceptual model to develop, you know, whether they're going to use long-hole stopeing or, whatever kind of mining method, what's the most efficient, and then generate capital and OpEx estimates which we then drag in. So, all we're basically dragging in is the numbers. Production volumes, grades, OpEx, CapEx, so it's.....we're basically numbers driven, but we're trying to make sure that technical information is being translated into proper financial information. In order to make sure that our model is representative of what we think this asset can...can do."
>
> (The Company Manager Interview)

This representation is achieved through a valuation model that serves to assemble geological information, technical information, strategy surrounding the deposit, and potential, that is, "blue-

sky" the possible increase in the size of the deposit based on further exploration.

> "In terms of that, so what I would say is that, the valuation of the model itself is a living document throughout the due diligence period. As I said earlier, if we get into a stage or a process where there is one, two, maybe even three steps where you may be producing an offer...so, we might produce an offer based solely on...let's say that we're invited into a first stage of a process where you're given limited access. You might even only be given access to information that's already in the public domain, and you're basically forced, or required to come up with a valuation based strictly on...I would say a non-confidential basis...so, it's a non-binding offer, but we've produced something that says "here's what we think it's worth...subject to getting a look under the hood, and getting access to confidential information"...so, that's one version of the model. Then, as we get access, we'll have ourselves, as well as our technical people and financial people conduct fulsome due diligence, legal resources, et cetera, and that'll produce a lot more information to either refute or confirm some of our assumptions that went into the original valuation. And so, our valuation will be refined and changed, and, again subject to getting the approval of management and board, that will formulate our views on a valuation that could be input to a final or a binding offer."

(The Company Manager Interview)

The reassembling of information from different sources resulted in a valuation upon which The Company made an offer for the deposit. This final negotiated price resulted in the asset value of the Argyle project capitalized on The Company's balance sheet.

5.8.3 The Argyle write-down

> "During the fourth quarter, we recorded a $168 million write-down of the carrying value of our interest in [Argyle], our advanced [commodity] exploration project in [Foreign Country]. Due to the weakening of the [commodity] market since the asset was purchased in 2xxx, no increase in mineral resources in [four years later] and the decision not to proceed with the feasibility study, we concluded it was appropriate to recognize an impairment charge for this asset. [Argyle] remains an important asset in our portfolio. However, given the current state of the market, it was necessary to reduce its carrying value at this time. The amount of the write-down was determined as the excess of the carrying value over the fair value less cost to sell based on the implied fair value of the resources in place using comparable market transaction metrics."

(Annual Report of The Company,)

When calculating asset value, current values are to be used, and two considerations are given, value in use and fair market value. Both value in use and fair market value involve a

number of judgments, assumptions, and calculations by The Company.

A value in use estimate requires management to calculate a net present value based on projections of future costs and revenues. In the case of a mineral resource property, this requires a projection of the future commodity price that could be realized, and the costs associated with development and extraction. It also requires an estimate of the time frame over which the future costs and revenues will occur. This calculation relies heavily upon management's beliefs about all three factors.

The derivation of fair value of a mineral resource property for The Company is challenging, complicated by the commodity market characteristics: few producers and consumers, and a lack of a terminal exchange that offers a market value for the commodity. Fair value under IFRS is based on a three tier hierarchy that depends upon similar assets and functioning markets. At level one, there is an established market with identifiable customers for the asset. From this established market, the going market price is extracted on a specific date, and used in the valuation. This going market price rests on price discovery, i.e., interaction between buyers and sellers in an active market with recorded transaction prices. At level two, no market for the product exists, but there are active buyers and sellers for a comparable asset, whose discovered price can serve as a proxy for the specific asset. At level three, neither a comparable asset, nor a buyer for the asset can be identified; therefore a similar asset must be envisioned, as must a buyer, and what that buyer would pay for the asset.

In the absence of a terminal commodity exchange, and a lack of information from prices achieved by competitors, The Company faces a number of challenges in deriving a market price. Further, when we apply the same criteria to a mineral resource asset that is for sale, The Company's efforts at valuation are complicated by the current lack of merger and acquisition

activity, which limits the availability of comparable transactions.

To contend with these complications, when it comes to calculating a write-down, The Company has built a model of asset valuation, based on the knowledge that it has gained from models produced by financial analysts. Over time, the Corporate Development SME's have developed a standardized model that can be used on every acquisition, and on subsequent evaluations.

> "...yes...we have a...actually, in the course of the last few years we found that we were always recreating the wheel, so last year we implemented....actually, a standardized valuation model. So, it's something that hasn't been used, per se, in a completed acquisition, but it's a model that we now use on every valuation since. And it's, you know, they're always going to be tailored a little bit to the specifics of the asset but, at least in terms of the functionality, everyone can pick it up and know that, here's where I go to find 'x', here's where I go to find 'y', here's where my valuation...so, it's very standardized in the sense that, I know how it works. I may have different inputs, or information requirements, but I know the structure, how the model works. And that's to, both, prevent non-standardized errors, or, you know, just bone-headed modelling mistakes, where they're always recreating stuff. And just...so it's taken about 80% of the modelling effort and standardized it. But, it also makes reviewing and approving a model much more efficient. Because you understand the basic functionality."
>
> (The Company Manager Interview)

The calculation of value in use is explained by this SME, and the number of assumptions that management must make:

> "So, the write-down came about...so, when we bought the asset...uhm...you know...it was a conceptual asset, and it was immediately placed into further exploration. So, they identified and confirmed what the resource was, and then it was placed into pre-feasibility. So, you know, basic engineering studies started to be applied, mine design, all that information, to support new estimates, I would say. So, based on the new exploration information, they produced a mine design, recalculated with cost escalation and all that, produced a time line for CapEx and OpEx, and that just basically fed into another DCF valuation. So, the approach that we take is, for any asset that's not in production...well, I would say, for any asset, there's a value in use, so what you reasonably think you can extract for a value on a DCF basis. Or there's a value in sale. And lots of times your value in sale can be larger, because the market will provide premiums that provide upside value, like, can you find more resources, or will the [mineral] price spike higher than what you think it. So, typically what happens is a value in sale often times will exceed your value in use, so in my narrow view of the world, I

> have a hundred million pound resource. After mining, recoveries, losses, and mill recoveries, losses, maybe I'll get 80 million pounds in the can. I'll get this price line, this is what it cost me, comes up with a value of 300 Million. I may have directly comparable transactions for a similar asset where someone's willing to pay 500 Million…"
>
> (The Company Manager Interview)

The challenges faced by the Corporate Development SME were, again, related to the market: in order to come up with a price for the commodity, the calculations of forecasted price provided by the Marketing department were used. The range of prices provided by Marketing is taken by the SME, and adjusted according to assumptions based on his experience and knowledge:

> "That's right...they [Marketing] pull a price line up for us...with, I mean, they can have high and low, base cases, as well, and we evaluate what we think, depending on where we are in the market cycle, you know, are we looking at a price spike situation, are we looking at kind of a flat demand, flat price scenario, or steady growing? So, we kind of evaluate what we think is the most appropriate price line...uhm...in order to apply to our DCF."
>
> (The Company Manager Interview)

The search for comparatives turned up very few possible examples:

> "We found very few. Not too many. One happened, actually, right near the end of the year. And so, you know, it's difficult because there is really...it's a difficult thing. And what we did, even back in reviewing the documentation, it was to kind of set a range around, what are the possibilities. Here's...we have a transaction at this end, and here we have a transaction at this end, and trying to say, well, these are indications of what the market for this type of property is. Somewhere in here is the right answer. If there is a right answer I guess. And you know, kind of coming up with where do we think it lies?"
>
> (The Company Manager Interview)

Relying on judgment and knowledge, while taking internal and external information, the SME derived a value in use, and a value for sale (or fair value), and then had to make a decision as to which one qualified as Current Value:

> "….So, when we did the [Argyle] write-off, we did exactly that analysis. We updated the DCF model. Came up with a value in use. We looked at what comparable transactions were going for in the market. And came up with a value in sale, or a potential spin-off value, and had a discussion with our auditors in terms of, you know, what the basis of

> those two different valuations were. How we supported each one. And, basically, we supported the write-off using a value of sale, even though the asset wasn't being marketed as "for sale". We used that as a reasonable proxy for its underlying value to us recognizing that, virtually every commodity that's out there, if you look at any analyst report, typically what they'll talk about is what their NAV is, their net asset value, which is their DCF, and they'll attribute a multiple to it, and that'll be their target share price, or their hurdle. And, so, we'll look at that, and that's fairly consistent where, assets in the market, or that trade in the market, consistently have a premium value attached to them. And it's something that you could reasonably achieve if you so decide to spin-off that asset."
>
> (The Company Manager Interview)

The influence of the knowledge of analysts' models seems to have played a factor in the settling of the controversy over value, but it is not the only factor identified by the SME.

The value for use calculation, and ultimate designation as "current value" involved a number of corporate actors, prices, and devices for arriving at a value. The result is the culmination of a long process of judgments and decisions, interventions and estimates that bring together actors, information, prices, and systems into one calculative space where they are rearranged to derive a price that is compared to the carrying value. The difference between the two is then taken as an adjustment to Net Income, to arrive at Adjusted Net Income.

> "...this is just a typ...so, this...we're just required to, like look at all our properties, look at all of our exploration properties for what's called "triggering events". So, we don't necessarily have to test everything for impairments every period, but we have to monitor the environment to see if there is a trigger that is out there that suggests that we should be looking at some of these. And so, uhm...with [Argyle], it...we had a change in our exploration strategy, I mean, the market price started dipping such that it wasn't profitable to pursue it at this time. Until the market turns. So, that just triggered us to do an impairment...like an actual impairment test on it. And, that's the type of thing that is a one-time....that's not a normal operation....operational charge. And so that's why it would hit our adjusted earnings. And so...that's basically the full charge we took on the impairment hit on [Argyle]."
>
> (The Company Manager Interview)

The "full charge", that is, the $168 million that Argyle was deemed to be impaired under IFRS was adjusted from IFRS Net Income to Arrive at Adjusted net Income. The resulting

Adjusted Net Income is defined by the transaction's magnitude (recall the $10 million materiality criteria), and its non-cash nature (the cash outflows occurred at the acquisition of the property, and over the course of exploring and developing the property), where the write-down was an accounting entry for an extraordinary loss and a reduction in the asset value. But the determination of the value of the write-down depended upon the calculations performed by Corporate Development. The overlapping criteria is whether or not the required IFRS treatment is consistent with the strategy of The Company.

The CD manager based the valuation on whether or not the company was for sale, thus, "a pound in the ground", which was a different value than if the company was in production. The property was not for sale, but neither was it in production due to the changed strategy, away from doubling production. Thus, neither criterion fit, as the deposit was not being developed for production nor was it for sale, but a value needed to be assigned. This was assigned using the notion that an analysts' model uses NAV, or Net Asset Value, which is equivalent to the value for sale.

5.9 Discussion and Analysis

This lengthy description of the financial reporting process, and its current state, provides the beginnings of what Callon refers to as an "ethnography of socio-technical agencements" (Callon, 2005, p.5). A socio-technical agencement is here understood as a collective of "…human beings, technical devices, algorithms, and so on…" (Hardie and MacKenzie, 2007). Thus understood, the representation of The Company's financial performance as Adjusted Net Income, as opposed to IFRS Net Income, is the result of a long process of associations supported by boundary objects that mediate calculation. The financial reporting practices of The Company are constituted by the analysts' models, which in turn are constituted by the disclosure The

Company provides. During the process of singularization, where "…a gradual definition of the properties of the product…" occurs, Adjusted Net Income comes to be stabilized by The Company as a representation of its performance. Whether this is carried forward by the financial analysts will be discussed in Chapter 8, but it is put forward by The Company as a value proposition – it has been objectified and singularized as a value, which can be compared to other values in the market.

In examining this first part of the process that leads from financial reporting, to analyst valuation, and presumably to a market response, calculation is seen to require a series of role assignments, and the mobilization of these actors and devices. The calculation that is performed requires the arrangement of assigned actors in a calculative space, where objectification and singularization can occur, and culminates in the extraction of a result that is held together by the very arrangement that supported its calculation.

Prominent in this calculative process are the processes of objectification and singularization, and the identifiable boundary objects. Objectification is the process of stabilizing the qualities of the object of calculation, whereas singularization is the process of adjusting them towards the users' world (Callon and Muniesa, 2005). Boundary objects are conceived of here as those objects possessing qualities that are concrete enough for them to be recognizable, yet flexible enough to be applied to more than one setting, by various actors, and that bring together actor-worlds, indeed, representing the nexus of actor-worlds (Latour, 2005). Objectification and Singularization are wrapped up in, and indeed, indistinguishable from the boundary objects that support their progression. This lengthy process is somewhat unwieldy for examination, but can be exemplified by the analysis of one transaction. The Argyle write-off exemplifies the calculative process thus conceived.

5.9.1 The evolution of assigned roles

The evolution of the relationship with financial analysts, and the concomitant evolution of the financial reporting process served to support the assignment of roles, both within The Company (including that of The Company itself) and outside of The Company. Inside The Company, certain roles were assigned for the Finance, IR, Marketing, and Corporate Development departments; certain actors as Subject Matter Experts. Outside of The Company, roles were assigned for the analysts; and the commodity.

The Company described itself as conservative, both in its financial reporting, and its activity. The strategy has grown out of that, but this characteristic also defines its control over information, and offers a means to withstand criticism while justifying its actions. The controlled release of information, described as a concern over proprietary information, fosters the conservative image, and reinforces the rationale behind Adjusted Net Income. Whereas the conservative approach might suggest a focus on IFRS, The Company's focus on Adjusted Net Income is profiled as a representation of its core activities, which themselves are deemed by the Company as 'conservative'. The Company felt that the criticism of being "Sleepy Hollow" was harsh, but to also reinforce its conservative image with the analysts: The Company is cautious in its action, and sees itself as not subject to what it views as 'the whims' that other companies seem to be influenced by. The core activities of The Company subsequently change, as is seen in the shifting strategic focus, but, whatever those activities may be, an accurate representation of them is in keeping with The Company's role as a conservative actor.

Within The Company, Finance had traditionally held a dominant role in the financial reporting process. As the Investor Relations department was formed, and grew in importance, however, the roles of responsibility changed, and the production of the financial information

became a shared function. The responsibility for writing The Company's story was primarily that of IR, and Finance was tasked with providing the statements that support that story.

Marketing also become involved in the financial reporting process, directly, by providing the price table, and indirectly, by providing the price curve that Corporate Development uses for valuation of the resource assets.

Also significantly, certain Company personnel came to be designated as Subject Matter Experts. Their specific knowledge and expertise was relied on throughout the business processes, including the production of the Annual Report and the contact with the analysts, as the IR department relied upon them to respond to technical questions. The definition of these actors included the assignation of responsibility for participation in the narrative of The Company.

Certainly, the modeling challenges and constraints of the analysts, and the awareness of those challenges by The Company, also had an effect. The attempts by The Company to reverse-engineer the analyst models, and to adapt a valuation, and re-valuation model based on the aspects of NAV that were known to be prominent in the analysts' work, also demonstrate that effect. As the relationship changed and solidified, the financial reporting turned towards providing information directed towards the analysts. The additional information on cash flows, and the adoption of average realized price and price sensitivity tables, which facilitated the role assignation of Finance and Marketing, demonstrate The Company's efforts to help the analysts model The Company. But their efforts also helped assign the role of storyteller to the analysts.

As the relationship with the analysts commenced and evolved, and they took on the role of storytellers, sharing the production of the narrative, they also served as connectors in the

network between The Company and institutional investors. This helped define The Company in terms of its industry classification as that of a mining company, and helped promote its story.

But within that broader industry of mining, the commodity and its market were defined as being unique, and uncertain, and the market as opaque, illiquid, and problematic for its lack of price discovery. The lack of price discovery was mitigated by price reporters, and created a need for The Company's internal forecast by Marketing. The controversy over value posed by the uncertainty of price created the further need for stabilization through a device that creates associations between the many actors, and hence the model.

The disclosure changed to include reports directed at the analysts, and a focus on a different performance measure. Further, the use of pro forma earnings represents another initiative by The Company to "make things easier" for the analysts. But in so doing, The Company is constructing a measure of its performance as Adjusted Net Income, which constitutes, and is constituted by, The Company's framing of itself, first with a strategic focus on global exploration, then with a strategic focus on increased production, and finally with a focus on geographical and technical strengths. Throughout the process, managers, experts, IR, Finance, the market, and the commodity are brought together, and they are modified as they are translated into a calculation of "Adjusted Net Income" as the reality of The Company's performance. The process of the meetings that drive the production of the Annual Report serve to mobilize these actors and their identities.

5.9.2 Mobilization of Roles – Meetings

The financial reporting process is ultimately the responsibility of the disclosure committee, but as seen in the empirical analysis, above, there a number of Company actors that

make it possible, and who are brought into the meetings at certain points in the process, or provide information that is used in the meetings.

The Disclosure Committee relies on a first draft of the financial statements that is prepared with ball-park numbers entered into SharePoint by Finance. These preliminary numbers set the "tone" for the fiscal period, and the narrative describing it. At the Tone Meeting, IR and the Committee determine the "fact changes" that are going to be addressed in the narrative, and suggest which SME's are relevant to the production of that narrative.

The "fact changes" have already been influenced by the accumulation of prior knowledge about what is in the analysts' reports, and what would be of interest to the investment community. Once identified, these "fact changes" guide the selection of SME's that will be involved in the process, and set the parameters for their contribution.

At the "Cast of Thousands" meeting, the roles and responsibilities of these SME's are further solidified as they are mobilized in the analysis of the draft Annual Report that IR has put together. Through a process of "page turning" all of the SME's come together in agreement on the "facts" included in the narrative portion of the Annual Report.

The subsequent Disclosure Committee meeting, and the Bring Down Due Diligence meeting separate the roles by responsibility somewhat, but also serve to conjoin the roles: as the Disclosure Committee, and ultimately the CEO and the Board of Directors responsibility becomes apparent, the support of the SME's to stabilize those roles becomes ever more important. The Bring Down Due Diligence meeting ritualizes the responsibility, performing the "oath" verbally, but also evidencing it by the signatures of the CEO and the CFO. The signatures identify ultimate symbolic responsibility as it rests with the executive; the actual

verbal oath performs the representation of The Company in the story for which they are all responsible.

5.9.3 Boundary Objects

The process of calculating Adjusted Net Income mobilizes a range of elements that allow the calculation to terminate, if only temporarily. These elements, boundary objects that "...allow the framing and stabilization of actions…" (Callon, 1998a, p. 18), could be said to include many devices involved in the preparation of the Annual Report. The Marketing Department's forecast, the price sensitivity table, the production forecast table, and the price reporters' spot and long-term prices all stabilize actions and thereby produce a defensible Annual Report and ANI number.

The Marketing Department's price forecast incorporates elements from The Company's industry and market, with consideration of potential supply from competitors and demand from potential customers. It also incorporates consideration of the price reporter's reported spot and long-term prices, to which comparisons are made. But it also contains proprietary information about The Company's own contract portfolio, and production strategy and capacity; these factors will have an industry-wide effect on supply, and are relationship to The Company's forecast of demand. The price forecast serves as a boundary object to bring together many of The Company's worlds, and to thus modify its own: The Company's strategy considers, in part, its own price forecast.

The production forecast table is a visual representation of its own strategy, with connections to the greater industry through The Company's price forecast, which stabilizes many of these connections.

The price reporters spot and long-term forecasts connect the different producers and consumers in The Company's industry through gathering market intelligence. The price reporters attempt to stabilize the uncertainty and opaqueness of the market that is felt to exist in the absence of price discovery mechanisms by mobilizing the various actors with the commodity, and an algorithm.

No doubt these boundary objects are active in mobilizing the various elements, and mediating their activity and associations. It is the valuation "model[16]", however, that seems to be the most prominent of the devices that mediate calculation in this instance. The analysts' models serve as boundary objects through which the calculation of value connects different worlds, people, calculations, and the market. The Company makes efforts to provide information for the model, but also uses reverse-engineered replicas of the model for its own purposes. The modeling of The Company by the analysts served as a guide for The Company, but in turn served as a way for The Company to conduct its calculation in a way that is directed towards the analysts.

If we are to value something, we have to engage in objectification and singularization (Callon and Muniesa, 2005). In objectification, it has to become a "thing" that is, and what it is and its properties, have to be defined. The SME uses a process of calculation that steadily identifies the properties, part of which depends upon is what this "thing" is going to do, or what is going to be done with it: is it in production, is it a "pound in the ground", or is it for sale? Singularization suggests that those defined properties have to then be adjusted to the users' world, an accomplishment performed by using the NAV of the analysts, who are a significant

[16] Valuation model here refers to the analysts' models, but also the model that The Company has developed. Reference to it as simply "the valuation model" embodies the essence of the boundary object, in that it is malleable enough to travel and be used by different actors in varying contexts, yet is stable enough to have an accepted meaning.

prospective user. These processes are exemplified by the examination of one specific transaction, the Argyle write-down and adjustment in the derivation of Adjusted Net Income.

5.9.4 Exemplification of one transaction

The calculation of the Argyle write-down that is a central part of the 'unusual' part of the Adjusted Net Income amount provides an exemplar of how calculation is performed within the forming agencement: the write-down calculation depends upon the collective action of many. It of course is performed by the SME, but also the analysts; the commodity; the price reporters; the various actors within The Company, including Executive Management, Finance, Marketing, and IR; and various devices, the price forecasts, the reported spot price, and the models.

The SME is so designated by Executive Management, and qualified as such by his particular skill set and experience. Executive Management, too, has set the corporate strategy, which moved toward increased production through acquisition of source properties that led to the Argyle Acquisition, and the change in that strategy, which also contributed to its write-down.

The "trigger" for the write-came from analysis by the Finance department in relation to that strategy, but also from the results of the geologists, and the effects of the commodity market and the price reporters (and their algorithms) therein. Further, over time Finance had moved towards the calculation and presentation of pro forma earnings, which relied on the calculation provided by the Corporate Development SME.

This calculation was produced by a model developed by The Company, through efforts to reverse-engineer the analysts' models. The calculation performed, using a valuation technique called Net Asset Value produced a value using commodity price forecasts from the Marketing department, and compared to the price reporters' spot price. That value was then compared to

similar acquisitions, determined by the SME as if Argyle were for sale, which it is not, but because it is not in production the value of production output was not used, rather, a "pound in the ground" value was used.

Thus, the calculation, where actors, devices, and numbers have been disentangled, rearranged, and a result extracted that resembles Callon and Muniesa's notion of calculation-as-translation (Callon and Muniesa, 2005), is the effort of the agencement.

5.10 Conclusion

Addressing the question of how The Company calculates pro forma earnings provides a description of a socio-technical assemblage that produces The Company's calculation that also addresses the question of why The Company calculates pro forma earnings. While much of the literature examining the relationship between public companies and financial analysts posits a single direction of influence – the analysts' influence on companies (Zuckerman, 1999; Zajac and Westphal, 2004) – this chapter has shown that as the relationship progresses over time it seems more as a setting for continuous influence and exchange in many directions.

As we see The Company developing its relationship with the analysts, it is also developing a network that comes to represent The Company and within which calculation is possible. The Company's Adjusted Net Income is the result of a collaboration that has been facilitated by the collective hybrid that has been formed. This hybrid entangles the people, the market, the commodity, and the models that allow the framing of all in one time and space. "Action is a collective property….to be attributed to a particular agency, it has to be framed." (Callon, 2005, p. 4). The analysis of the Argyle acquisition and write-down demonstrates how this activity is distributed throughout the various actors and devices, yet framed in a way that is

attributed to The Company, and included in the performance measure of The Company, Adjusted Net Income.

As discussed in Chapter 3, the notion of calculation provided by Callon and Muniesa (2005) is an extension and elaboration of the Actor-Network Theory of translation (Callon, 1986, Latour, 1987). When The Company's calculative processes are thus conceived, the associations that are illuminated seem to contradict the uni-directional influence of analysts-on-organization. This is not to say that the analysts' models aren't powerful, or that The Company is not influenced by them. But when calculation is seen as a process of framing, of objectification and singularization, a process that is crucial to the formation of a socio-technical agencement, it appears as though this influence is neither primary nor stable. The calculation of Adjusted Net Income is a calculation that is temporarily stable, and is so because it has come about from a long process of developing associations and previous calculations and inscriptions. The strength of this stability is tested in interactions with market participants, initially through the quarterly conference call, which is the focus of the analysis in the next chapter.

Chapter 6 – Interaction between The Company and Financial Analysts

6.1 Introduction

In this chapter I examine frame construction in order to continue to answer the question of how managers interact with analysts to communicate various earnings measures, and how analysts determine which of The Company's financial figures they are going to use as inputs to their models. The determination of the appropriate performance measure to be used in analysts' models, chosen from various available numbers, seems to be a result of a framing process which includes the determination of the key metric to represent the performance of The Company. The construction of the frame, and the selection of the key metric, is understood here as a collaborative and ongoing process between management and the financial analysts. The framing process between analysts and management constitutes, and is constituted by, the interaction between them.

As discussed in Chapter 3, Beunza and Garud (2007) suggest that analysts serve as "frame-makers" in the construction of a frame that includes an analogy, a category, and a key metric. Beunza and Garud examine how financial analysts are able to conclude their calculations when faced with uncertain future states, an uncertainty that is inherent in financial analysis based on models of future cash flows. In their efforts to contend with this inherent uncertainty, the analysts' models rely on this constructed frame that serves to stabilize, if only momentarily, the representation of the company under analysis in order to conclude their calculations. I elaborate the notion of frame-making, and its relationship to categorization and calculation, in greater detail in Chapter 3, but summarize it here for the purpose of this chapter. Beunza and Garud (2007) suggest that, when faced with unfamiliar businesses, analysts will categorize companies

according to type. An analogy is an exemplification of what kind of company represents the category, to which the analysts will compare the target company. Beunza and Garud (2007) suggest that the key metric is then the representative performance measure that is appropriate for that type of company, as exemplified by the analogy. The authors focus on Amazon, and the analysts that considered whether or not it was a technology company (category), like Dell (analogy), for which revenue would be the key metric, or whether it was a bookseller (category), like Barnes and Noble (analogy), for which the key metric is net income (Beunza and Garud, 2007, pp. 26-30).

Using the notion of frame-construction, and focusing on the selection of the key metric, I extend Beunza and Garud's (2007) examination of financial analysis as framing (Callon, 1998b). By examining the interaction between analysts and the managers of the firms that are their focus, I argue that the interaction contributes to the determination of the key metric by analysts, and that the result is a collective effort. This process seems to be one of establishing some certainty of uncertain future states, that allows calculation to be performed and conclusions to be made, that is, a frame to be constructed, even if only temporarily. The analysts do not select the key metric on their own. The determination of the key metric, as part of the framing process, requires collaboration between management and analysts. Calculation, and the framing required to calculate, are social processes of collective formation.

This chapter continues the examination of the process described in chapter 5, and focusses on the interaction between The Company management and the financial analysts in the determination of the key metric to reflect The Company's financial performance.

Through a series of subsequent inscriptions, during which uncertainty over forecast numbers, and over the experts, devices, and calculations behind them, are obscured, the financial

results reporting, the conference call preparation, and the interaction in the conference call is examined to show how the inscriptions in the analysts' reports are a result of carrying and modifying inscriptions from the annual report, after they have been justified, and any controversies settled, in the conference call.

Continuing where the previous chapter ended, with the reporting of the quarterly and annual financial results, I re-enter the story at the point where the managers and the analysts prepare for the conference call to discuss the financial results. In this chapter I demonstrate the ongoing process of frame construction that continues with the indirect communication before the call, and the direct communication during the call, which sets the stage for what will be discussed during the call. I find that the analysts and managers apprise each other of the areas of focus during that call, and establish both formal and informal rules that influence behaviour during the call. During the call, the interaction allows determination of what will be included in the frame, what figure will represent it, and what inscriptions will be carried to support it. After the call, the analysts reproduce these inscriptions, sometimes with modifications, which stabilize the inscriptions, by re-inscribing in a way that eliminates assumptions and uncertainties identified by management.

The interaction is taken as one of the settlement of controversies, which is done by the analysts questioning, and the managers justifying their actions, and the resulting elimination of other possible outcomes and the uncertainty associated with future states. This allows the analysts to conclude their calculations and present a stable frame of The Company. Thus, framing is not something that analysts do in isolation; it requires interaction with management, and as such is a collaborative process.

The process of collective frame building relies on interaction before, during, and after the conference call: before the conference call, management and the analysts send direct and indirect messages via the annual report and initial analyst reports (sometimes called a "Flash" report or "First glance" report). During the call, interaction is governed by formal and informal rules of engagement. Following these rules, management and the analysts challenge and justify each other's position. After the conference call, the analysts translate (Callon, 1986) the discussion, relating it to various inscriptions (Latour, 1987) that they reproduce, modify, and reinforce.

In the present chapter, I enter the process where it was left in the last chapter, with the preparation, publishing, and release of The Company's annual report. Relying on the data from the interviews with management and analysts, The Company's Annual Report, the analyst reports, and the conference call transcripts, I examine the subsequent parts of the process where, first, the analysts obtain the annual report and may write and publish an initial "Flash" or "First Glance" report, in advance of the conference call. I then revisit The Company's preparation for the conference call, which incorporates and takes guidance from the analysts' comments in this preliminary "Flash" report. I then examine three examples of conference call interactions that exemplify challenges and settlements that support frame-making during the call, and are representative of this process. Example 1 demonstrates how the managers and analysts determine what is going to be included in the frame. Example 2 exemplifies the settlement upon what figure will represent the inclusions to the frame. Example three shows how inscriptions are used to eliminate uncertainty and subjectivity, thus stabilizing the frame inclusions, and the figures that represent them. This third example is pertinent in terms of the use of inscriptions, in the analysts' reports. After the call, the analysts update their models, and publish another report, which incorporates the interactions from the conference call where controversies have been

settled, with the text that represents that settlement, and inscriptions that are thus carried as a result of that settlement.

6.2 Rules of engagement – Establishment of Framing Space

The conference call is governed by formal and informal rules. Formal rules come from both securities regulations over the release of financial information, and from The Company's imposition of guidelines intended to provide order to the call. The formal rules govern conduct, but also set the stage and establish the space as one where information is to be disseminated, and there are rules over content (SEC, 2000; Barker et al., 2012) and rules that order the dissemination of that content.

Informal rules also govern conduct on the call, but are informal in that they represent unspoken understandings about how far to push the limits of the formal rules, and an implicit agreement about how far the participants many go in terms of questions and answers, and how courteously they will do so.

The formal and informal rules work together to help establish the "framing space", a conceptual space lacking the material physicality of an in-person meeting held in a physical space, but no less bounded. Within this space, the analysts and managers work together to establish a frame of The Company, and what will be included or excluded from it.

6.2.1 Formal Rules of Engagement

As noted in Chapter 2, the rules set out by the Securities and Exchange Commission and the Ontario Securities Commission, over the release of financial information apply to the conference call. Additionally, The Company sets guidelines for conduct on the call. The rules set by The Company establish order to the call. The Company's guidelines include 1) anyone

may participate; 2) Participants are allowed one question and one follow up question, then return to the queue. The formal rules set the "stage" of the conference call. The SEC/OSC rules establish the conference call as a space for the dissemination and examination of financial information.

The guidelines established by The Company to govern call activity are commonly employed by many companies. In order to allow enough time to address all call participants, they allow a caller to ask two questions, after which the caller must return to the queue and wait their turn after others ask their questions.

> "Yes, anybody can ask [a question].... Well, there's a moderator on the call, and they...basically they... you have to state your name, and the company, and then...we're very regimented, I think like most companies, you know, you get one question and one follow-up question, and you go to the back, because, otherwise you could dominate the call, and, you know...you want it to be fair to everyone."
>
> (Company Manager)

These rules are outlined at the beginning of the call. There is a moderator on the call, (an operator from a conference call service provider) who controls the question queue, and the technical aspects of the call. The conference call opens with the moderator welcoming the conference call participants, stating the two question rule, and then turning the call over to an Investor Relations (IR) manager. The IR manager introduces the executives that are on the call, and reiterates the simple ground rules: two questions and return to the queue. The call then begins with a statement from the CEO (or, occasionally a representative of the CEO) to recap the period and provide some information.

> "All participants, please stand by; your conference is ready to begin. Good day, ladies and gentlemen. Welcome to The Company Third Quarter conference call. Today's conference call is open to all members of the investment community, including the

media. During the Q&A session, please limit yourself to two questions and then return to the queue…."

(Conference Call Transcript)

The Investor Relations manager present on the call also serves as a rule enforcer. The consequences for violating the stated two question guideline seem minimal, however, and the IR manager is willing to accept minor infractions, like this analyst that has asked too many questions:

FA: "Okay. And then just one last question."

Manager: "[Analyst], make it short please."

(Conference Call Transcript)

And another analyst:

FA: "I'll just sneak in a further question: How much of production next year will come from blast hole stoping as opposed to the reamer?"

(Conference Call Transcript)

After management answers this question, which has pushed the limits of the two question rue, the moderator indirectly chastises the analyst, and restates the two question limit.

Moderator: Thank you. We would like to remind you to limit your questions to one and one follow-up question. And the next question is from [Analyst] of [Analysts' firm'], please go ahead

(Conference Call Transcript)

While being indirectly chastised by the moderator, the violation of this formal rule seems to have no serious consequences. The analysts that violate the rule are told to re-enter the queue, and when they do, management answers their questions, with no sanctions.

The more serious formal rule has to do with the release of inside information, as governed by securities law.

KF: "Do you ever get the analysts trying to trip up the executives, to get them to say something that they...."

Manager "Not...definitely not on the call. And I wouldn't say, too much in the meetings either. Because they know...I mean, if they do trip up, they're blacked out too, I mean, from both sides. If...until the news release was made…yeah…yeah...they can't really...they can't do anything either, because both sides...would have a big impact if somebody started trading on insider news. So, they don't...they try to get...to push you to get more information, for sure, but I don't think they really try to trip you up too, too much. Because it's just as detrimental to their business as it would be to ours."

(Company Manager Interview)

While the conference call is "open", during the call, observation of the real-time interaction is limited to the conference call participants. The call is recorded, and transcribed, and both the recording and the transcription take some time to be released after the call. If there was a release of material, non-public information, anyone on the call would be "blacked-out" from any market activity in the interim. In addition to being potentially embarrassing, a violation of securities legislation would have serious consequences for the analyst, and could result in regulatory penalties.

6.2.3 Informal Rules

The informal rules seem to carry penalties, in terms of the relationship with management, and in terms of the line between getting more "colour" and provoking the release of the inside information that causes black-outs. The analysts cannot go too far in trying to get management to offer more "colour". Besides violating the formal rule, above, it would also be potentially damaging.

> "I don't think so, no. They're pretty...just push...I think they might push a little bit. I'll tell you...this is a pretty standard, I think, too, is that, they're very polite when they're talking to the Offi....like, the management team, the senior officers. They're not going to try to embarrass anybody on a call, because they...so, you embarrass him, what's your relationship like? Right? You're going to have trouble talking to him after."
>
> (Company Manager Interview)

The analysts are aware of this potential danger, and are careful to focus on getting more detail on public information. The analysts may intentionally pose difficult or unexpected questions to get more "colour". This analyst suggests that the unexpected questions from analysts is when the "interesting" information comes out.

> "….[at the start of the] conference call, they give their 20 minute spiel, which I try and listen to, with as much focus as I can, to see if there, again, if there is any change in nuance, or guidance, or something that they say that catches my interest. Q&A is where the good stuff usually comes out. And...I'll admit, you try and trick them...into saying something they shouldn't say. Try and get them to say something interesting. Try and dig down into the nitty-gritty details. Try and catch them with a curve ball that they're not expecting, just to get some additional colour."
>
> (Financial Analyst Interview)

"Colour" seems to indicate the more qualitative aspects behind the transactions and figures. This includes, for example, describing the reasons for the volatility in average realized price, and delivery of product (discussed in Chapter 5 and 7), management's perspective on the commodity market, and production, as it relates to the value of The Company's deposits.

This suggests that the analysts go into the call with a strategy to get more information, but that strategy works within the public information, limited both by securities legislation, and the unwritten rules of conduct.

> "...more in one on ones than on analyst calls, you find, I think analysts are a little more polite on the conference calls than you would find them to be just one on one. Uhm...so, more so one on one...I've had analysts try to corner me, you know, on mistakes that we've made, or things that we've done, or...but it's never really bothered me very much, because, you know, those guys are covering, you know, whatever, ten commodities, and I'm covering one."
>
> (Company Manager Interview)

The analysts in general also seem to know that management is carefully scripted and controlled during the call. Management knows what it can release, what it wants to release, and what it is required to release, and seems to control the information release very well. This analyst describes the strategy for information gathering in a different way.

> KF: "Do you ever try and get them to say something that they're not supposed to say?"
>
> FA: "No, because the asker...the question asker is the one that usually looks the fool. Because everyone knows they're not going to....and they're so well trained! They know. They know exactly where to draw the line. So, I'm sure that they have these meetings behind closed doors, and they say, okay, here's what we're going to say....and....here's where we're not going to go...because, either...well, usually, I think it's because they just don't want to open up the Kimono that much. Because of the competitive advantage they have, in the market place. And they're not required to do so. Right...So...I don't try to trip them up. It's not very professional, as well."
>
> (Financial Analyst Interview)

The analysts' strategy is to expand descriptions, to get some "colour" to put in their reports. They are constrained in this endeavour by both the formal and informal rules. The formal rules

set boundaries for the "space" created by the call, and limits to the information available during the call. The informal rules further limit the order of the call, and prevent any one analyst from dominating the call. These informal understandings also conduct behaviour during the call, establishing constraints on the analysts' attempts to gain non-public information.

6.3 Pre-Conference Call: Indirect Interaction

The Company releases its Annual Report, along with a News Release that summarizes the financial period, at a pre-announced date and time. The analysts wait in anticipation of this news release, and upon obtaining the annual report and the announcement, they will often write and publish an initial reaction to the release. These reports offer an initial reaction to the just-released financial reporting package, and contain information relating to the date, time, and access telephone number for the conference call. These initial reports are carried by news wires like Reuters, and accessible by any corporation or individual subscriber.

Many institutional investors subscribe to these reporting services, and obtain the early reports for indications of the analysts' initial reaction to the news release. At this stage the analysts have not had enough time or information to update their models, or to write and publish a full analysis; this comes after the conference call. The preliminary report, in addition to providing institutional investors with a "first glance", provides a vehicle via which the analysts can convey to management the additional information that they want. In these reports the analysts often indicate information that they feel needs elaboration by management, and they also indicate information that they deem unnecessary.

The Company management also accesses these reports, and incorporates the analysts' indications of expected or unnecessary information into the pre-conference call preparation

meeting. The Investor Relations department uses this final meeting, discussed briefly in the last chapter, to do one final briefing of management to ensure that the tone and message to be conveyed are consistent. Part of this preparation utilizes the analysts' reports as a guide.

6.3.1 Financial Analysts Reporting and Conference Call Preparation

The day of the conference call follows closely on the day the quarterly or annual financial results are released. The release of these disclosures is accompanied by a News Release, summarizing the period results, and is the first thing that the analysts see. The analysts then review the MD&A and the financials. The first review is a cursory review and information search, to pick out anomalies, anything unexpected, or confirmatory; anything the analysts find interesting.

That this initial review is often cursory is due to the analysts' lack of time to perform a full analysis immediately. The analysts are short on time for two reasons: first, The Company is often not the only company in the analysts' portfolio that requires attention that day, and second, the release of the information initiates a series of events that happen in a short period of time. The analyst may have an initial report that they will publish immediately; they may also have an early meeting with their firm's retail sales and trading team where they provide a short update on The Company (and any other companies reporting that day) for the start of the day's trading. The analyst also must begin updating the model (often employing a number of associates), and prepare for the conference call.

> "Well, let's put it this way. [The Company], this most recent quarter, reported, I can't remember what day it was, but they reported early in the morning...maybe it was 6AM. They put out the MD&A, which is a hundred-plus pages long. I have to have an educated comment for the morning meeting at 7:30. Right? I'm not gonna read a hundred pages of MD&A in that time frame. I'm gonna go directly to the press release, that summarizes a lot of what's in there. Look at what the **adjusted earnings number** is, versus where it

> is...versus mine...whether there are any changes to guidance. Whether there is anything new, in terms of "this particular mine had this issue". What they're saying about the [commodity] market, and that's about as much as I can do by 7:30. Then I walk into the morning meeting in the other building, there [indicating other office tower], and I tell the guys in sales and trading, this is what they've reported. This is good or bad. I cannot say whether it's gonna influence my estimates, because that would be giving them a heads up on number changes, so I can't do that until I've actually published changes to my numbers. And, if anything's changed, this is what's changed, and this is what I think it's gonna do. So, is the stock gonna go up or down today? That's really what they care about. So, that's what I've got to figure out by 7:30. So, the morning meeting's done, typically get a bunch of phone calls come in from clients: "what do you think?"… "Where have the numbers changed?"…"What's it going to do to your model?" We try and handle all that as quickly as we can. Then we start to go through the MD&A in detail to see if we've missed anything (laughs) of importance. The conference call is anywhere between 11Am and 1 that afternoon....and, typically [The Company]'s not the only company reporting that day. Right? I've got other stuff going on. It's not like my whole day is devoted just to [The Company]. I've got other stuff to deal with."
>
> (Financial Analyst Interview, emphasis added)

This quote describes a number of pertinent aspects of the Conference Call day's events. Besides indicating that the first number that this analyst looks at is the pro forma number, "adjusted earnings", it suggests that the events initiated by the press release continue the mobilization of the network around The Company's narrative. The first "educated comment" or early report issued by the analyst is published on news wires and, as we will see in the next section, The Company has access to it, and indeed, reviews these notes before the conference call. The conference call interaction begins before the call even starts, as indicated by this example from one analyst's initial report:

> Event:
> The Company Q3/08 results appear to be inline (adjusted EPS C$0.41 versus consensus of C$0.40) but Q3 highlights weak performance from [commodity] business. Production guidance has been lowered at all [commodity] operations. Potential water inflow source identified at [Havana River]. Conference call to be held on: Wednesday, November XX at 2:00PM (EST). Dial-in: (416) 641-XXXX or (866) 540-XXXX.
>
> Impact:
> Negative – The Company reported **adjusted EPS** of C$0.41, compared to [my] and consensus estimates of C$0.39 and C$0.41, respectively. While results appear to be in-

> line with our estimates, better than expected results from [operating segment] masked disappointing results from the [commodity] business. The [other segment] and [other commodity] operations performed in-line with our expectations. Management, however, has lowered its production guidance for the year with all operations encountering issues during the quarter. In addition, the company has identified potential water inflow source at [Havana River] on the 420 metre level of the shaft - the area was on old development drift that was abandoned due to poor ground conditions. The current u/g investigations are focused on this area **- the company has not provided any update on potential timing for dewatering the mine.** We are maintaining our estimates, target price and recommendation **pending more information on today's conference call**.
>
> (Analyst "Flash" Report, emphasis added)[17]

Further, the analyst's plan for the conference call interaction takes direction from the content (and the exclusions) of the information release. The analyst may need more information to update the model than what is in the release, or may be intrigued or confused by what is reported, as this further example from the same analyst's report indicates:

> **Key Risks to Target Price**
> The main risks facing The Company include forecast, financial, technical and political risks. Among other things, these include risks related to commodity prices, input costs, and fuel prices, the governing fiscal and legislative regimes, the timing of key developments, market conditions, capital and operating costs, foreign exchange rates, resources and reserves, operating parameters, permitting, environmental, and staffing and key personnel retention. **Our forecast of The Company's realized price could be substantially different than that actually realized by the company.**
>
> **Investment Conclusion**
> We are maintaining our HOLD recommendation, C$28.00 target price and estimates **pending further details following the conference call**. The company will be holding its Q4/08 conference call on Tuesday, Feb. XX, 2009 at 10:00am EST; Call-in No. (XXX) XXX-XXXX or (866) XXX-XXXX
>
> (Analyst "Flash" Report, emphasis added)

[17] The relevance of the reference to the 420M level in this excerpt becomes apparent in the conference call discussion of the Havana River water inflow diagrams, below.

The summary on the front page of this analyst "Flash" report indicates the main points of consideration: the analyst is trying to assess The Company's ability to contend with the market risks, commodity prices, and to control its costs and deal with government, and its strategy to contend with all of these. But the information in the release, alone, is insufficient. The analyst needs to discuss certain points with management in the conference call. This indicates the direction the analysts take from The Company's information release in their preparation for the conference call, indicated in this excerpt from an analyst interview:

FA: "Uhhmm...so...yeah, part of it is, you know, when the earnings come out you read the, you know, you read the earnings press release because sometimes, at the very end, there's some sort of tidbit that's buried, that's not in the MD&A, then you read through the MD&A, you go through the financial statements, you go through the notes....uhmm…"

KF: And, do you go into a conference call with a strategy? With an agenda of trying to get information that you need. Do you plan questions ahead of time, or do they just pop up during the call?

FA: "A combination. I mean, you know, in a reporting document you may flag something that looks to be some type of disconnect, either it's with your own assumption, or there is some change in the number that indicates an inflection point in the trend, that's something I'll bring up on a conference call. But otherwise, you know, the conference call is you know...you know the things that need to be discussed, right? It's the key projects that are being developed, and what's the status of those. Some industry factors, some financial factor**s**....you know, I think…On average every analyst will ask two questions. One will be borne out of just finding something in the financial report. The other one will be something that they've been thinking about for the past few days, or so."

(Financial Analyst Interview)

As discussed above, that analysts will ask "two questions" is a formal rule policed by the Investor Relations manager monitoring the call. But, it is also, here, an ordering rule that seems to guide this analyst's contemplation of an information gathering strategy: his first question is related to the financial report; his second question is something other, specific to the individual analysts' modelling requirements. This quote indicates that, in addition to the analysts' own information needs, driven by their financial model, they also take cues from the information

release about what information to seek. The information release impacts the tone and content of the interaction in the call. The analysts' initial report continues this pre-call communication, as it indicates the type and content of questions that they will be asking of management during the call. The next section demonstrates how management takes direction from the analysts' first report.

6.3.2 The Company Management Prep before the Conference Call:

As discussed in the previous chapter, The Company holds internal meetings before the conference to call to consider possible questions facing them, and to plan and go over their proposed responses. There are two meetings, one well before the call, and another on the day of the call. The first meeting is the more elaborate of the two, where IR preps the managers that will be on the call. The second meeting is shorter, and addresses questions that IR anticipates will be posed, based on cues from the analysts.

At the first meeting, there is extensive preparation, where IR asks questions of management based on the quarterly MD&A, and largely related to the identified "fact changes" focussed on in the process of preparing the MD&A. But the questions are also related to those areas of interest to the greater investment community, and so some background work is done in advance of the prep meeting: IR circulates the questions that the managers get from their presentations to, and discussions with, investors and analysts to the relevant departments and Subject Matter Experts/Qualified Persons for technical detail and support.

> "So, they'll say, okay, so here are some of the issues that we think might come up....well, you wrote-down [asset], so you might get some questions on that. The market will change, we moved off our target, let's discuss, let's see, what's the colour that we're going to provide around the idea that we're off our production target? …So, we'll actually walk through the questions, and prepare, and get a sense of how the answers are coming in."
>
> (Company Manager Interview)

The purpose of the prep meeting is to set a consistent message, but also to work on the delivery of the response, especially to unexpected or sensitive questions.

> "....it may surprise you, but sometimes CEO's don't like to be challenged on things...so, part of it was just to prep them and say, "Okay, why would you do that? That's just crazy!" And then I'd ask the questions kind of in a sharp way, or kind of testy, and then, if nothing else, you could hear what they were going to say, you could take the edge off of it, because you'd say, yeah, okay...like, sometimes they'd say "no one's gonna ask that"... and I'd say, "is that your answer...that nobody's going to ask that?" So, what if someone asks it, what are you going to say?"
>
> (Company Manager Interview)

And in preparation, they mobilize the network of support that created the information in the annual report. The Subject Matter Experts themselves may be referred to in the call, but for the most part, will not attend the call, and they fade into the background, having provided expert input and support prior to the call. Management will refer to and rely upon the work that they have done.

> "We provide quite a bit of, especially for [Exec VP], and for [CEO], I'd say, you know, a lot of the, sort of the cheat sheets on, you know the financials, and the market data, the recent market data, supply/demand, what's happening in the market, prices, all that kind of stuff. So, yeah, in preparation for those calls, we'll produce some input for them, yeah."
>
> (Company Manager (also a Subject Matter Expert) Interview)

Much of the input that the SME's provide has to do with the forecast of the supply and demand curves that drive The Company's projection of the stock price, discussed in Chapter 5. There is also detail from the contract management system, that indicates the price of future deliveries, and

when they will occur. This information helps management prepare for the anticipated questions from the analyst.

In the meeting on the day of the conference call, the IR department and the executives on the call also hold a short meeting, to prepare for the call. As part of this preparation, they discuss the initial comments from the financial analysts. They use the analysts' flash reports to identify specific items that individual analysts have either stated concerns over, expectations of hearing more about, or deemed unnecessary.

> "I don't know if you get those, but, a Flash report, you know the day we send it out [the Annual Report], they [the analysts] give it a quick read, probably just through the first three pages, and the highlight sections. And give a quick read, and **then end that with, "and we'll...on the conference call"...they tell us without telling us, but, they'll, in the early report, say "on the conference call we'll expect to hear more about this, this, and this." So, then, when we do the conference call prep, a couple of hours before we do the call, we'll note that, hey, expect a question on this**, we have this covered already in the remarks, so that's good, and you flip through and determine what they want to hear."

(Company Manager Interview, emphasis added)

In addition to preparing to respond to questions that they know are coming, Management may also try to pre-empt questions by addressing pertinent issues directly, and providing more information, at the start of the conference call. The following conference call excerpt demonstrates one example where the analysts' Flash Reports have indicated that more information is needed:

CEO: So just before we move to questions I'm going to ask our CFO, to say a few words about our cost of sales and our **average realized prices**, both of which have generated a few questions.

CFO: As [CEO] mentioned, I simply want to comment on our quarterly **average realized price** and average unit cost of sales, which we have noticed **has generated some comment since our disclosures earlier today,** likely because of the very strong contribution of both to our quarterly [commodity] gross profit. For those of you who are navigating with

> the quarterly MD&A, I'll be referring to the [commodity] financial results segment starting on page X.
>
> (Conference Call Transcript, emphasis added)

This conference call excerpt demonstrates the effect of the interaction that begins even before the call takes place.

This section demonstrates the pre-call interaction, and the resulting effect on the conference call. The publication of the financial reporting package leads to action on the part of the analysts: they produce a preliminary report. The preliminary report and communications with other market participants gives direction to management as to the types of questions they are going to face in the conference call. The Company's management is aware of the preliminary reports, and takes cues from the expressions of information requirements by the analyst. Management discusses the analysts' information requirement in the final preparation meeting before the conference call.

In the next section, I examine the activity in the conference call, and note the direction that the call takes from these preliminary activities, in terms of what the management will anticipate, but also, once they get into the conference call, how other analysts will take up a subject initiated by an analyst in a Flash Report, and pursue it during the call. I continue the examination of the interaction with the settlement of the analysts' challenges to management, and the use of text and inscriptions that are evident in the analysts' reports that indicates settlement of, and support for, the depiction of The Company that results from the conference call.

6.4 During the Call – Three Examples of Interaction

In this section I focus on three examples of conference call interaction of varying length and purpose. These examples demonstrate a process of frame-construction: what is to be included in the frame, what is an appropriate figure to represent those inclusions, and how are they supported visually by inscriptions that eliminate references to uncertainty and other possible outcomes. I begin with an example that demonstrates interaction between management and the analysts in efforts to determine what can be included in the frame. The second example shows attempts to settle on an appropriate figure to represent part of the frame, the key metric to represent the performance of a recently acquired subsidiary. In the final example, I demonstrate how inscriptions are carried by the analysts in a way that eliminates the uncertainty related to possible outcomes, and how the assumptions, and the devices and experts that made the assumptions, disappear when the analysts accept the inscriptions and carry them to their ultimate report.

6.4.1 Example 1 - What is included in the frame?

The Company had significant foreign operations in a related, but not "core" business. The foreign country experienced a revolution in the middle of the last decade, and the government, perceived by many as a corrupt, authoritarian, kleptocracy, was overthrown, albeit peacefully. A new government was set up, and made many attempts to institute reform.

The foreign operations of The Company had been set up as a foreign company (FC), jointly held between The Company and the overthrown foreign government. In 2005 it began to divest itself of these foreign operations, by spinning off the assets into a separate Canadian domiciled subsidiary company (referred to here as the Canadian Public Sub, or "CPS"), with a

controlling interest retained by The Company. Divesting the remaining interest required significant negotiations with the Foreign Government that held an interest in the operation, as it was also given an interest in the spinoff. The Company now had to work with the new government.

During the negotiations, the Foreign Government threatened to pass legislation that would revoke the original contracts between the previous Foreign Government and The Company, impose back taxes, and essentially assume full control of the operations of FC. The Company's control of FC hinged on the foreign government's ratification of an agreement that would guarantee CPS's right to continue operations. The Company had continued to fully consolidate the subsidiary, and booked an expense to the reserve in 2007 for the restructuring costs associated with the ongoing divestiture and negotiations. The Company showed a pro forma earnings figure where it had adjusted GAAP net income for the year, adding back $153 million in cash charges to arrive at Adjusted Net Income. The GAAP expense recognized was $113 million.

In the Q4 conference call, a financial analyst questioned The Company's accounting for the consolidation of the Canadian Public Subsidiary, of which control of the CPS was a crucial consideration:

FA: On Canadian Public Sub, I saw the comments today that the deal is officially…uh…from the foreign government… is being suspended in the sense that they're not gonna…they're not likely to ratify it in the near term. From a simple accounting perspective, what is your planning…plan for the treatment of your investment in CPS going forward, just for modelling purposes? Are you going to continue to fully consolidate it until this deal is ratified by the local governments, or should we expect equity accounting going forward, just because your expectation is the deal will close sometime in the near future?

Manager: Well (Analyst), let me come back to your first opening comment. You're at least one step ahead of us here, because we have not seen anything about the government's suspending this. We continue to have discussions with them. At this point, if we had thought otherwise we would have notified the market. We continue to work, and every signal that I am personally receiving from Foreign Government is quite positive.

FA: Well, just so you're aware, then, there is a report on Reuters that the government has postponed the ratification of the agreement. And that has come out some time over the last couple of hours.

Manager: Well…ah…we will follow-up on that one. At this point, again, uh, with all due respect to those…notices and comments coming out of there, I always treat them with a fair degree of…uh… suspicion until more substance is behind them. But we will see what'll happen.

FA: Okay

Manager: Back to your point. We will not begin equity accounting for our investment in CPS until the transaction is closed.

FA: Okay. (pause). I'll let someone else ask a question, then. Thanks.

(Conference Call Transcript)

The possibility that the foreign government could seize the assets of the CPS raises serious concerns about the accounting for the investment. The uncertainty surrounding the actions of the foreign government affects the analyst's ability to make sense out of the accounting information for the purposes of modelling. But the analyst seems unsure as to how to proceed, given that management is not aware of this information. The determination of whether this is included or excluded in the calculation cannot be determined through collaboration. The controversy cannot be settled. Turning to the analysts' report we can see that the analyst restates management's response in a paragraph of the report, with the Manager's reaffirmation, but no stated conclusion.

"Going forward, The Company expects to reduce its ownership level to around X% from X% as previously outlined through a transaction with the Foreign Government. While

> this deal was expected to close in mid-February, recent comments suggests there could be some delay due to issues revolving around historical tax issues. The Company will move to equity account its investment once the transaction is concluded."
>
> (Financial Analyst Report)

This episode is significant because of what it demonstrates about the exclusions and inclusions in the analysts' reports, an important step in the framing process. Exclusion is as much a part of the process of framing as inclusion. In this example, while the analyst includes the manager has said in the conference call in his report. What the analyst includes is the affirmation from management. While the value cannot be settled, the analyst eliminates consideration of the risk associated with it. What the analyst excludes is further questioning of the managers' claims. This serves to bypass the original identification of uncertainty behind the analyst's challenge to management.

6.4.2 Example 2 – What figure to represent inclusions in the frame?

Once a conclusion has been reached about what is to be included in the frame, a number has to be established in order to make sense out of it quantitatively in the analysts' models.

In this example, the acquisition of DEUTSCHE[18], a foreign commodity trading company, is discussed. This acquisition is significant, both in terms of the transactions monetary value, but also in terms of management's strategy. The management and analysts are trying to figure out how to include it in the valuation of the company, and to do so appropriate measures of its potential performance need to be established. Certainly the acquisition price is the starting point for modelling, but the analysts also need to establish the future income stream for their models.

[18] Pseudonym

In the interview, one of the analysts expresses the confusion surrounding the calculation related to DEUTSCHE, and indicates the attempts of management and the analysts to settle the controversy on the conference call:

FA: "Uhhh....you know, clearly there has been a fair amount of confusion out of....about the acquisition of DEUTSCHE, and what that's doing to the financials. I still think that's a bit confusing for people. It's still not clear. So, I've been trying to...if you listen to some of the questions about that on the last two conference calls, you'll kind of get a flavour of where people are grappling with the issues on this thing, and coming to some conclusions. And they, you know, they weren't very clear. There were some mixed messages provided in their answers to some of the questions. Particularily on the Q4 12 conference call, surrounding the DEUTSCHE acquisition, and the margins they're expecting."

KF: "Oh...okay...did they not seem realistic, or did it not seem.....?"

FA: "Just confusing....it wasn't...was it an EBITDA margin, was it a gross profit margin....what is the number? And they say "typical trading margin?...well, what is that?...is that 5%, 10%, 15%? You know? (laughs)...

KF: "Okay...and they're..."

FA: "Trying to figure that out....uhhhmm...and there was...I think if you listen, there was a bit of confusion about exactly what margin they were talking about

KF: "And, were they just not forthcoming with the kind of margin...?"

FA: "No, I think they just got confused, themselves."

KF: "Oh, okay. Has that been sorted out?

FA: "Generally. But this year's a bit unique, on DEUTSCHE, because there are some inventory adjustments. There is purchase accounting going into it. There is inventory sales, this is the end of the [secondary supply] sales year. There's a bunch of moving parts that, this year will not be representative of what DEUTSCHE will bring to the bottom line going forward. So, again, they're still trying to determine what the real numbers will be."

(Financial Analyst Interview)

This event began with the release of the information regarding DEUTSCHE in the year-end financial package. In the following excerpt from the annual report, management offers some indication of how they will account for DEUTSCHE, and what operating results they expect.

The transaction had not been completed as at the year end, and therefore there are no figures to report. The reporting of the acquisition is another example of management cues to analysts, and the way the analysts subsequently take it up in their flash report, and continue to explore it in the conference call.

From this example, we can also see the difficulty with which a figure to represent that inclusion is settled upon. In this except, management indicates an expectation of a "profit margin" of a certain percent. This "profit margin" is not specifically defined, however, and I follow the suggestion of the analyst above, to examine the detail in the Annual Report through the conference call:

> **"OUTLOOK FOR 2013**
>
> The requirement to assign fair values to the sales and purchase contracts as of the acquisition date will impact the future operating results reported for DEUTSCH. For example, DEUTSCH is a party to the [secondary supply] commercial agreement, which provides for the purchase of [commodity] at a price well below the current market. We will assign a portion of the purchase price to this contract. Our future cost of sales will reflect the amortization of the value assigned to the contract in the periods in which this [secondary supply] material is delivered. This accounting will be applied to all contracts in the portfolio as of the acquisition date. As a result, we expect **the profit margins we report for** DEUTSCH **will be in the range of 3% to 5% in 2013**. We plan to report DEUTSCH as a separate business segment."

(Company Annual Report, emphasis added)

Taking direction from the news release package, a financial analyst begins a line of questioning in the conference call related to this MD&A excerpt. The inquiry into the meaning of the "margin" in the conference call starts with one analyst asking about the effect of the commodity price on the different sale prices of the inventory. This discussion is related to the analyst's interview comment, above, regarding management being confused in the call about the type of margin they were talking about.

FA: And sorry, not wanting to hog the floor, but those 4,000 tonnes after [secondary supply contract expires], **will the profit margin change** much if commodity prices weren't to change?

Manager: Yeah, I think it's fair to say that for those involved in the [secondary supply] agreements, those are fairly attractively priced pounds and, yes, for DEUTSCHE, as the [secondary supply] pounds come off and they look for new volumes and continue to transact, as I said, both in the spot and the term market, I think we can assume that they will go to sort of standard trading margins for our business.

A different analyst picks up where the first analyst left off:

FA: Okay, great. Thanks. And then just on DEUTSCHE, another clarification. The 3 percent to 5 percent margins; were those sort of EBIT operating margins or are they post-tax margins?

Manager: Those are EBITDA margins about 3 percent to 5 **percent**[1]. And I'd like to stress, you know, that's just a forecast, but I think it's a fair assumption today.

FA: All right, great. Thanks.

[1] ***Please note**, a 3 – 5% EBITDA margin is referenced; however, the reference should have been to a 3 – 5% gross margin. Please see page 52 of our annual MD&A for more information.*

(Conference Call Transcript)

Note footnote 1 on the transcript, where The Company clarifies what the manager was talking about before the transcript is published. After the call, however, the description of the margin as an EBITDA margin, as erroneously confirmed by management, is included in the analysts' reports, as this example demonstrates:

> **DEUTSCHE acquisition expected to have small positive impact on go forward EPS** – Management will provide more details on the accounting treatment of the DEUTSCHE acquisition with Q1/13 results. Post 2013, once DEUTSCHE sales associated with the [secondary supply] Agreement are completed, [The Company] management expects DEUTSCHE's annual volumes to be approximately 3,000-4,000 tonnes [commodity] (8 million-10 million pounds [commodity]-equivalent) **and generate an EBITDA margin**

> **of ~3-5%.** This suggests that the annual EPS impact for [The Company] should be in the range of 3-5 cents at current [commodity] prices.
>
> (Analyst Report, emphasis added)

Another analyst report demonstrates the same acceptance of the figure definition offered by management, and indicates that the inclusion in the model is a result of the interaction on the conference call:

> **DEUTSCHE added to our model:** We have included DEUTSCHE in our 2013 estimates for the first time based on [The Company]'s 2013 guidance (see Estimate Revisions on page 3 for details).

From page 3:

> We have included DEUTSCHE in our 2013 estimates for the first **time based on [The Company]'s 2013 guidance for pre-tax margins of 3%-5%** and operating cash flow of $100-$125 million on sales of 9-11 million lbs. of [commodity] and 500,000 SWU for revenues of $500-$600 million. Margins are expected to remain flat in 2014 and beyond while cash flow will decline with the end of [secondary supply] sales.
>
> (Analyst Report, emphasis added)

Management recalls that exchange during the interview, without any prompting, and expresses the difficulty of controlling every interaction:

> "If they're starting to talk to something undoubtedly, you leave the call half the time and..."did you catch that?"...and "no, I didn't hear him say that."..."Yeah, he said that, we have to clean that up on the road or something." Because, like, one instance was, I think, just one of the executives misspoke and said....it was something around gross profit, and it...anyways, the terminology used was wrong, just a slip, I mean, it wasn't intended. But, of course, undoubtedly, we get the emails and calls and on the road after, like "He said this?" ..."No, no, sorry, that was just a mis-spoke...it was supposed to be gross profit"...or whatever it was."
>
> (Company Manager)

This example suggests that the next step in framing, that of establishing values for the inclusions to the analysts' models. This discussion of the margin that will be realized by the acquisition of

DEUTSCHE exemplifies the analysts' dependence upon management for information, suggesting that the model must be built to the disclosure (as we will see one analyst stating in Chapter 8), but also that the relevant value, that is, the "margin" that is pertinent, is decided upon during the conference call by the analysts focussing on the measure, management's attempt to give them the information that they need, and the follow up to clarify the meaning of the terms.

6.4.3 Example 3: reproducing and stabilizing inscriptions - Havana River

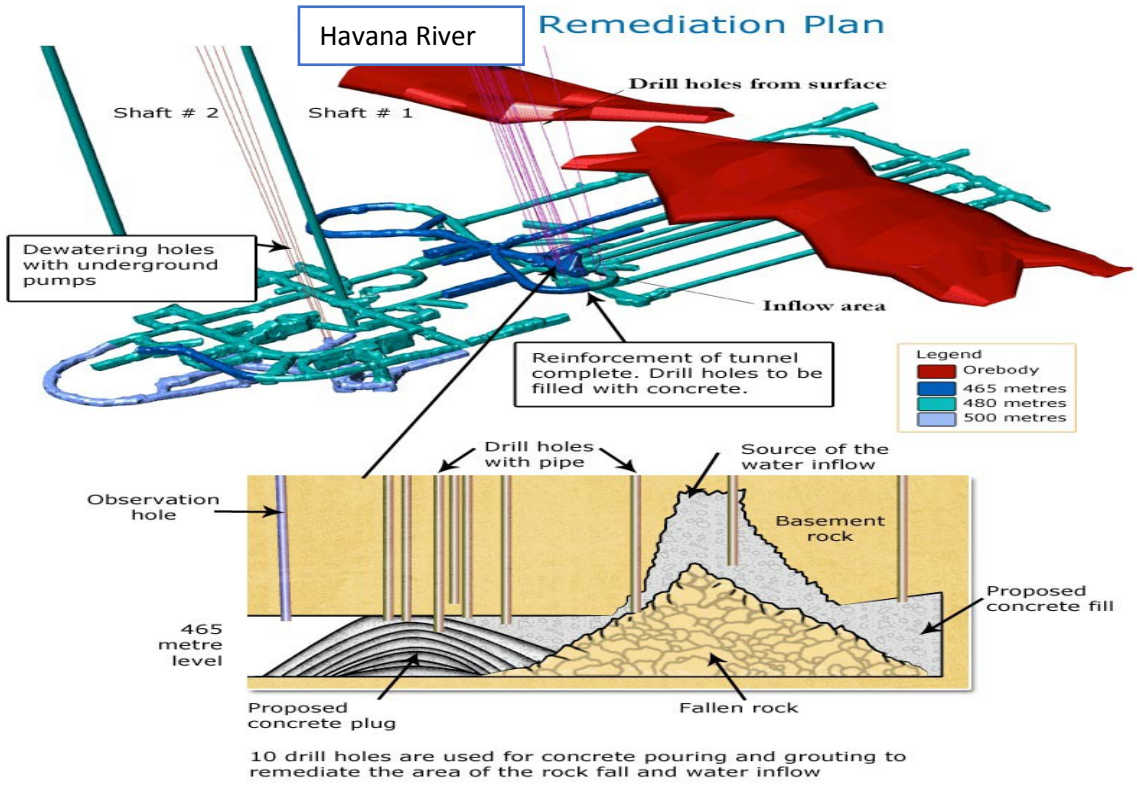
The technical aspects of mining can cause delays in production and increased costs, delaying sales and decreasing Net Income. One of The Company's major projects experienced flooding, causing such delays. This example follows the technical challenges, the interaction between management and analysts in communicating the issues, and the settlement of the issue using inscriptions that contend with the uncertainties surrounding remediation of the mine.

The technical difficulties began with a rock fall that resulted in water in the mine. The Company reported the issue in the annual report:

> "In October 2006, a rock fall causing a water inflow at Havana River[19] flooded the underground development. The company is currently in the process of mine remediation. For more information, see the section titled "[Commodity] Projects – Havana River" under "[Commodity] Business" in this MD&A."
>
> (Annual Report)

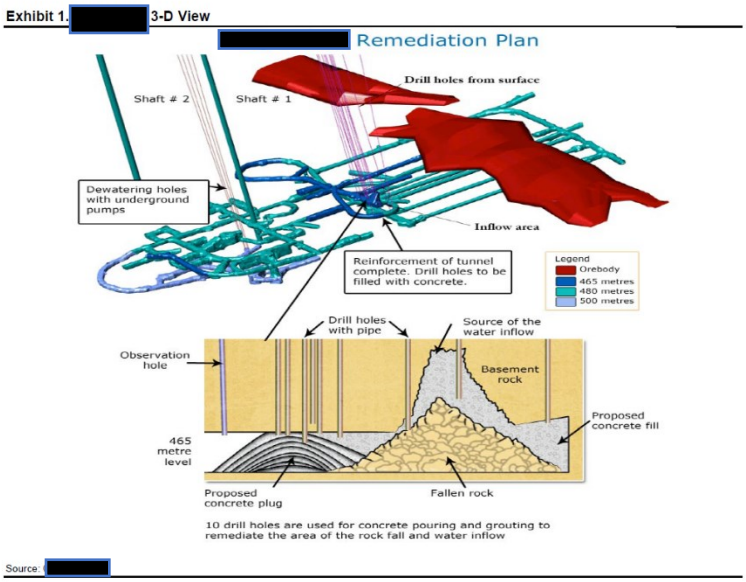
Management's remediation plan to repair the water inflow and allow access to the ore body for extraction is depicted in the diagram below, first published in The Company's annual report.

[19] Pseudonym



In the annual report, The Company suggests that the diagram should be read with reference to several risk factors. The Risk Factors The Company lists are numerous, and indicate significant uncertainties and assumptions, taking up a full page in the annual report.

The diagram was reproduced in the analysts' reports. The example below shows that the analyst has included an exact reproduction of the same diagram:



(Analyst Report, actual size)

It is evident that the source of the diagram is noted, as the diagram comes directly from The Company. The Risk Factors listed by The Company in the news release, however, have not been included, or summarized anywhere in the Analysts' report. The list of Qualified Persons (discussed as Subject Matter Experts in the previous chapter) has disappeared, as has all of the analysis of contingency and risk associated with these Subject Matter Experts. The analysts do express some of their own uncertainty, however, as in this excerpt from an analyst report that identifies the unknown source of water inflow:

> "We are applying a lower valuation multiple on The Company with the source of the water inflow at Havana River and the impact on the production schedule unknown. Our target price for The Company has been lowered to C$38.00. We are maintaining our HOLD recommendation as we expect that there will be an overhang on the stock until management provides more details on Havana River, which is not expected until the end of September."

(Analyst Report)

This example demonstrates how the analysts use inscriptions that have been presented by The Company, and how the uncertainty associated with the assumptions used to produce the inscription have been obscured as the inscription has been carried forward by the analysts.

6.5 Discussion and Analysis

Barker et al., (2012) examine the meetings between corporate managers and market actors[20] and conclude that the securities regulations governing information exchange result in these meetings conveying no new information, and serve another purpose: to allow for the assessment of management., I find that, despite the lack of new information provided, the purpose of the conference call meetings between management and financial analysts is to establish a calculative space where framing can take place (Callon, 1998). Within this space calculation is a collaborative effort between management and the analysts, assisted by the formal and informal rules that undergird this space and guide behaviour.

Beunza and Garud (2007) suggest that in frame-making, analysts establish three crucial aspects of the company they are framing: a category, an analogy, and a key metric. Whereas Beunza and Garud's analysis suggests that this is something that the analysts do themselves, I find that framing is collaborative effort, based on interaction between management and the analysts in a constructed calculative space. Further, I focus on one key aspect of framing, the work performed to settle on a key metric. The collaborative effort towards this end consists of first determining what will be included in the frame, what figure will represent the inclusions, and what inscriptions will be carried and modified.

[20] Barker et al. (2012) examine private face-to-face meetings between corporate finance directors and equity fund managers. Their findings are relevant to the examination of conference call meetings between management and analysts, as the regulations governing information exchange are the same, and, indeed, significantly more easily scrutinized in the more public nature of the conference call setting.

The process of framing The Company's performance is examined here as a collaborative effort of collective framing. The efforts to construct the frame consist of the activity to determine what to include in the frame, what quantitative measure to assign to it, and what visual representation to use to describe it. The collaborative interaction between management and the analysts is governed by formal and informal rules that set the boundaries of the conceptual space and provide guidelines for acceptable behavior. The resulting interaction begins before the conference call, with the analysts flash report response to management's financial package release, and continues through the call, where the cues that management and the analysts offer each other guide interaction through the process of establishing frame inclusions, designating figures to represent them, and carrying inscriptions to stabilize the uncertainty surrounding them.

This process is based on a set of formal and informal rules for establishing a space for interaction between analysts and management, where the analysts can challenge management in the determination of a key metric to evaluate The Company's performance. The conference call is an established space for the physically distant analysts to interact with management, a forum that has no material space but is one that is governed by rules, and that has boundaries (Goffman, 1974).

The informal rules build on the formal rules. They start with the premise that the analyst is there to challenge management, in an environment that is certainly created by the formal rules, but behaviour is also bound by unspoken etiquette and rules of engagement. Within the rules surrounding these guidelines, the analyst may attempt to get management to say things they are not supposed to, in the interest of getting "colour", but colour exists in a thin line between the material non-public information that will get them blacked out and into trouble, and the non-material non-public information that the analysts can use in their analysis.

The call activity governed by these formal and informal rules is connected to the pre-call activity between management and the analysts, in how management will try to pre-empt any questions by the analysts, and how the analysts will follow up on their preliminary reports by asking questions to gather the information for which they expressed need, ignoring the information they have deemed to be unimportant.

The pre-conference call messages sent back and forth by management and the analysts initiate the frame making process by identifying what is, and is not, important to the analysts, suggesting what will be examined in the framing space. Within this space they establish what will be included in the frame, what the appropriate figure is to represent what will be included, and settle upon inscriptions that represent settlement through the elimination of uncertainty surrounding assumptions.

During the call, when one analyst establishes a line of questioning connected to the needs expressed in the flash report, the other analysts will follow up on this, leading to a collaborative effort that continues until a narrative has been constructed. In response, Management will mobilise the network of experts and inscriptions in the justification of their reported activities. As these inscription are taken up by the analysts, and reproduced in their reports, the assumptions made to contend with the uncertainty of future states, and the risks identified and provisos stated, are eliminated by the analysts. This reduction of uncertainty and fragility stabilizes the settled controversy.

As suggested by Callon (1991), in order for calculation to take place, the processes of objectification, an object has to be identified, and singularization, its qualities must be agreed upon, must occur. For the qualities to be chosen from the available options, the options must be reduced. The process of selecting inclusions, assigning a value, and inscribing them through the

interaction in the conference call is a part of the process of singulariziation and objectification, and makes possible the subsequent calculation that will occur in the analysts' modelling by reducing the uncertainty and assumptions associated with various possible outcomes.

6.6 Conclusion

This chapter continues the story of interaction between The Company and the financial analysts that follow it. I enter the story at the point in the process where The Company has issued its press release and financial results, and the financial analysts obtain the information and begin their updating and reporting processes. I present examples of conference call interactions, driven by preliminary analyst reports, followed through the conference call exchanges, and I demonstrate how management may attempt to pre-empt questions, and how the analysts will pose questions to address the information requirements stated in their preliminary reports. I then examine the mobilization of the different experts and devices (models, calculations, and numbers) that management and the analysts use to settle controversies, and follow these through to the reproduction of the inscriptions that capture this settlement in the analysts' reports. I demonstrate how the uncertainty surrounding the different possible settlements is reduced during the travel of these inscriptions through The Company's annual report to the analysts' reports. References to sources are removed, and the uncertainty of predictions is downplayed as the analysts stabilize the frame, and tell the story of the company in their reports.

This temporary stabilization of the frame of calculation settles what will be included in the frame, what figures will represent it, and how it is inscribed. The next step in the process is an examination of how Adjusted Net Income comes to represent the key metric for The Company. As the representation of The Company's performance, by construction of a story of risks and contingencies, and management's strategy for addressing them, the interaction between

management and the analysts associates components of the frame that come to be significant through the process described here. In Chapter 7, I focus on specific inscriptions that demonstrate the process of frame-construction and key metric selection as one of translating and constituting The Company's strategy, while establishing the key metric to represent The Company's performance in executing that strategy.

Chapter 7 – Re-inscriptions Supporting the Key Metric

7.1 Introduction

In Chapter 6, I examined part of the process of framing, leading to settlement upon a key metric, that determines what will be included in calculation, what figure will represent it, and how inscriptions are carried that settle the inputs to the calculation by obscuring uncertainty and assumptions. In this chapter, I demonstrate how the settlement on the key metric depends upon the result of the processes outlined in Chapter 6, how these processes determine whether or not the Company's strategy is settled and carried by the analysts, and how the key metric that is chosen is the one that describes The Company's performance in terms of this strategy. To do this I trace the relationship of the prices set in the commodity market by the price reporters, The Company's strategy, the interaction with financial analysts, and the devices that associate to form a network describing The Company.

To illuminate these associations, I examine The Company's inscriptions that the analysts reproduce in their own reports, specifically related to the calculations embedded in the value assigned to the unusual adjustment for the Argyle write-down. Using interview data, conference call data, The Company's annual reports, and the analysts' final reports, I demonstrate how the source of the inscriptions, and the uncertainty and assumptions surrounding the inscriptions, are obscured as the analysts combine the inscriptions with their own work, eliminate references to the source of the inscription, remove the assumptions underpinning the calculations, and remove disclaimers of uncertainty. From the data, I draw representative slices that exemplify the inscription, re-inscription, and taken-for-grantedness that support the framing processes of objectification, singularization, and ultimate settlement on a key metric.

I show how these inscriptions are related to The Company's strategy, and that the key metric used is the one that reflects The Company's performance in terms of that strategy. The relationship between the reported commodity price, and The Company's product deliveries, its average realized price, its mineral resource project value, and its strategy is examined in relation to the determination of Adjusted Net Income as the key metric for The Company. The value of the Argyle acquisition seems to be effected by, and to have an effect on, The Company's strategy to achieve a stated production level. When The Company acquired Argyle, its strategy was to double production, and one of the ways to do it was through such acquisitions. For a variety of reasons, doubling production came to be no longer desirable, and the strategy changed. This chapter demonstrates that the key metric turns out to be the Adjusted Net Income number, which includes the add-back of the GAAP loss on write-down of Argyle. The ANI figure represents consistency with the new strategy: focus on existing assets, lower production, and position for the anticipated commodity market recovery. Argyle is no longer part of that strategy, and thus is excluded from the metric that represents The Company's performance in terms of the changed strategy.

Callon and Muniesa (2005) suggest that the process of calculation is dependent upon processes of objectification and singularization. In order for the analysts to perform their calculations, the company must be "objectified", that is, identified as a "thing", and the qualities of this thing must be settled upon, or "singularized". I discuss this as a necessary part of a process of collective forming that results in a constructed frame (Beunza and Garud, 2007). During this process, a co-elaboration of the frame by management and the analysts, the one piece of it that represents the performance of the company in relation to its strategy, the key metric, is settled upon.

In the following sections, I first demonstrate how Adjusted Net Income has become accepted over time as the key metric for The Company, exemplified by the Analysts' reports. Investigating how this came to be, I then examine the co-elaborative processes through which key inscriptions are re-inscribed: The Company re-inscribes the price reporters' calculated spot and long term prices; the analysts re-inscribe key inscriptions from The Company's reports. These include the reported commodity prices, which are carried from the price reporters, to The Company's reports, to the analysts' reports. Also examined are: The Company's average realized price, price sensitivity tables, production forecasts, and customer deliveries. I then focus on the history of one acquisition, the Argyle acquisition discussed in previous chapters, the processes surrounding its purchase, valuation, subsequent write-down, and pro forma adjustment, in terms of its relationship to The Company's strategy.

These are analyzed as processes of objectification and singularization (Callon and Muniesa, 2005) in a calculative process (Callon, 1998a) that settles upon a key metric (Beunza and Garud, 2007). During this process, the boundaries between calculations, and the devices that describe them (Muniesa et al., 2007) become black-boxed, as traces of uncertainty and the possibility of variable outcomes are obscured. The resulting key metric, Adjusted Net Income, describes the network of associations that supported its settlement.

7.2 The Use of Adjusted Net Income

In this section I examine the content of The Company's annual reports, and the analysts' final quarterly reports, to trace the use of Adjusted Net Income by financial analysts in these reports. Over the 2008 - 2013 period, the use of Adjusted Net Income has become the key metric used by analysts to represent the performance of The Company in their reports. I find that, over time, some analysts that had initially identified the distinction between Adjusted Net Income as a

non-GAAP number and IFRS Net Income come to use it interchangeably, and synonymously, with IFRS, both in dollar terms, and in making their own calculation of Earnings per Share (EPS). As new analysts initiate coverage of The Company, they begin their reporting with the Adjusted Net Income (hereafter ANI) and Adjusted EPS. Further, analysts that used to call it "adjusted EPS" come to call it simply "EPS", without identifying it as a non-GAAP measure. The figure the analysts forecast is the adjusted number, quoting their estimates in comparison to The Company's result in terms of ANI. The analysts compare the quarterly EPS to their own estimate, to consensus estimates, and to The Company's prior periods, even when it is clear that, from period to period, adjusted EPS is made up of different adjustments.

This section demonstrates that analysts use the Adjusted Net Income measure to represent The Company's performance in their reports. Further, when analysts use ANI, they typically don't refer to it as such, despite The Company's disclosure indicating its pro forma nature. Where some analysts used to explain the nature of ANI as a non-GAAP measure, they subsequently cease doing so. When analysts report both an IFRS Net Income number and an ANI number, they use a different term for ANI, typically in a positive way, suggesting that it is "normalized" or "clean". When new analysts initiate coverage of The Company, they use ANI as the relevant measure.

7.2.1 The Company's Disclosure of Adjusted Net Income

Following SEC guidelines (SEC, 2003, OSC 2012), the Company makes it clear in their disclosure that Adjusted Net Income is a non-GAAP number, and that its components are variable from period to period. With the exception of the foreign exchange hedging portfolio adjustment, there is no established routine for what is included or excluded, and therefore the make-up of Adjusted Net Income (ANI) changes from year to year. A statement disclosing this

is included in all media releases, in the quarterly financial reporting package, and the Annual Report.

The Company clearly states that their use of ANI "should be considered supplemental" as it is a non-GAAP measure.

Adjusted Earnings

For the year ended December 31[redacted] Adjusted Net Income was [redacted] million ($1.67 per share adjusted and diluted), $17 million higher than the adjusted net earni[redacted]r share adjusted and diluted) recorded in 2007. In 2008, based on adjusted net earnings, we recorded a tax expense of $50 million compared to $28 million for 2007. Our effective tax rate increased to 7% from 5% in 2007. This change was due to a higher proportion of taxable income being earned in Canada where tax rates are higher.

The Company uses the measure "adjusted earnings" in order to provide a more meaningful basis for period-to-period comparisons of the financial results. For a description of the adjustments, see "Use of Non-GAAP Financial Measures" on page 74 Adjusted Net Income [redacted], a non-GAAP measure, should be considered as supplemental in nature and not a substitute for related fi[redacted] information prepared in accordance with GAAP.

(The Company Annual Report)

Many analysts use ANI, more than those who use IFRS Net Income, or both, and only one has actually defined it as a non-GAAP measure. That one analyst however, subsequently ceases to identify it as a non-GAAP measure. In this example, the analyst identifies the difference between adjusted EPS and GAAP EPS:

> "The Company reported a 4Q09 adjusted net profit of C$0.63/share, compared with our estimate of C$0.37/share and consensus of C$0.56/share. The C$0.26/share variance between our estimate and the actual result was due to the following:
> • C$0.10/share due to higher-than-expected realized gold, fuel and commodity prices • C$0.16/share due to higher commodity sales volumes Adjusted net EPS is a non-GAAP measure and does not include restructuring charges, asset write-downs, unrealized gains or losses on financial instruments or stock option expenses. On a GAAP basis, the company earned C$1.52/share in 4Q09. The difference between The Company's adjusted and unadjusted earnings was due to a C$374m after-tax gain on the sale of its shares of CPS in 4Q09."
>
> (Analyst Report)

The description and explanation of the pro forma EPS as non-GAAP, however, changes in the subsequent quarter's report:

> "The Company reported 1Q10 net profit of C$142m (C$0.36/share), which included a one-time after-tax gain of C$31m for unrealized mark-to-market gains on financial instruments. Adjusted net earnings (a non-GAAP measure) for the quarter were C$0.28/share (C$111m), in line with our expectation of C$0.28/share and higher than consensus of C$0.26/share."
>
> (Analyst Report)

Looking at the same analysts' next quarterly report for the same year, any reference to the non-GAAP nature of adjusted net income has been removed.

> "The Company posted 2Q10 net earnings of C$68m or C$0.17/share (fully diluted), which translates into adjusted earnings of C$114m or C$0.29/share. Our earnings estimate for the quarter was C$0.27/share and the market consensus estimate was C$0.24/share. At first glance, the C$0.02/share variance between the adjusted net earnings reported by The Company and our earnings estimate for the quarter appears to be due to higher sales of commodity of 8.4m lbs vs our expected 8.0m lbs."
>
> (Analyst Report)

The distinction between IFRS net earnings of $68 million and adjusted earnings of $114 million no longer carries the description of the adjusted number as being a non-GAAP number. This analyst's practice converges on the taken-for-grantedness of the adjusted figures, typical of the other analysts.

7.2.2 "Cleaning up" Adjusted Net Income

As analysts use the adjusted net income, when comparing it to the IFRS Net Income figure, or EPS based thereon, they either substitute or add another description to it, such as "normal", "normalized", or "clean". The following examples demonstrate, over the period of the study, examples of different ways the analysts describe Adjusted Net Income.

2010:

> "The Company Reports Headline EPS Of $0.17 And Adjusted EPS Of $0.29 On production of 4.9 MMlb U3O8, and sales of 8.4 MMlb U3O8, The Company reported

> EPS that on an adjusted, normalized basis, fell essentially in line with our expectations but well below the consensus average."
>
> (Financial Analyst Report)

2011:

> Strong Quarter Blows Away Estimates: On Friday evening, The Company reported its Q4 and year-end financial results, which substantially beat expectations. Headline EPS came in at $0.52 and after adjusting for a $16 MM unrealized derivative gain, normalized EPS was $0.48.
>
> (Financial Analyst Report)

2012:

> Clean EPS for Q1/12 were $0.27, below of our expectations of $0.40 and in line with consensus $0.27. Slightly lower-than-expected revenue as well as higher-cost, purchased [commodity] sold over the quarter explain the miss on our numbers.
>
> (Financial Analyst Report)

2013:

> The Company reported Q4/12 financial and operating results. The core businesses operated very well, with production of 6.5 MMlb [commodity] eclipsing our estimate of 6.3 MMlb and sales volumes of 14.4 MMlb U3O8 also a solid beat on our estimate, and up +180% Q/Q. Revenues at both Bruce Power and the Fuel Services Division were up materially Q/Q, but the strong operational quarter was offset by a $168 MM ($0.42 per share) writedown at the Argyle project in Australia, another victim of the current low commodity price environment. Headline EPS was reported at $0.11, but on an adjusted basis, EPS can be normalized at $0.60, well ahead of our $0.32 estimate and the consensus of $0.41.
>
> (Financial Analyst Report, emphasis added)

These representative data slices demonstrate that the evolution of the identifying distinction becomes one of "Headline" EPS versus "adjusted" or "normal", or "clean" EPS, not one of IFRS vs. pro forma. While such descriptions connote changes or adjustments to net income, the important distinction between an IFRS-based earnings measure, and a pro forma earnings measure that is made in The Company's Annual Reports is obscured by these other terms.

7.2.3 Initiating Coverage

The extent to which the adjusted number is taken for granted by the analysts is exemplified by the immediate adoption of the pro forma earnings number as the relevant performance measure by analysts that are just starting coverage of The Company. When analysts begin following, or "initiate coverage" of, The Company, use of the pro forma figure is evident in their reports from the outset. In the following example, below, when this analyst initiates coverage he uses the adjusted EPS from the press release, but doesn't call it that

> "Seasonal weakness expected – Earnings from Q4/12 to Q1/13 are expected to be lower due to typical seasonal commodity delivery volatility. We forecast Q1/12 EPS of $0.10/share, which is down from Q4/12 of $0.60/share and Q1/12 of $0.31/share. The consensus average is for $0.08/share with a range of $0.02 - $0.12/share."
>
> (Analyst Report)

Looking further into this report, there is a reference table comparing the figures:

Earnings Per Share - Basic	$0.10	0.0%	$0.12	-9.6%	$0.33
Adjusted Earnings Per Share - Basic	$0.10	0.0%	$0.60	-82.5%	$0.31
Adjusted Earnings Per Share - Fully Diluted	$0.10	0.0%	$0.60	-82.4%	$0.31

Source: The Company and the Analyst's Firm *Estimates*

The EPS this analyst is using is not the "basic" which is IFRS-based, it is the adjusted number, the non-GAAP number. Further, the analyst does not identify the 'basic' EPS as IFRS and the adjusted EPS as a non-GAAP number.

7.3 Inscribing and re-Inscribing

As demonstrated in Chapter 6, the analysts take inscriptions from news releases and the annual report, add conference call content to them, modify them, and carry them to their reports. Some of these inscriptions are tables, graphs, and diagrams. In this section I continue the examination of the inscriptions that are relevant to telling The Company's story. Some of these

the analysts take Company inscriptions and incorporate into a larger table that includes their own estimates. This aspect of inscriptions, combinability as per Robson (1992), allows the analyst to compare results of the consultants' and The Company's calculation to each other, and compare them further to the analyst estimates, combine them, and represent them as an entity.

Some of these comparisons combine figures from other tables; some of them combine the reported spot price with The Company average realized price (not calling it average realized price, but "realized price") into a table that shows their valuation. Some of them incorporate information from the conference call into the inscription, thus re-inscribing the inscription, but using it to add force to and/or reinforcing it with conference call dialogue.

Most importantly, together these inscriptions constitute a narrative of The Company's strategy, resulting in a network of support for the key metric to represent The Company's performance. Combining inscriptions removes much of the uncertainty and assumptions made about the commodity spot price, The Company's average realized price (closely related to and dependent upon the spot price), product deliveries, ability to meet the stated production target, acquisition of development properties, and subsequent write-down.

The re-inscription of the calculated spot price and the average realized price lead to their acceptance as inputs into the valuation of the development property, Argyle. The decision to continue development of the Argyle acquisition depends upon this value, and also relates to the expected demand of The Company's customers. Whether Argyle is to be put into production is related to both the spot price valuation and future demand. Whether or not The Company writes it down, and whether or not the analysts utilize the resulting Adjusted Net Income depends to a large extent upon the persuasiveness of the inscriptions that eliminate the uncertainties associated with all of these factors.

7.3.1 The [Commodity] Spot Price

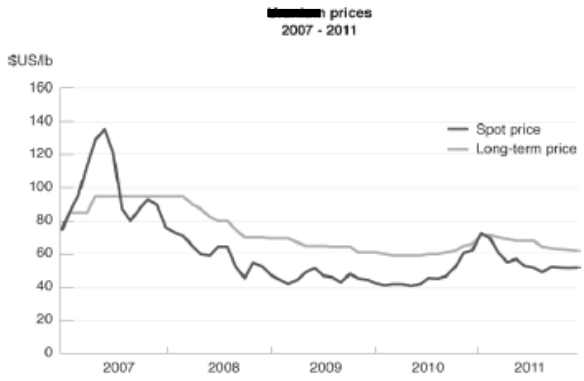
As described in Chapter 5, the commodity spot and long-term prices are reported by two consulting companies. Chapter 5 demonstrates that The Company uses these prices as comparisons for its own calculations to value resource projects, and as a base price in sales contracts. The numerous calculations performed by the consulting companies in the calculation of these prices fade into the background, as The Company incorporates these figures into tables and graphs in the Annual Report.

Industry prices

Since March, the spot price has declined from $70 (US) per pound to the low $50 (US) per pound range. Utilities continue to be well covered under existing contracts. Given the current uncertainties in the market, we expect utilities and other market participants will continue to be cautiously opportunistic in their buying. We expect [redacted] demand in the near to medium term to remain somewhat discretionary, and so we expect prices to be relatively stable in 2012.

	2011	2010	change
[redacted]m ($US/lb)[1]			
Average spot market price	56.36	46.83	20%
Average long-term price	66.79	60.92	10%
Fuel services ($US/kg[redacted])			
Average spot market price			
• North America	10.61	9.11	16%
• Europe	10.61	9.83	8%
Average long-term price			
• North America	16.09	12.21	32%
• Europe	16.42	13.27	24%
Note: the industry does not publish [redacted] prices.			
Electricity ($/MWh)			
Average Ontario electricity spot price	30	36	(17)%

[1] Average of prices reported by [redacted]



(The Company Annual Report)

The Industry Prices table, above, shows averages of the spot and long term prices for the commodities The Company produces, according to the price reporters. For the purposes of discussion in this chapter, it is the price per pound identified by the arrow in the figure. The Company shows the source of prices in the report in the foot note to the table. They also inscribe these prices over the years 2007 to 2011 in the graph accompanying the table. The source of the prices for the graph is the same as that which is foot-noted in the table. This source, however is not foot-noted for the graph.

7.3.2 The Company's Average Realized Price Table

In a subsequent section of the annual report, The Company also incorporates the reported prices from the Industry Prices table into a table for comparison of its average realized price.

	Three months ended December 31			Year ended December 31		
Highlights	**2011**	**2010**	**change**	**2011**	**2010**	**change**
Production volume (million lbs)	**6.6**	6.4	3%	**22.4**	22.8	(2)%
Sales volume (million lbs)	**13.8**	9.1	52%	**32.9**	29.6	11%
Average spot price ($US/lb)	**51.79**	58.29	(11)%	**56.36**	46.83	20%
Average long-term price ($US/lb)	**62.50**	64.33	(3)%	**66.79**	60.92	10%
Average realized price						
($US/lb)	**52.09**	48.51	7%	**49.17**	43.63	13%
($Cdn/lb)	**53.08**	50.10	6%	**49.18**	45.81	7%
Average unit cost of sales ($Cdn/lb) (including D&A)	**30.29**	29.38	3%	**29.94**	27.87	7%
Revenue ($ millions)	**731**	457	60%	**1,616**	1,358	19%
Gross profit ($ millions)	**314**	189	66%	**632**	532	19%
Gross profit (%)	**43**	41	5%	**39**	39	-

Fourth quarter

Production volumes were 3% higher due to slightly higher output at [redacted], partially offset by slightly lower output a[redacted] and [redacted]. See *Operations and development project updates* starting on page 14 for more information.

[redacted] revenues were up 60% due to a 6% increase in the Canadian dollar average realized price, and a 52% increase in sales volumes.

Our realized prices this quarter were higher than the fourth quarter of 2010 mainly due to higher US dollar prices under market related contracts, partially offset by a less favourable exchange rate. In the fourth quarter of 2011, our realized foreign exchange rate was $1.02 compared to $1.03 in the prior year.

(The Company Annual Report)

The paragraph below the Average Realized Price table, shown above, offers an explanation of The Company's average realized price performance, as compared to the spot price. That is, the revenue generated from its sales contracts, a percentage of which are based on the spot price at time of delivery, is compared to the average spot price. The Company's average for the year is compared to the spot market average for the year. The source of that spot price is the industry price reporters, as noted in the foot-note for the Industry Price table. Note that in The Company's Average Realized Price Table, however, that the reference to the price reporters is gone. These reports are on two different pages in the annual report.

The average realized price, as noted in Chapter 5, is an important figure for the analysts, and The Company's figure, and table, are reproduced in their reports. On the front page of the analyst's report shown below, it states that The Company's realized commodity price is $52.09.

> "Realized commodity prices: The realized commodity price was US$52.09/lb in Q4/11 versus US$47.33/lb in Q3/11."
>
> (Analyst Report)

Further in the report, on page 4 of the report, however, as shown in below, we see that this is an average realized price, an average of the contracts over the year. It is not a single "price" attained by The Company, but a calculation by The Company generated by its Contract Administration System.

Exhibit 6: [redacted] Segment

[redacted]	Q1/09	Q2/09	Q3/09	Q4/09	Q1/10	Q2/10	Q3/10	Q4/10	Q1/11	Q2/11	Q3/11	Q4/11	Q/Q	Y/Y
Production (000's lbs)	4,757	3,746	5,627	6,700	6,131	4,887	5,557	6,400	4,700	5,700	5,300	6,600	1,300	200
Sales (000's lbs)	7,065	8,538	8,280	10,000	6,600	8,351	5,572	9,100	6,100	5,800	5,300	13,800	8,500	4,700
Average Spot Price US$/lb	$44.67	$48.33	$45.29	$45.96	$41.79	$41.42	$45.83	$58.29	$67.[redacted]	$55.04	$51.04	$51.79	$0.75	-$6.50
Average Realized Price US$/lb	$36.71	$40.64	$34.24	$40.64	$42.34	$41.31	$40.63	$48.50	$48.06	$45.65	$47.33	$52.09	$4.76	$3.59
Cost of Sales (C$/lb U3O8) (including DDR)	$30.20	$31.21	$30.67	$30.29	$29.81	$28.35	$24.36	$29.89	$32.30	$29.61	$27.59	$30.29	$2.70	$0.40
Revenue ($mm)	$336	$443	$329	$443	$305	$364	$244	$461	$297	$256	$332	$731	120%	58%
Gross Profit ($mm)	$116	$171	$69	$132	$102	$119	$101	$181	$100	$86	$133	$314	137%	73%
EBT ($mm)	$98	$153	$52	$103	$85	$96	$58	$154	$82	$65	$94	$280	198%	82%
Gross margin	34.4%	38.7%	20.9%	29.8%	33.4%	32.9%	41.3%	39.3%	33.7%	33.4%	40.0%	42.9%	3.0%	3.7%

Source: Company Reports

(Commodity Segment Price Comparison – Analyst Report)

In addition to reproducing the reported commodity price, carried from The Company's report, the analyst's reproduction of the table shows The Company's average realized price by quarter, accumulated by the analyst over years of quarterly report analysis. The Company is referenced as the source of the information, but The Company's explanation from the original has been excluded from the analyst's re-inscription. The reference to the source of the spot price, the price reporters, has also been eliminated.

7.3.3 The Company's Price Table (Sensitivity table):

The price at which The Company sells its product is established on a contract-by-contract basis, and can be unique to each individual customer. It is based on negotiations with the customer, and is referenced to the spot and long-term prices calculated by the price reporters. The Company does not publish its actual contract details. As discussed in Chapter 5, The Company's marketing department prepares a Contract Administration System-generated price sensitivity analysis, calculating the delivery price The Company's contract portfolio, given its current make up, will yield under different spot and long-term price scenarios. The Company publishes this Price Sensitivity in tabular form every quarter.

Price sensitivity analysis: [redacted]

The table below is *not* a forecast of prices we expect to receive. The prices we actually realize will be different from the prices shown in the table.

It is designed to indicate how the portfolio of long-term contracts we had in place on December 31, 2011 would respond to different spot prices. In other words, we would realize these prices only if the contract portfolio remained the same as it was on December 31, 2011, and none of the assumptions we list below change.

We intend to update this table each quarter in our MD&A to reflect deliveries made and changes to our contract portfolio each quarter. As a result, we expect the table to change from quarter to quarter.

Expected realized [redacted] *price sensitivity under various spot price assumptions*
(rounded to the nearest $1.00)

($US/l[redacted]							
Spot prices	**$20**	**$40**	**$60**	**$80**	**$100**	**$120**	**$140**
2012	38	42	50	57	66	74	81
2013	43	46	54	62	71	80	88
2014	45	48	56	65	74	83	91
2015	43	47	56	66	77	87	97
2016	45	50	58	68	78	88	97

The table illustrates the mix of long-term contracts in our December 31, 2011 portfolio, and is consistent with our contracting strategy. The table has been updated to December 31, 2011 to reflect:

- deliveries made and contracts entered into up to December 31, 2011
- changes to deliveries under some sales contracts to assist our customers who were directly impacted by the March [redacted] incident in [redacted]
- changes to deliveries under some contracts where deliveries are tied to reactor requirements

Our portfolio includes a mix of fixed-price and market-related contracts, which we target at a 40:60 ratio. We signed many of our current contracts in 2003 to 2005, when market prices were low ($11 to $31 (US)). Those that are fixed at lower prices or have low ceiling prices will yield prices that are lower than current market prices. These older contracts are beginning to expire, and we are starting to deliver into more favourably priced contracts.

(The Company Annual Report)

The calculations tabulated above are based on a number of assumptions, which are noted below. An important assumption, under 'Prices', is that the average long-term price indicator is the same as the average spot price calculated by the price reporters.

Our portfolio is affected by more than just the spot price. We made the following assumptions (which are not forecasts) to create the table:

Sales

- sales volumes on average of 32 million pounds per year

Deliveries

- customers take the maximum quantity allowed under each contract (unless they have already provided a delivery notice indicating they will take less)
- we defer a portion of deliveries under existing contracts for 2012

Prices

- the average long-term price indicator is the same as the average spot price for the entire year (a simplified approach for this purpose only). Since 1996, the long-term price indicator has averaged 14% higher than the spot price. This differential has varied significantly. Assuming the long-term price is at a premium to spot, the prices in the table will be higher.
- we deliver all volumes that we do not have contracts for at the spot price for each scenario

Inflation

- is 3% per year

(The Company Annual Report)

The Company suggests that this is a 'simplifying' assumption. The assumption creates enough opacity in the table, however, that the analysts "struggle" to make sense of, as shown in the conference call:

FA: "Good afternoon. Another question on the table on page seven of the MD&A. I'm struggling with what the implications are for realized prices in a market where there's a large discrepancy between the spot price and the long-term price, because the table is predicated on the assumption that they're the same. Maybe [Manager] could run us through what it means over the next couple of years if we have a $20 to $30 difference between spot and long-term."

(Conference Call Transcript)

After the conference call, the analyst's report has reproduced the expected realized price table, and has incorporated it into the amount of the variance from the prior guidance given by The Company:

provided new guidance on its outlook for realized price (Exhibit 1). Price guidance for the most part has been lowered; although based on 's forecast of spo prices, the impact on our estimates is minor. has guided that 2012 consolidated revenues should decrease 0-5% year over year while revenues from the uranium segment should decrease by the same amount based on current spot prices. Capex guidance is $620mm in 2012, $650mm-700mm in 2013, and $600mm-650mm in 2014 (2014 capex includes $250mm-275mm of growth capex that will be directed largely to early-stage projects, including , U.S. ISR expansions, and the expansion). At this point, the project is not included.

Exhibit 1. 's realized price matrix

	's Expected Realized Price (change from previous guidance in brackets)						
	Spot price						
	20.00	40.00	60.00	80.00	100.00	120.00	140.00
2012	38.00 (+$2)	42.00 (+$2)	50.00	57.00 (-$2)	66.00 (-$3)	74.00 (-$4)	81.00 (-$6)
2013	43.00	46.00	54.00	62.00 (-$1)	71.00 (-$1)	80.00 (-$1)	88.00
2014	45.00	48.00	56.00	65.00	74.00	83.00	91.00
2015	43.00	47.00	56.00	66.00	77.00	87.00	97.00
2016	45.00	50.00	58.00	68.00	78.00	88.00	97.00

Source

(Analyst Report)

The reproduction, however, eliminates all of the assumptions underpinning The Company's calculations. The source is maintained, but all of the crucial assumptions made by The Company

have been left out. Here is another example, below, of how an analyst has combined the forecast of how The Company's contract sales will perform under various spot prices.

Exhibit 4: [redacted]'s Expected Average Realized [redacted] Price at Various Spot Prices and Changes from Previous Quarter Guidance - Constant Volumes

Spot Price	$20		$40		$60		$80		$100		$120		$140	
	New	Δ	New	Δ	New	Δ	New	Δ	New	Δ	New	Δ	New	Δ
2012	$38	$2	$42	$2	$50	$0	$57	($2)	$66	($3)	$74	($4)	$81	($6)
2013	$43	$0	$46	$0	$54	$0	$62	($1)	$71	($1)	$80	($1)	$88	$0
2014	$45	$0	$48	$0	$56	$0	$65	$0	$74	$0	$83	$0	$91	$0
2015	$43	$0	$47	$0	$56	$0	$66	$0	$77	$0	$87	$0	$97	$0
2016	$45	n/a	$50	n/a	$58	n/a	$68	n/a	$78	n/a	$88	n/a	$97	n/a

Source: Company Reports

(Analyst Report)

This analyst combines The Company's table into a comparative table showing the change from the previous quarter's guidance. This analyst also maintains the connection to The Company by citing the source, but again, all of the assumptions that guided the calculations resulting in the tabulated guidance have been left out.

7.3.4 Production Capabilities

The Company's Production Target Levels Table, discussed in Chapter 5, shows The Company's expected levels, and share of production at its producing sites. It also reflects The Company's production strategy. The excerpt from The Company's Annual Report is explained in the foot-note to the table, which lists a number of assumptions that The Company has made in producing the table. The Company has since stopped producing the table, but as an inscription that is carried by the analysts, and as its relevance to the period under examination, its use is relevant.

The Company's *Supply Outlook*

An update for our near-term production outlook is provided in the table below.

[redacted]s Share of Production (million pounds U_3O_8) Excluding Havana River

Current Forecast	[redacted]	2010	2011	2012	2013
[redacted] Mine projects	13.1	13.1	13.1	13.1	13.1
	3.6	3.6 [redacted]	3.6	2.8 [redacted]	1.7
	2.5	2.4	2.6	[redacted]	3.7
	0.9	2.3	3.1	3.1	3.1
Total*	**20.1**	**21.4**	**22.4**	**22.1**	**21.6**

* While a single estimate has been included for each year of the production outlook, actual production may differ significantly from these estimates as forecasting production is inherently uncertain.

[1] A revised production forecast for [redacted]e will be provided after the mine has been dewatered, the condition of the underground development has been assessed, and the findings incorporated in the new mine development and production plans.

[2] [redacted]as applied to increase its licensed capacity from 18.7 million pounds to 22 million pounds ([redacted]share 70%), but is awaiting regulatory approval. Until approval has been received, the production forecast has assumed the current licensed capacity. (See discussion in "[redacted]Operations" in this MD&A).

[3] Refers to [redacted]s S[redacted]te ISR operations in the US and other ISR development projects in the US. [redacted]ineral reserves assume production at an annual rate of 5.2 million pounds of [redacted] currently has regulatory approval to produce at an annual rate of 2.6 million pounds and an application for regulatory approval to increase annual production to 5.2 million pounds was made in 2005. [redacted] familiar with the statutory, regulatory and procedural framework governing new mining projects in [redacted] and, based upon its experience to date, ([redacted]believes that it is reasonably likely that all permits and approvals required for the construction and operation of its new ISR mine at Inkai – including approvals for increased annual production to 5.2 million pounds – will be obtained. However, there can be no certainty that permits or approvals will be forthcoming.

This table is reproduced, and, similar to the other tables re-inscribed by the analysts, the foot note disappears.

The following table summarizes The Company's share of [redacted] production over the next five years:

pounds - millions	2009	2010	2011	2012	2013
[redacted] Mine projects	13.1	13.1	13.1	13.1	13.1
	3.6	3.6	3.6	2.8	1.7
	2.5	2.4	2.6	3.1	3.7
	0.9	2.3	31	3.1	3.1
Total	**20.1**	**21.4**	**22.4**	**22.1**	**21.6**

Source: [redacted]

The company now expects a slower ramp up at both [redacted] and the U.S. operations with some of this decline being offset by higher production from [redacted] where they have been successful at finding more ore.

As the analysts use The Company's inscriptions, the references to uncertainty and assumptions that indicate other potential outcomes disappear. The source references to The Company persist, but in the cases where the original source was the price reporters, the source is not cited.

With The Company's productive capacity carried to the analysts' reports, the next consideration is revenue generation, that is, The Company's ability to sell the production they have forecasted.

7.3.5 Revenue Deliveries

The peculiarities of The Company's market, discussed in Chapter 5, pose some unique challenges. Recall that the company sells on long term contracts. A portion of the contracted product price is set to the spot price at the time of delivery. One of the issues that has persisted in the market is the customers' timing of the deliveries. The customers can time the contracted deliveries to meet their consumption, but they don't need much inventory right now, so they limit their purchases and push delivery into the future, leading to lack of demand.

The ongoing discussion between management and the analysts is when these deliveries occur, or what "normal" turnover is for The Company during the year. The controversy seems to stem from the analysts trying to get this information into their model to effectively forecast the timing of revenue on a quarterly basis. Initially it seems challenging for the analysts, and they comment on the ability of customers to control the deliveries, which makes it difficult for the analysts to forecast sales, and subjects The Company's earnings to unpredictable fluctuations. The following excerpts from financial analyst's reports show the both the focus on, and the difficulty with, determining when The Company's deliveries of product will occur.

> "The net deliveries of 4.8 million lbs were lower than our expectations which were based on a quarterly average of the company's annual guidance. The lower Q1 deliveries point to much stronger sales for the rest of the year and reflect the ability of consumers to adjust the timing of sales delivery."
>
> (Financial Analyst Report)

> Volume sold for both segments decline (16%) and (25%) vs. our model, while prices decline significantly for [the commodity]. Deliveries in these segments are at the discretion of customers, and the company commented that 3Q likely reflects the bottom for the average realized price for [commodity], and that 4Q shipments are typically the strongest.
>
> (Financial Analyst Report)

These excerpts demonstrate the difficult in projecting the revenue of The Company on a quarterly basis, as some of the product delivery, and thus Sales Revenue of The Company, is in the hands of the customers. The analysts change over time, however, from questioning what is normal, to accepting the inability to predict the timing of Sales as "normal quarterly volatility".

> "We believe consensus is too high: We are expecting The Company to report EPS of C$0.18 for 1Q11, which is lower than the consensus EPS estimate of C$0.31. (The consensus EPS range is C$0.18–0.42.) While we are relatively in line with consensus for the full year 2011 EPS forecast, we expect sales to be more heavily weighted to the 2H11 leading to lower EPS in 1H11"
>
> (Financial Analyst Report)

> "Earnings will be weighted heavily to H2/11. We expect the stock to look for direction similar to other commodity equities until the macro climate becomes better understood. Given the possible headline risk, investors will have to be patient to realize substantial returns from the stock."
>
> (Financial Analyst Report)

They start off questioning the deliveries, and as the conference call interactions, and the inscriptions used in the annual report become taken up by the analysts, they no longer question the deliveries, they reinforce them in their reports. When one analyst publishes his first report 2013, this seasonality is "typical".

> "With The Company set to report earnings on Wednesday, May 1, we expect to see typical commodity delivery seasonality lead to lower sequential performance. Earnings from Q4/12 to Q1/13 are expected to be lower due to typical seasonal commodity delivery volatility."
>
> (Analyst Report)

The signal in the Flash reports is that this information item no longer even needs to be addressed in the conference call. The analysts subsequently become uninterested in information items that they have taken as given:

> "We expect and are unconcerned with typical weakness in sequential performance due to quarterly [commodity] delivery volatility."
>
> (Analyst Report)

7.4 The Argyle Purchase and Write-down

In this section, I focus on one component of Adjusted Net Income, the Adjustment for an Unusual Item. Recall, from Chapter 5, that Adjusted Net Income is typically made up of one routine adjustment, the effect of foreign exchange fluctuations on the currency hedge portfolio, and some unusual adjustments. An Adjustment for an Unusual Item, however, is different every time it is performed, as it relates to a different unusual item each time. While in this chapter I show that Adjusted Net Income in its entirety becomes taken for granted by financial analysts, it is the adjustment for unusual items which requires settlement each and every time it appears. The settlement of Adjusted Net Income depends upon the "irreversibility of the prior calculations that give rise to, and support, its calculation. I therefore focus the following analysis on the inscriptions related to the unusual adjustment for the write-down of the "Argyle" exploration project, as this write-down decision and value is dependent upon the settlement of the prior calculations, and this settlement is demonstrated by the resulting.

The acquisition and subsequent write down of the Argyle project exemplifies all of the pre-call, call, and post-call activity described in Chapter 6. It also provides an example of how the inscriptions described previously (see the three examples in section 6.4 in Chapter 6) are linked, and how some are taken up by the analysts in their reports after the conference call. That

they are carried by the Analysts to their reports suggests a degree of irreversibility, and also that they support the Analysts' calculations in their models, discussed in Chapter 8.

Argyle was an undeveloped mineral deposit purchased by The Company in 2008. The acquisition of this high-grade deposit was announced as part of a strategy to double The Company's production, a strategy that included the acquisition and development of exploration projects. As The Company continued the exploration of the deposit after acquisition, however, operating costs increased, while the commodity price declined. The Argyle project was subsequently seen as unprofitable at the current commodity price, and written down. The Company communicated the challenges with the project to the analysts over three conference calls, starting with the 2008 Q2 call, continuing to the Q3 call, and finally with the actual write-down, and the decision to "shelve" the project at the Q4 year-end call.

Before the Q2 call, in the financial results release package, management notes what spot price or production output it needs to make the Argyle development profitable. Then, in their reports, the analysts note the information that they will follow up on in the call. Management attempts to pre-empt discussion at the beginning of the call. The analysts initiate the questions, contesting the parameters of the write-down, and then other analysts follow up on the line of questioning (see section 6.4, Example 2 in the previous chapter). In the Q3 call, The Company announces a change to its strategy with respect to its exploration and development properties ("greenfields"), and indicates a change in focus to expansion at its existing, producing properties ("brownfields"). In the fourth quarter, The Company announces a decision to not proceed with development of Argyle, and provides a write-down of the project under IFRS. The amount of the write-down is added back to Adjusted Net Income.

I begin the examination of the Argyle Adjusted Net Income result with the announcement and interaction between analysts and management in 2008. I then pick up the examination when the pre-feasibility results are announced in the second quarter of 2012, continue with the change in strategy announced in the third quarter, and through to the announcement of the write-down, and the interaction at the end of 2012. I provide a detailed description of the process, and throughout, I show that the processes of framing the different components that are considered by management and the analysts to determine the value of Argyle, and its place in The Company's strategy, is one of settlement on a key metric, where different possible values of prior calculations are obscured, and punctualize the calculation of the metric chosen to represent The Company's performance. The description that follows is intended to demonstrate the importance of the various associations (Latour, 2005) that are made in the process of calculation (Callon, 1998b) that is taken as one of forming the socio-technical agencement that performs the calculation (Callon, 1991; Callon and Muniesa, 2005).

The Acquisition.

As demonstrated above, the commodity prices calculated by the industry consulting companies have been established as the representative market prices. In order to value potential acquisitions, as demonstrated in Chapter 6, The Company uses a valuation model, based on a net present value calculation, using their own long term price forecast, with a comparison to the calculated prices. The calculated commodity price is published by The Company, with reference to the consulting companies. The Company does not, however, publish its own price forecast.

> "...no, we don't publish our forecast, but it ends up in some of the decision making around things that are done, but, no, we don't...our forecast is confidential..."
>
> (The Company Manager Interview)

As discussed in Chapter 5, The Company uses its own (private) forecast in the valuation of prospective acquisitions.

When The Company announced the acquisition of Argyle, the analysts performed analyses of 'reasonableness', calculating the return on the investment and estimating the commodity prices that would have to be realized under different scenarios, and considered them in relation to the calculated spot and long-term indicator prices.

> "Without a feasibility study, we have done a back of the envelope calculation to arrive at a project NAV using two scenarios. Under the first scenario, we have assumed a start-up date of 2012, 4 million pounds of production per year for 20 years (using up the 80 million pounds of resources), $600 million in capital costs (estimated capital in 1996 was US$120 million for a smaller plant), $15/lb in operating costs and a long-term price of $50/lb, and we get a value that is close to breakeven. Under our second scenario, we have assumed the same start-up date of 2012, 3 million pounds of production per year for 20 years (using up 60 million pounds of resources), $500 million in capital costs, $15/lb in operating costs and a long-term price of $50/lb, and we get a negative valuation of approximately $168 million. Based on either one of our scenarios, the project is not overly attractive using current assumptions and would require additional resources, higher annual production levels, lower capital or lower operating costs to make the project economic."

(Analyst Report)

> "Investment Conclusion
> We believe that The Company paid fair value for the project at approximately C$7.23/lb of [Commodity] in the ground to enhance its long-term production profile and has aligned itself with a good partner for the project. Earlier exploration work indicates a resource grading 0.3-0.4% [commodity], which we view is respectable for an open-pit operation. While there are concerns that the Argyle project is located in [area] where commodity mining has not been well received in the past, the view towards commodity mining has been improving. We view yesterday's announcement as relatively neutral as the project is several years away from development and would have no immediate impact on our valuation for the company. We are maintaining our HOLD recommendation and C$XX.00 target price."

(Analyst Report)

While the future production form the investment was initially excluded from the analysts' models, it starts to show up in the analysts' models over the course of time:

> Valuation Our C$XX/share target price on the shares of The Company is obtained by applying a 1.5x NAV multiple to our estimate of CCO's net asset value of C$30.67/share utilizing a long-term commodity price of US$60/lb and a C$/US$ exchange rate at par. Of our C$XX.67/share NAV estimate, Argyle accounts for C$1.00/share.
>
> (Analyst Report)

The Company's strategy for increasing production is questioned, and the relationship of the Argyle acquisition to increased future production is tentative:

FA: Okay. Just a second question: [Manager], your 40 million pound target by 2018, I can get you to about 30 million pounds with the existing assets then Argyle, Ledi [Block] 3 I guess, Thousand Acres all start to come into the picture by 2015, 2016 I'm assuming. What kind of production levels do you think are going to come from those assets individually?

Manager: Obviously 9 million of it is going to come out of Havana River, [Analyst]. So that. And we start with 21, 22, which is our starting point right now. A little bit more we hope out of Douglas Lake, maybe 10, 15 percent. And we're looking at Douglas to see whether indeed with the exploration results, both north and south, whether it might be able to do even more, but that's simply being looked at. You go to the US where we're about 2.5; we're going to double that, between 4 and 5.

FA: Double by when, [Manager]?

Manager: That'll be over the next four or five years as well. And then, looking at Ledi, we're going to go from the current 2 million pounds a year, 60 percent of which is ours of course, up to 5.2, and then 10.4 out of blocks 1 and 2. So really the 40 million, then you add Argyle and Thousand Acres, are going to come out of those. Block 3 doesn't really factor into that in any material way.

Then in that analyst's report:

> "An additional piece of the puzzle is production from previously undisclosed properties. The resource calculation at Argyle announced for the first time is a great first step to outlining where additional production growth may come from. We expect this resource to continue to grow during the development process."
>
> (Analyst Report)

Changing Strategy

The Company's plans for developing the Argyle deposit changed, however, and in 2012 it was written down. The amount of the write-down was adjusted out of IFRS net income, and added back to Adjusted Net Income. The interaction between management, and the analysts leading up to the write down occurred over the course of 2012, with related communication initially included in the second quarter financial reports, and continuing through the third quarter, with the actual write-down occurring in the fourth quarter and reported in the year-end annual report.

Background, and some history, of the project and on the decision was provided in the Management Discussion and Analysis in 2012 Q2. In this explanation, management announces the completion of a pre-feasibility study on Argyle, and suggests that the project would require an average realized price of around $67, or greater production at a price similar to the current spot price in order to be worthwhile.

Argyle we have completed the prefeasibility study. Given the measured and indicated mineral resource estimate of about 55 million pounds (100% basis) at an average grade of 0.58%, current [redacted] prices and continued cost escalation in [redacted], the economics of the project are challenging. The study was based on an open pit mine with an estimated mine life of about seven years, estimated total production of about 40 million pounds of packaged [redacted] at an average production rate of about 6 million pounds per year. To break even, the prefeasibility study indicates the project would require an average realized price of about $67 (US) or about 62 million pounds of packaged production using a [redacted] price similar to today's spot price.

Despite the challenging economics, we are proceeding to a feasibility study and have accelerated our exploration drilling to determine if we can increase our mineral resource base, which would improve project economics. We continue to have a positive view of the long-term fundamentals of the [redacted] market and want to ensure our assets are ready to respond when the market signals new production is needed. We expect a feasibility study would take about eighteen months to complete.

Argyle provides a potential opportunity for us to diversify our portfolio in mining method and geography. A decision to proceed with the feasibility study is not a production decision, but the next step in our stage gate process, which will provide us with more comprehensive information. Our decision to advance to production will ultimately be based on positive project economics.

Future supply of global primary [redacted] production is uncertain, while global consumption is quite predictable. We believe that to fuel the more than 60 [redacted] currently under construction and the further growth we expect by 2021, production will have to come from new primary sources of production. In today's environment, those sources of production pose economic challenges, for us and other producers, similar to those we have identified at Argyle

Management has not decided to write the project down at this point, and states that they will continue through sequential stages in the evaluation of the property, with a full feasibility study to be completed. As demonstrated in Chapter 6, the analysts will take cues from the annual report, and suggest in their "flash" report the information that is of interest, signalling what will be targeted for discussion in the conference call. This is again demonstrated with the release of the update on Argyle, as shown in this excerpt from an analyst's flash report:

> Some Clarity on [Argyle]. [The Company] provided some details on pre-feasibility results at [Argyle], including 6 Mlbs/year production rates over a seven year mine life from an open pit. Break-even costs are estimated to be high at US$67/lb, but a feasibility study is being pursued (due early 2014E) and drilling 'accelerated'.
>
> **Conference Call**. A conference call is scheduled for today at 1:00 pm EST. Participants may dial (866) 226-XXXX (Canada and US) or (416) 340-XXXX.
>
> (Analyst Flash Report)

In this flash report, the analyst has suggested skepticism regarding The Company's reported break-even point. The suggestion that the estimate is "high", and the proximity of the statement to the conference call details suggests that this is an important point that will be addressed in the conference call.

It appears as though management has drawn the same conclusion. Similar to what was shown in Chapter 6, management makes a pre-emptive statement at the beginning of the call to address the break-even price:

> "We also completed the pre-feasibility study at Argyle this quarter and announced those results in our MD&A. The economics of the project are not as favorable as we had hoped. As we reported, for the project to be economical we would need a $67 [commodity] price or 62 million pounds of packaged production at the current commodity price.

However, we've decided to continue to move to the feasibility stage and have accelerated our exploration drilling. The aim is to improve the economics of the project by expanding the resource base and have the project ready when the market improves. So I want to emphasize that this is not a production decision but rather the next step in our stage gate process. We are not going to develop Argyle at any cost. As you've seen throughout our history, we are a financially disciplined company and the project must make sense economically for us to go forward with it."

(Conference Call - Company Manager)

During the call, a number of analysts pick up the thread of questioning, and inquire about the suggested break-even figure, challenging management's calculation:

FA: "[Manager], I'm a little surprised that you say the economics on Argyle are challenging at $67 a pound. It seemed to work at $60 a pound. I would assume that you use that as the base number long term or something in that range anyway?"

Manager "Yeah, I'm not sure we disclosed the number we use long term but, yeah, with the pounds we have, and I think we've put out of the pounds that are involved there. I would say [area] is, ah, it's a hot jurisdiction, hot in the climate sense but also hot in lots of activity going on over there right now. That combination and the current prices, ah, we put the numbers out and so we, we wanted to give a little bit more clarity on what we thought, not just that it wasn't economic today but what we thought we would need to see it become economic, so that's why we provided a little bit more information than we might have. And so that's where it's at. So, as I said some time ago, I've heard others speculate in our business as to what prices might be needed to incite new production, and I've heard others speculate that it's over $60. I think this is a case in point."

(Conference Call Transcript)

Other analysts pick up the line of questioning, and continue to inquire about the definition of the stated price.

FA: Thanks. [Manager], just so I'm clear, the $67 number at Argyle, is that the number that…or the price you would require to generate whatever your target return is? Or is it something else?

Manager: Yes, that's correct. Absolutely correct.

(Conference Call Transcript)

FA: Sorry to go back to Argyle again. Can you tell me, um, because, as you said, historically that 60 was sort of what we looked at. Was it basically capital blowout issue or an operating cost or both that made the economics work or did the ore body actually change and look different than what you thought?

Manager [Analyst], I think probably a combination. I might not use the word blowout but I would say costs are high in [area] right now and with the pounds we have the economics are where they're at, and so we're going to have to see some increased resources there to make it go forward. Reduced costs, we're not crossing our fingers on that too much because we see [area] being charged for a long time with all of the big projects that are going on there. So, yeah, we're looking at it. Through the feasibility work we'll look at any optimization we can do but given what we have today, from the pre-feasibility study granted, we need either more price or more pounds and hopefully both.

(Conference Call Transcript)

Further, the analysts start to connect the project challenges to The Company's strategy for doubling production, and question The Company's ability to achieve its target:

FA: Thank you, operator. The question is around Argyle and your production strategy: If it's not making the grade now is that going to impact your ability to get to 18 million pounds, sorry, 40 million pounds by 2018?"

Manager: [Analyst], thanks. We have a suite of projects that we're moving forward right now, most significant of which of course is Havana River progressing nicely. So with our production today around 22 million pounds, Havana should bring us 9 as we ramp up, we'd be over 30 million pounds, and then it's going to be a combination of the suite of projects that we have, including our U.S. assets, Ledi and Douglas, we are working on that, and others that will get us to the 40. So I can say we're still holding our guidance on the 40 million by 2018 and we believe we can achieve that.

(Conference Call Transcript)

After the call, when the analysts publish their final report, The Company's perspective on the break-even price and required production is carried to the analysts' reports:

> "Argyle project economics are "challenging", given higher costs and a too small resource – The Company noted that the project needs either a US$67/lb LT commodity price to "break-even" or the ability to produce 62mmlbs of commodity over its LOM (versus 40mmlbs currently). The challenges at Argyle highlight the difficulties the industry faces to bring new production to market and suggest that the longer-term commodity supply difficulties are sowing the seeds of the next rally in the [commodity] price, albeit some years in the future."

(Analyst Report)

The Company provides an updated production table, with forecasted production to 2016. This table does not include the exploration properties.

[redacted]s share of production — annual forecast to 2016

Current forecast (million lbs)		2012	2013	2014	2015	2016
[redacted] Mine projects		13.1	13.1	13.1	13.1	13.1
		3.7	3.7	3.7	3.7	3.4
		2.4	3.0	3.1	3.7	3.8
		2.5	2.9	2.9	2.9	2.9
		-	0.3	1.9	5.5	7.9
		21.7	**23.0**	**24.7**	**28.9**	**31.1**
	roduction on which profits					
		2.6	3.0	3.0	3.0	3.0
Total[2]		**21.8**	**23.1**	**24.8**	**29.0**	**31.2**

[1] We have signed a memorandum of agreement (MOA) with [redacted] to increase annual production to 5.2 million pounds (100% basis). Once implemented, we will receive the right to purchase 2.9 million pounds of Inkai's annual production and receive profits on 3.0 million pounds.

[2] We have adjusted the production table to reflect the share of [redacted] production we will use to calculate our profits under the MOA, as described in the note above.

Similarly, this table also has a number of assumptions and cautions stated:

Our 2012 and future annual production targets for [redacted] assume, and we expect:

- [redacted] will obtain the necessary government permits and approvals to produce at an annual rate of 5.2 million pounds (100% basis), including an amendment to the resource use contract
- we reach a binding agreement with [redacted] to finalize the terms of the MOA
- [redacted] will ramp up production to an annual rate of 5.2 million pounds (100% basis)

There is no certainty [redacted] will receive these permits or approvals or we will reach a binding agreement with [redacted] or that [redacted] will be able to ramp up production. If [redacted] does not, or if the permits and approvals are delayed, [redacted] may be unable to achieve its 2012 and future annual production targets and we may have to re-categorize some of [redacted] mineral reserves as resources.

This forecast is forward-looking information. It is based on the assumptions and subject to the material risks discussed on pages 2 and 3, and specifically on the assumptions and risks listed here. Actual production may be significantly different from this forecast.

Assumptions

- we achieve our forecast production for each operation, which requires, among other things, that our mining plans succeed, processing plants and equipment are available and function as designed, we have sufficient tailings capacity and our mineral reserve estimates are reliable
- we obtain or maintain the necessary permits and approvals from government authorities
- our production is not disrupted or reduced as a result of natural phenomena, labour disputes, political risks, blockades or other acts of social or political activism, shortage or lack of supplies critical to production, equipment failures or other development and operation risks

Material risks that could cause actual results to differ materially

- we do not achieve forecast production levels for each operation because of a change in our mining plans, processing plants or equipment are not available or do not function as designed, lack of tailings capacity or for other reasons
- we cannot obtain or maintain necessary permits or approvals from government authorities
- natural phenomena, labour disputes, political risks, blockades or other acts of social or political activism, shortage or lack of supplies critical to production, equipment failures or other development and operation risks disrupt or reduce our production

The example below is of an analyst using The Company's production table from the Annual Report. The analyst identifies The Company as the source, but, again, the assumptions and cautions included in The Company's inscription have been removed. Also, the source indicates that it comes from The Company and the analysts' firm. The Company has provided estimates only to 2016. The estimates for 2017 and 2018 have been forecasted by the analyst, and are based upon The Company's 2016 estimates as a starting point.

Argyle **needs a higher price or larger resource** – Th Argyle project needs a US$67/lb LT [redacted] price to "break-even" according to the company or total LOM production of 62mmlbs (versus current 40mmlbs LOM). The company notes that the project economics are "challenging" and is expanding drilling on the project to find more pounds. Management suggested that a delay in the project (first production had been expected in 2016) would not impede its target to achieve 40mmlbs [redacted] production by 2018 – given that it has other opportunities in the development pipeline to meet that target, including an expansion at [redacted] (to 22mmlbs/yr), an expansion of the [redacted] ISR operations, the potential to double [redacted] production to 10.4mmlbs/yr, the [redacted] project and other projects further down the pipeline. In our LT forecast we have included production from [redacted] starting in 2017 (see Exhibit 1) as well as the other expansion opportunities outlined. Our LT production forecast [redacted] would need to add another project to its pipeline to meet its 40mmlbs goal by 2018, if the Argyle project is either delayed or terminated. We have valued Argyle in our model basis the US$347mm acquisition price.

Exhibit 1. Either Argyle works or another project is needed to achieve 40mmlbs by 2018

Mine Prod'n. (000 lbs)	[redacted] share	2011A	2012E	2013E	2014E	2015E	2016E	2017E	2018E
[redacted]	100%	3,800	3,700	3,700	3,700	3,700	3,400	-	-
	69.8% JV	13,900	13,100	13,100	13,100	13,100	13,100	15,400	15,400
	50.3% JV	-	-	300	1,900	5,500	7,900	9,000	9,000
	60.0% JV	2,500	2,500	2,900	2,900	2,900	2,900	5,700	5,700
	100%	2,200	2,400	3,000	3,100	3,700	3,800	3,800	3,800
		22,400	21,700	23,000	24,700	28,900	31,100	33,900	33,900
Potential Projects									
Argyle [redacted] estimates	70%							1,500	3,500
[redacted] estimates	42%								2,000
Total Potential Mine Production		**22,400**	**21,700**	**23,000**	**24,700**	**28,900**	**31,100**	**35,400**	**39,400**

Source: [redacted]

The analyst has carried management's expectations of production to his report, stabilizing the uncertainty surrounding The Company's ability to achieve the forecasted production, by removing the assumptions that were included in The Company's version of the table. The questions about the material risks facing The Company have also been removed.

The Analysts have also incorporated The Company's pre-feasibility price assumptions in the text of their reports.

> "Argyle prefeasibility study. The Company completed the pre-feasibility study at Argyle during 2Q12, which resulted in project economics that were not as favourable as the company had hoped. In order for the project to be economic, a commodity price of US$67/lb would be required, or 62m lbs of package production at current prices. However, the company has decided to move forward with the feasibility stage. It will focus on exploration drilling, with the hope that it can improve project economics by expanding the resource base and proceed such that the project is ready when the market

> improves. Management anticipates the feasibility study will take approximately 18 months."
>
> (Analyst Report)

> Argyle: Size or Prices Needed. Per the pre-feasibility study, Argyle needs either commodity prices of US$67/lb or, if prices remain unchanged, a boost in LOM produced pounds to 55 Mlbs (+38% from 40 Mlbs in the pre-feas) to incentivize a positive production decision. To that end, The Company is ramping exploration and pursuing feasibility (due early 2014E). Given the quality of the asset, these costs are higher than we expected and underline our view that most new mines need prices >US$70/lb to move forward. We ascribe a value of C$272 mln to Argyle using $/lb valuation and exclude future production from our model.
>
> (Analyst Report)

By the third quarter, management has adjusted its growth strategy in light of the continued low spot price, and the failure of the exploration properties to deliver the anticipated return.

> "...and see...see that kind of ties into the exploration strategy, because, I mean, Double-Double...Double-Double ended up being…you see the market price starting to go....and then you kinda go, well, in order to double it, you know, you had these other...you had Argyle, and you had Thousand Acres, and you had these other properties coming on line, to kind of contribute to that Double-Double. But then you look at what happened with the spot price and then you said...okay, well, we're not going to...I mean, a big thing was, we're not going to....like, make a poor decision just to meet a strategy that we had publicly disclosed...because it was widely known...it was Double-Double, Double-Double, for years right?...but it wasn't to make a bad choice on developing a property just to get the production there, right? You're not going to be not profitable just to have your production up, right? So, I mean, it all kind of tied in to Double-Double, I mean, the exploration...the change in exploration strategy kind of came from...the decision to, like, back down from Double-Double ..."
>
> (The Company Manager Interview)

Looking to the third quarter conference call, at the beginning of the call management announces the change in The Company's strategy. Rather than continuing with the "Double-Double" strategy, which was dependent upon acquisition and development of new mineral deposits, The Company adjusted its growth plans, lowered its production target, and shifted its focus to expansion of its producing sites.

> The timing of our pursuit of increased production at Ledi will of course be driven by market demand, which brings me to the topic of the adjustment in our growth plans. Since 2008 we've been focusing on increasing our annual uranium production to 40 million pounds by 2018, what we call our Double-Double strategy. The strategy has been based on our view of the market in which we see the strong market fundamentals you hear us talk about regularly. Those fundamentals include increasing energy demand due to expanding economies, increasing commodity demand as new facilities continue to be built around the world, and decreasing secondary supply, particularly the end of the [secondary supply] agreement in 2013. As a result, we expect a gap between supply and demand that will need to be filled by new primary production and that has been the driver behind our strategy. This view has not changed but the timing of it has and as a result we're adjusting our plan to match what we're seeing in the market. We will now focus on advancing our brownfield projects, which will result in an increase in our annual supply to about 36 million pounds by 2018 rather than the 40 million previously announced.
>
> (Conference Call Transcript)

As the Company's strategy has changed, so too has the perception of the relationship of the exploration projects and acquisitions to that strategy. The Company has changed its focus from the development of acquired early-stage, or "green-field" properties, to a focus on the existing, developed properties, that hold identified but undeveloped resources, or "brown-fields". The analysts take The Company's statements to their reports after the call:

> "The Company has backed-off its Double-Double strategy to increase production to 40mm pounds/yr by 2018 – the target is now 36mm pounds over the same time-frame. Production growth is now focused on brownfield projects with greenfield projects (Thousand Acres and Argyle) now referred to as "bull-pen" projects – i.e. they will be pulled off the shelf when the market dictates. We believe that this is the right strategy in the current commodity market."
>
> (Financial Analyst Report)

<u>The Write-down</u>

The write-down of Argyle was based on The Company's model of the project, using The Company's forecast of the commodity price. This is also compared to the reported spot price. The relationship to strategy is exemplified by this manager:

> "...I mean, we do all...you....we do the calcs on the...like your NPV on these things, to know that you need a spot price of X dollars for this to be profitable, right? And, so, they're not....when you get to that point where they're not profitable, you don't keep sinking money into it until you know that there's some promise that...the spot price is turning...."
>
> (The Company Manager Interview)

The Company included a description of the Argyle project in its annual report, offering some background on the project, but this time stating that the decision has been made to not proceed with the feasibility study, effectively putting the project on hold.

Location	[redacted]
Ownership	70%
End product	[redacted]
Mine type	Open pit
Estimated resources (our share)	38.7 million pounds (indicated), average grade [redacted] 6.7 million pounds (inferred), average grade [redacted]

BACKGROUND

In August 2008, we paid $346 million (US) to acquire a 70% interest in Argyle

2012 UPDATE

This year we:

- carried out further exploration drilling to test for other potential satellite deposits
- completed the prefeasibility study
- prepared a draft Environmental Review and Management Program
- signed the Argyle Mining Agreement

Prefeasibility

We completed the prefeasibility study, and found that, given the measured and indicated mineral resource estimate of about 55 million pounds (100% basis) at an average grade of 0.58%, current [redacted] prices and continued cost escalation in [redacted], the economics of the project are challenging. The study was based on an open pit mine with an estimated mine life of about seven years, estimated total production of about 40 million pounds of packaged [redacted] at an average production rate of about 6 million pounds per year. To break even, the prefeasibility study indicates the project would require an average realized price of about $67 (US) or greater total production at [redacted] prices similar to today's spot price.

Based on our review of the current market environment, we will complete the value engineering study currently in progress and the environmental permitting in order to maintain the ability to proceed with the project should the market factors improve the economics. However, we have decided not to proceed with the detailed feasibility study at this time.

(The Company Annual Report)

The Company calculated an adjustment for the write-down of Argyle, according to the process

described in Chapter 5.

> "The IFRS I...I haven't quite got my mind around all of it yet, but the swings you get, sort of, with the IFRS, the write-ups the…the write-downs, marking to market, the....some of that stuff's a little tricky, and you say, well, really, were we at?...well, no, that's the IFRS, okay, well peel that out...and....you know, you take a write down on...Argyle like we did last year, you say holy, we had no earnings. Well not really, you put those back in."
>
> (The Company Manager Interview)

The adjustment for Argyle was presented in the Adjusted Net Income reconciliation table in the Annual report, discussed in Chapter 5, along with the routine adjustment for foreign exchange hedge derivatives:

($ MILLIONS)	2012	2011	2010
Net earnings attributable to equity holders	275	396	537
Adjustments			
Adjustments on derivatives[1] (pre-tax)	17	80	(26)
Income taxes on adjustments to derivatives	(4)	(21)	7
Impairment charge on non-producing property	168	-	-
Adjusted Net Income	462	584	210

ounting for our portfolio of foreign ... rward sales contracts. Since then, we have adjusted our gains or losses on derivatives to reflect what our earnings would have been had hedge accounting been applied.

(The Company Annual Report)

When this annual report was published, the analysts expressed their initial reaction in their flash reports.

Event
The Company reported adjusted Q4/12 EPS of $0.60, ahead of consensus and
Firm at $0.41. Higher commodity sales than expected, higher fuel service income, and better performance at [subsidiary] contributed to the higher-than expected earnings. The Company management will host a conference call to discuss the results today,
Monday at 11:00 AM EST. The dial-in numbers are XXX XXX-XXXX or XXX XXX-XXXX.

Impact – NEUTRAL
Q4 earnings were ahead of expectations – the beat was largely driven by higher commodity sales than we expected at 14.3 million pounds (Our Firm forecast 13.9 million pounds), strong earnings in the fuel service

division (gross profit of $19 million compared with our forecast of $2 million), and a higher realized commodity price of US$49.97/lb (Our forecast US$47.67/lb). [Other Company Segment] also contributed more than we expected, reporting a capacity factor of 100% for the quarter, which compares with our forecast of 95%. The Company reported an impairment charge of $168 million during the quarter on the Argyle commodity project that was purchased in 2008.

Note how the reference to Argyle does not indicate that more information is required in the conference call, consistent with the findings in Chapter 6 regarding non-essential information.

Exhibit 1. Q4 2013 summary – actual results vs. [redacted] forecasts

	Q4/12		
	[redacted] Est	Actual	Notes:
Headline EPS (f.d.) (C$/sh)	0.41	0.11	Actual results beat [redacted] estimates at all three business segments. Adjustment made for $168mm writedown in [redacted]
Adjusted EPS (f.d.) (C$/sh)	0.41	0.60	
Consensus EPS	0.41		

The conference call interaction indicates that the write-down decision has been settled. The amount that is left on the balance sheet after the write-off is left to be decided, and the analysts take cues from management:

FA: Thanks, operator. Just, well, two quick ones. On Argyle, with the write-off now, what is the balance sheet value? I know it was $346 million to buy it in 2008 but I'm just wondering as we stand going forward following the recent balance sheet adjustment, you know, what do you have in the balance sheet that's left?

1st Manager: So, [Analyst], [2nd Manager] is just searching through his paper here to find that number. Do you have it, [2nd Manager]?

2nd Manager: Yeah, it's about 250.

FA: Is that sort of in essence mark-to-market at the end of each quarter?

2nd Manager: Yeah. Well you do certainly the normal currency translation when you do your balance sheet adjustment, and in this case we valued it using a fair value less cost to sell approach. So that's what would remain on the balance sheet for Argyle.

FA: Okay, great. Thank you very much.

(Conference Call Transcript)

As demonstrated in Chapter 5, that "that fair value less cost to sell" was the result of a number of calculations that reflected the imitation of the analysts' valuation process. The various calculations, and results of other calculations that went into them, all fade into the background.

The analysts update their models after the conference call, and, as indicated by the lack of controversy now evident in the conference call interaction, by the time of the fourth quarter write-down announcement, the Argyle adjustment seems to be a non-issue. The conference call excerpt, above, seems to indicate that the analyst just needs a final number, and can be finished with the impact of Argyle in his calculations. The interview excerpt, below, indicates the lack of importance of Argyle at this point.

KF: Okay. So, when you're looking at updating the model...for every quarter you make an update, and then, sort of a base inputs into your model...are you pulling in the adjusted numbers, then?

FA Well, we pull in both...yeah...we pull in, obviously, we just input their income statement, and then we make the various adjustments as either they see fit or we see fit, to come down to an operating number.

KF ...Both?...okay....and....so, if we look at… the Q4 number, there is a write-down, for Argyle, right?...

FA ...right.....which they told us was coming....we knew that was coming. We don't model it, we don't know what the number is going to be, I don't think we knew what the number was going to be, but I don't really care, to be honest with you....

KF: Why don't you care?

FA: Uhh...for one, I knew it was coming, so when they reported, it was an event that's already happened. And, you know, that, that's a write-down of Argyle, which is a project that may be in production in the middle of the next decade, has no bearing on what I think the company is going to do over the next...you know, my horizon is 12 months, that's what I'm trying to forecast, where is the share price gonna be 12 months from now...that's ultimately what I'm trying to guess...*guess*...trying to model. Uhh.....so the write-down of a long-term development asset that won't be in production until 2025....uhhmm...less impactful.

(Financial Analyst Interview)

That The Company "told" the analysts that the write-down was coming seems to be the result of long process of interaction that encompasses the numerous interactions (described in Chapter 6) and related inscriptions that indicate what The Company's strategy is for dealing with its environment.

> …you have projects, including ours, the Argyle piece we just talked about, but I can name many others that have been put on the shelf, that has been non-economic in this market. So we think those fundamentals are good for The Company and for the [commodity] business. And we're still growing. We're growing from the 22 million pounds we produced in 2012 to 36 million pounds in 2018 to be ready exactly for that growth in the market.

(Conference Call Transcript)

This process of interaction leading up to the presentation of adjusted items seems to occur regularly for the unusual adjustments to ANI. The continuous adaptation of Adjusted Net Income to The Company's activities is repeated whenever there is an unusual adjustment. In the next section, I examine how the Adjusted Net Income measure has been used by analysts over the period of this study.

7.5 Discussion and Analysis

As demonstrated above, Adjusted Net Income has become "taken-for-granted" as the key metric for The Company. This acceptance of Adjusted Net Income is shown by how analysts use it in their reports to describe the performance of The Company, but they do not identify its non-GAAP nature, using it interchangeably, and synonymously, with IFRS based numbers, both in dollar terms, and in the Earnings per Share (EPS). New analysts initiating coverage of The Company begin their reporting with the Adjusted Net Income and Adjusted EPS. The analysts

forecast the adjusted number, quoting their estimates in comparison to The Company's result in terms of ANI. The analysts compare the quarterly EPS to their own estimate, to consensus estimates, and to The Company's prior periods.

This finding is consistent with much of the pro forma earnings literature. As discussed in Chapter 2, Bradshaw and Sloan (2002) indicate that analysts prefer some 'street' (or adjusted) measure of earnings to GAAP-based earnings. And yet, because Adjusted Net Income may contain different components every reporting period, relating to different "unusual" items, it conceivably must be re-established as the key metric continuously. How does Adjusted Net Income come to be the key metric in the co-elaboration of the frame constructed by analysts and management?

Callon and Muniesa, (2005), suggest that the process of calculation necessarily involves the objectification and singularization of that which is to be calculated. In a discussion, albeit largely devoted to the elaboration of products in product markets, their description of the assignation of value is relevant here.

> "This work of adjustment is the substance of any market transaction; only the modalities change. The issue is then the obviously varied conditions and modalities of this process of singularization of products. To understand this diversity, one has to bear in mind the twofold constraint weighing on a product if it is to become a good: that of objectification (it has to be a thing) and that of singularization (it has to be a thing whose properties have been adjusted to the buyer's world, if necessary by transforming that world). Objectification and singularization are produced simultaneously; objectified properties are those that allow the attachment of the good to the consumer."
>
> (Callon and Muniesa, 2005, p. 1234)

This work of adjustment, where boundaries are drawn around an object, and its qualities are defined, can be applied to the equity markets, thus extending the notion of analysts-as critics-discussed in Chapter 2.

If we apply these notions to the valuation of The Company, the process of making The Company calculable is taken as one of "co-elaboration" of what comes to be defined as "The Company", that is, the object, or thing that is The Company, and its "properties" that have been adjusted. Thus boundaries around the entity must be identified, and determination of the key metric that represents that entity must be settled. But, to expand upon Beunza and Garud, 2007, the adjustment of these properties is distributed amongst the various market actors.

It is thus put in terms of the inscriptions that black-box management's uncertainty and assumptions that might indicate other possible outcomes. When the analysts carry these to their reports, they further obscure the uncertainty associated with the calculations. That financial analysts reproduce information gleaned from interaction with management builds on Fogarty and Rogers (2005), which demonstrates how analysts take information from such interactions with management, and reproduce it in their own reports. Here, however, I examine the process that leads to a collaborative process of co-elaboration of the qualities of the "object" that is The Company's, and the key metric of its performance. By illuminating the process of how inscriptions travel, from the commodity market, through The Company, and to the analysts' reports, and how they are modified along the way, I provide insight into the process through which the key metric, an integral part of frame-making, is decided upon.

The reproduction of management inscriptions by the analysts reduces uncertainty, and stabilizes 1) the tenuous and subjective nature of other numbers and the calculations behind them; 2) the settlement of controversies that take place during the conference call; and 3) other possible key metrics.

This allows The Company to be objectified and singularized, thus allowing for the stability and encapsulation of its performance in one key metric that the analysts can use in the

framing of The Company. This reduction of the uncertainty of future states, and momentary stabilization, allows the analysts to culminate their calculation by supplying a "key metric" for input in to their models.

Beunza and Garud (2007) draw attention to financial analysts' role in frame-making, and describe the settlement of framing controversies, those "sustained differences in valuation that arise from a disparity in calculative frames." (Beunza and Garud, 2007, p. 29). Applying their concept of a frame as consisting of a category, an analogy, and a key metric, the processes examined in this chapter suggest the settlement of a key metric is a collaborative process between management and the analysts, and in addition to the possible IFRS measures of Revenue and Net Income examined by Beunza and Garud, the non-GAAP adjustments to IFRS income statements seem to be an option in the choice of key metric for the analysts following The Company. To the extent that the key metric represents the narrative that The Company and the analysts have constructed through their interaction, it is seen as an appropriate performance measure with which to evaluate The Company.

The process of singularization (or individualization, used interchangeably, see Callon and Muniesa, 2005) consists of "a gradual definition of the properties of the product." (Callon and Muniesa, 2005, p. 1233), also "a series of operations resulting in the calculability of the good." (ibid, p. 1235). Singularization of The Company compared to many other possibilities depends upon the inscriptions that are carried by the analysts, how the assumptions and uncertainties that point to other possible outcomes are obscured, and the evolution of The Company's strategy in conjunction with the Adjusted Net Income that reflects it.

As demonstrated above, as The Company inscribes the spot price, the calculations performed by the consulting companies that calculate it are "black-boxed". The Company makes

reference to the price reporters, but the calculation they perform is far removed from the inscription. As The Companies inscription is re-inscribed by the analysts, this trace is further obscured, as the reference to the price reporters is removed.

The removal of traces continues with the reproduction of other Company inscriptions by the analysts. As the average realized price, the price sensitivities, the contract deliveries, and the share of production are carried from The Company's reports to the analysts' reports, references to uncertainty and key assumptions guiding outcomes are removed. The result is that the calculation is thus stabilized, with the possibilities of other outcomes being removed, and uncertainty being obscured.

The use of adjusted net income may not be solely dependent upon the events surrounding The Company at the time of the release, but may also be a result of a series of re-inscriptions that led to a community of support around ANI, that build its taken-for-grantedness over time. That is, the forming of a collective that takes ANI as the key metric supports its use so that the particular details of any one earnings release are thought of in terms of ANI.

7.6 Conclusion

This chapter examines management-analyst interactions in the process of frame making that settles the choices over possible performance measures, that is, the "key metric" (Beunza and Garud, 2007). Through the analysis of the conference call data, the interviews with analysts and managers, and the analysts' reports, I show how information is promoted and defended by management, and contested and accepted, or ultimately deemed inconsequential, by analysts in the construction of a key metric that measures the performance of the company in one figure. That figure is Adjusted Net Income.

Using representative data slices from interviews, conference calls, annual reports and analyst reports, this chapter demonstrates how the analysts and management collaborate to combine inscriptions, allowing the analysts to carry inscriptions to their final report that represent settlements. The Company inscribes many calculations in their annual report, in which the commodity spot price calculation from the consulting companies becomes stabilized, and the calculations supporting it disappear. The Company further combines the work of the subject matter experts and qualified persons, along with its calculations, into inscriptions representing values.

> "So, that's done...by noon, 2:00 in the afternoon...and then, again, we try and, at the same time, my associate's running through the model and updating for what has just been reported. Then, if there's guidance changes, we go into the model and see what that does to our numbers, and any kind of changes we need to make. So, that's generally how the day goes. And then, I write a more detailed report, probably than that one (indicating the "Flash" report I have open on my laptop). We go over their estimate changes, changes to net asset value, whatever....that will be published, well, we'll have it done by, probably, six or seven that night. It'll get published that night, and out the next morning."
>
> (Analyst interview)

The crucial component of the process described by the analyst, above, left to investigate is the modelling of The Company. Use of adjusted net income in their reports does not mean that it is necessarily the most prominent measure in the analysts' models. It does indicate overall what is to be included in the consideration of the performance of The Company. Whether or not Adjusted Net Income is indeed the key metric that analysts actually use in their models requires further examination of the analysts 'models themselves. That is the subject of Chapter 8.

Chapter 8 – Framing a Franchise: Financial Analysts' Models

8.1 Introduction

In this chapter I examine the financial analysts' models. Using data from interviews, analysts' reports, The Company's annual reports, and financial analysts' models, I examine how the analysts perform their calculation. I trace the relationship between The Company's disclosure, the conference call data, the commodity market, the stock market, and the analyst in developing a model that reinforces a socio-technical agencement (Callon et al., 2007; Hardie and MacKenzie, 2007) that is the analyst's "franchise". This franchise serves to justify the analyst's "mosaic theory" approach to modeling, but is in turn reinforced by the model, as it serves to connect the various actors at the boundaries of the commodity market, The Company, and the stock market. These connections represent overflows that need to be contained, where other possible figures could be taken. As the prior calculations are taken by the analysts into their models, the points at which the connection is made "punctualize" the model, that is, the entire prior calculation is now a node in another calculation. As these connections "punctualize" the analysts' models, they assist the process of "irreversibilization" " (Callon, 1991) where the product of those prior calculations become black-boxed, and serve to reinforce the model's calculation.

The modeling process is dependent upon information from management. I demonstrate how the analysts use The Company's disclosures discussed in previous chapters, incorporating into their models the reported spot price, The Company's average realized price, future mine production, delivery timing, and earnings figures. The examination shows how the analysts use the Adjusted Net Income figure as a starting point for various analyses. The analysis also shows

how the models serve to connect the various actors in the formation of a hybrid-collective that demonstrates the analysts' calculative capacity, their connection to The Company's management, and builds on, while being supported by what they term their "franchise". This 'franchise' is the economic 'actor' that calculates (Callon and Muniesa, 2005) and is examined as a socio-technical agencement (Hardie and MacKenzie, 2007) that is constituted through the framing process.

As discussed more fully in Chapter 3, Michel Callon has conceptualized economic actors as socio-technical agencements, as hybrid collectives made up of humans, material devices, theory and procedures (Callon, 2008). This Actor-Network Theory based notion of a symmetrical collective, with calculative agencies describing the whole rather than attribution of individual agency, has been usefully applied in much accounting research to describe change, adaption, and performativity. Prior to this the accounting literature would look at, for example, financial analysts, and their valuation models separately. Muniesa et al. (2007) suggests that the two should not be separated, as the "bifurcation of agency: the person on one side and the machine on the other…needs to be avoided…" (Muniesa et al, 2007 p. 2) but there is still room for the examination of how the two, and others, become a collective. Perhaps it is not useful or realistic to separate the two for an examination of economic performativity. But, for the purposes of understanding how the actor comes becomes equipped with the devices of their workaday life context, we may better understand how the entities join to form a socio-technical agencement, an actor-network.

The results of my analysis expand upon the notion of frame-making (Beunza and Gardud, 2007) and further the work done by Fogarty and Rogers (2005), and Barker et al., (2012). The analysis indicates that the analysts perform an elaborate framing that builds upon the "key

metric" (Beunza and Garud, 2007) that they believe represents The Company's performance. Further, the calculation that the analysts perform is in addition to the "colour" that they obtain from management, and which they sometimes reproduce in their reports (Fogarty and Rogers, 2005). This is not a simple case of reproduction, but is one of framing that works hand in hand with the calculations performed in their models. This further illuminates the purpose, function, and connection to the analysts information gathering practices, which, building on Barker et al, (2012) are guided by the analysts' notion of building a "mosaic" of The Company, despite the legal restrictions on material non-public information.

The calculation process is here examined as one of framing overflows, where the object of calculation, The Company, becomes singularized and objectified. In this translation process, a socio-technical agencement is formed, punctualized (Callon, 1991) by numerous prior calculations, each of which could have provided a different result, but once stabilized, leads to a tenuous irreversibility of the hybrid-collective that has been formed.

I begin the empirical study of modeling within these two aspects of singularization and objectification by examining the modelling process as described by the analysts in interviews. I then examine the workings of five analyst spreadsheet models, and draw the connections between them and their various informational inputs, demonstrating how the models put together the information described in earlier chapters. I then discuss how the models serve as boundaries between various worlds, put together into one framed representation, punctualized by the calculations, devices, and experts identified in Chapters 5, 6, and 7 that constitute the analyst's "franchise".

8.2 The Modeling Process

The nine analysts interviewed for this study had on average sixteen years' experience, and nine years in their current role as an equity analyst. Seven of the nine had an MBA as their highest level of education and three had finished all levels of the Chartered Financial Analyst designation. Six of the nine had a geology or engineering background, and one maintained the P.Eng designation of the professional engineer. Five of the analysts interviewed provided me with their models in an electronic file. Another analyst declined to provide his model, but offered an elaborate explanation describing his modelling process. This section combines the results of interview data from all analysts with the examination of the analyst models, to create a more general description of the modelling process. As in Chapters 6, 7, and 8, this lengthy description of the process is utilized to identify the numerous associations made.

The analysts all build their own models, using Excel spreadsheets. They build the models around The Company's disclosure, but also with the purpose of comparing the company to other companies, and with the knowledge that their institutional investor clients will want to look at the model, and must be able to understand it.

The modeling process is done in stages and "the models" examined here are actually made up of three sub-models: an operating model, a financial model, and a valuation model. These models are updated by manual data entry, but have some automatic inputs that are linked to other key calculations performed by the analysts, such as their forecasted supply and demand curve. They have outputs that link to tables that are carried to their reports, and some are linked to databases that feed other models. There are either automatic or manual links to the analysts' reports, to populate the tables in the reports with the outputs of the models.

In the interviews, the analysts suggested that they enjoyed great autonomy in the modelling of the companies they follow. This autonomy is in terms of methodology and format, and inputs.

> "Specifically, The Company model was completely built from scratch, by myself. Using my own methodology, in terms of what I'm trying to derive out of that financial model. There is a generic worksheet that is attached to the end of every model that feeds in to the [Analyst Firm] database. But this is only generic types of financial information. The actual structure, the workings of the model itself, are totally at the discretion of the analyst, in terms of how they do it. The total methodology, therein, is also left at the discretion of the analyst. So, the end game is, what are we trying to get at? And that is a value, or estimates of some sort, whether it's by asset, or consolidated, or some type of valuation metric. But, it is, totally, left at the discretion of the analyst."
>
> (Financial Analyst Interview)

The analysts all use Excel for their modelling, which offers the flexibility for the analyst to create the model as they see it, and the ability to update it easily with new information.

> KF: "Technologically speaking…what's the basis of the model?
>
> FA: "It's an Excel spreadsheet.
>
> KF: "Is there any proprietary software or modeling software that you use?
>
> FA "No. Again, these are models that we've built from the ground up, ourselves, over a very long time."
>
> (Financial Analyst Interview)

The approach to modelling seems to come from a number of influences, but is largely learned "on the job" and is the result of the analyst's experience and exposure to other analysts. The analysts saw their formal training and education as only vaguely related to their current modeling practice. What they learned in industry seems to be far more valuable, and helped them to develop the modelling approaches they now use.

> "(laughing)....look...I did my MBA...almost 25 years ago now...we had a course on net present value, modeling...not a course, I think one lecture. Right? And that was it. So, it...basically, I've learned as I went along. I started my career, after MBA, working for [publicly traded mining company]. One of the biggest mining companies in Canada. It's now gone. And one of the roles I did there was doing discounted cash-flow analysis for a big mine, a feasibility study that we were working on, that eventually did get built. So, that's really where I learned how to do it...just trial and error, quite frankly. Having never done it before, it was, it was something....it was a model I inherited, and started to use, and hopefully improved, and I took that with me when I became an analyst on this side of the street."
>
> (Financial Analyst Interview)

Many of the analysts are engineers or geologists, and worked in mining before becoming analysts. The impact of their experience in the industry was a large factor for many of the analysts, and a number of them attributed their skill as financial analysts to the knowledge gained working in the mining industry. The analyst quoted above exemplifies the effect of the analysts' experience on their practices, and, while they suggest in the interviews that their modelling approach is somewhat disconnected from their more formal education, their information gathering efforts do seem to be influenced by an approach known as "mosaic theory", discussed next.

8.2.1 Mosaic Theory

Not much has been written on mosaic theory, in the media, educational materials, or academic research. The Chartered Financial Analyst curriculum describes the practice of financial analysis, and notes the job of the analyst as one to gather information from various sources, including company management (CFA, 2014). In the level three curriculum, mosaic theory is briefly explained as it relates to the collection of non-public information, and is advanced as a defense against allegations of acquiring material non-public information:

> "A financial analyst gathers and interprets large quantities of information from many sources. The analyst may use significant conclusions derived from the analysis of public and nonmaterial nonpublic information as the basis for investment recommendations and decisions even if those conclusions would have been material inside information had they been communicated directly to the analyst by a company. Under the 'mosaic theory', financial analysts are free to act on this collection, or mosaic, of information without risking violation."
>
> (CFA 2014, p. 49)

Violation, here, refers to violation of the CFA standards of professional conduct. These standards are also, however, aimed at compliance with Regulation FD (discussed in Chapter 5) which governs the release of material non-public information. The analysts referred to mosaic theory in the interviews, and their activities seem to be designed to collect the bits of information suggested by the approach. The CFA curriculum goes on to suggest that "….analysts actively seek out corporate information not generally known to the market for the express purpose of analyzing that information, forming an opinion on its significance, and informing their clients…." (CFA, 2014, p. 50).

The mosaic theory approach seemed to be a way for the analysts to deal with the opacity of the market, which arises from the small number of participants and the secretive nature of their disclosure.

FA: "The [Company's Customers].... tend to be secretive. They often don't disclose what their inventories are. How much [Commodity] they have on hand. Right? So, we have to use our **mosaic research model**, right, where we sort of pick up information where we can and bring it all together and make a call based on what we can piece together."

KF: "Yeah? Mosaic research model? ...is that....?"

FA: "...it's the...**mosaic research theory**...where you pull in…uhm...pieces of information from a variety of different sources to come up with a thesis."

KF: "Mosaic research theory? "

FA: "…yeah...**mosaic theory for research**...it's just...like....ah...you know**...everyone does it, not everyone talks about it, I guess**...because, if you're just reading one source of information for...to make a call on something...uhm....you know, that's not full and fair due diligence, right. You should be corroborating that with outside research, looking at every angle that you can, trying to poke holes in your own theory....uhm....and if it still stands up, then maybe it's worth investing in, right?"

(Financial Analyst Interview, emphasis added)

The plausibility of this analyst's suggestion that everyone is using "mosaic theory', but not explicitly stating that they do so, is supported by comments made by other analysts during the interviews. A reference to mosaic theory is echoed here, by another analyst:

> "But what we're looking for is just the change, just any changes on who they're seeing, what types of thing management's thinking about, where they've been travelling, there's different industry dynamics that maybe they have some commentary on. Could be some price fluctuation, as the...as you know the uranium price is actually at multi-year lows. Even lower than when the global financial crisis occurred. And, sort of, what their thoughts on that, how the market is transpiring. Are they seeing buying, are they seeing selling. I mean, it's these kind **of mosaic theory points** that just add up to, you know, getting a more confident view on how the structure of the industry is shaping, and The Company's place within it. And it's not non-material public information. This stuff is well documented"

(Financial Analyst Interview, emphasis added)

The analysts' approach to modelling The Company seems to fit the approach to mosaic theory suggested by the CFA curriculum, as they described their modelling practices in much the same terms. The modelling process as described by the analysts is discussed next.

8.2.2 Three sub-processes of modeling

The process for analyst modeling is similar among all of the analysts: according to their description, and in their own terms, there are three parts to the model, or modelling sub-processes: an *operating model*, analyzing production, a *financial model*, which uses The

Company's financial statement information as inputs to recreate an income statement and balance sheet and then a *valuation model*, which is a Discounted Cash Flow analysis of projections based on those statements, resulting in Net Asset Value for each individual mine project, which is blended with EV/EBITDA to derive a value for the company. These models pull in different data inputs from The Company at various points, and the outputs feed into the Net Asset Value calculation and a measure of Enterprise Value over Earnings Before Interest, Taxes, Amortization, and Depreciation (EV/EBITDA). The stages of the sub-modelling is described here, and the calculation of the NAV and EV/EBITDA is discussed in the subsequent section.

> "Uhm...the way...the way we work now is basically, think about your model in three parts. First is your operational model. That basically gets you to EBITDA. That is going to be 100% custom for every company. Right? The way The Company makes its money is, you know, they mine a bunch of [commodity] out of the ground, they process it, and they sell it. That has a very different driver than a grocery store, than a bank…right? For example. Well, actually a bank is a really bad example, 'cause its earnings are different. But once you get past EBITDA, companies tend to face the same issues, right?[21] So, the bottom half of the Income Statement, you have interest expense, you have your income tax, are your two big ones, then you have some other junk in there. The balance sheet, you typically see the same things in current assets, current liabilities, long-term assets, long-term liabilities, shareholders' equity. So, you can start to create a more generic **model for the financial statements** and the macro drivers for those. And then, the third part is the valuation, and for us, we're a fundamental valuation shop. We do DCF's. It's what we do. So, the way we approach DCF's are you know, rather standard. You know, from an indirect cash-flows statement you start with **net income**, add back your non-cash, subtract off your CapEx, subtract off your change in working capital, you get Free Cash flow. Right? It's the same...so basically, you've got your operating model that's custom, and what we call the Integrated Financial Valuation Model."
>
> (Financial Analyst Interview, emphasis added)

In order to input data into the model, the analysts rely on financial information supplied by The Company, and gathered through interaction as demonstrated in the conference calls. The

[21] Although this analyst does not offer an explicit title for the second part of the model, as he does for the first and third parts, what he is describing, from this point to the identification of the valuation model, can be categorized as a "financial model" that produces an income statement and balance sheet for The Company.

analysts will also perform some of their forecasting in other models, which can be used for more than one company in the same industry, and some of the information comes from models of other companies or industries calculated by other analysts at the same firm. The inputs to the different stages of the model are then forecast out, based on assumptions made by the analyst.

> "Sure. We build a quarterly model, in terms of its time frame. And it essentially...the structure is to start off with the broad economic assumptions of what are the key external drivers of [The Company]'s business. Which is essentially the [commodity] price, the [other segment's product] price. Currencies. CPI. The general macro indicators that are not really under their control, but which have a key driver of earnings. Then, subsequent to that, we get into the actual operations themselves. The production, by asset, by mine, of all their business segments, which there are roughly about five. And so we do a mine by mine analysis based on the technical information that the company provides. Our own feedback from our own site visits, to generate this pro forma production profile. Pro forma[22] cost profile. Capital cost profile, and basically, within every asset, and in every business segment, we're trying to create sort of a mini-company, on its own, as a sum of the parts, what is this business line worth? Right? So, each asset of itself has its own income statement, balance sheet, capital cost, production profile. So it is, almost, within a vacuum, and then of course that all comes together in a consolidated fashion to create the company valuation."

(Financial Analyst Interview)

In order for the results of the models to be compared to the results for other companies, they must have similar formats.

> "It's mainly because I'm comparing [The Company] to a number of different companies. So, rather than modeling each company on the way that they…publish their accounts, which can be quite variable, you know, I'm trying to take all those companies, some of which are listed in Australia or South Africa, or here in the UK, and to fit them all onto the same template. So I take their reported figures, disassemble them, and then reassemble them into a format where they're directly comparable at different levels. So, this is definitely not an IFRS…income statement."

(Financial Analyst Interview)

[22] Note here this analyst is using a different meaning for pro forma, that is, an estimate or projection.

The Operating Model

The operating model is used to forecast the production volumes, costs, and revenue from The Company's segments. The inputs to this part of the model come from The Company's resource and reserve calculations, contained in the NI 43-101 reports and their annual report. The analysts also use the short and long term indicator prices reported by the two industry consulting companies. Further, The Company's reported average realized price is used in an estimate of the future contract sales revenue.

In order to forecast the value of The Company, the analysts attempt to forecast the price of the commodity, as the two are thought to be highly correlated. Recall from Chapter 5, management believes The Company's share price is highly dependent on the spot price that is set by two consulting companies, and the market is thin and opaque. For the analysts, they have the price that is set by these consulting companies, and The Company's average realized price disclosed in the financial reports. They use these in their own forecast of the commodity price.

> "So...in [The Commodity] I make a call on where the commodity price is going, so, I make a recommendation as to when clients should be getting into the space...if they should be getting in at all, as well as in those junior precious metals names, and...I mean, the specifics of how we come to those conclusions, are...you know, there's a lot that goes into it, obviously. You know, there's a big financial modeling side....you're trying to determine whether or not the company's share price is fairly valuing what the company actually is, right?"

(Financial Analyst Interview)

Because this market is so thin and opaque, however, The Company's operations, and the information that The Company provides, has co-constitutive effect on the commodity price. Because The Company is so large, when the analysts are trying to forecast a supply and demand

model, The Company's production will ultimately have an effect on the supply side of that model, thus affecting the commodity price, and ultimately their valuation of The Company.

> "...it'll actually...well, yeah....so, the [The Commodity] price deck, the price forecast for, you know, for every quarter going up the next X number of years, that will feed into the [The Company] model. But [The Company] model has every mine that [The Company] owns and operates within it. And, each one will spit out a production number every year, of [The Company], and then that number goes back into the supply/demand model, right."

(Financial Analyst Interview)

The analysts' supply and demand model, as indicated by this analyst, is highly dependent on The Company's information, and its activity. The connection to the spot price, and then to the average realized price is exemplified in this quote:

> "No. Well, there is...how it relates to what their realized price is is the problem, the challenge. There is a spot price, it's published every day and every week, whether that has much bearing on reality is...is difficult to know...it could be there is some bearing on reality, that...there is a lot of things going on in the [commodity] market, it's very opaque, that we don't see and cannot know....but generally the trend is right...but the leap from what the trade journals publish... [Consulting Company], or [Consulting Company], versus what [the company]'s realized price, there is a lot of steps going on in between that we don't see, and they don't provide any clarity. They say that 60% of their [commodity] is sold into prices...market referenced prices, and 40% is at fixed price contract terms. And then try and figure out what that means at the end of the day is next to impossible. And I've tried. So, what we've really boiled down to, is in every quarter they provide you a table saying, at a [commodity] price at a price of $X/pound for the next five years, flat, this is what our realized price would be, based on what we know now, and certain assumptions. So, we have to use that as the basis for our realized price calculation."

(Financial Analyst Interview)

The operating models estimate production volume and cost, mine by mine, with a separate analysis of each individual mine. The model forecasts the mine production for the life of the mine, based on the reserves and resource calculation. These range from twenty to fifty years. The revenue projections use the analysts' assumptions about the future price of the commodity,

based on their own supply and demand model, but based on the production estimates provided by The Company, any available NI 43-101 technical reports prepared by The Company's Qualified Persons, and reserves, mine plan, and production capabilities information provided by the Subject Matter Experts.

> FA: "So, just skipping through a couple of things, this stuff here is just all just summarizing the data that we've already looked at. [Commodity] price that they've realized during the quarter….sorry, that's the spot [commodity] price. [Commodity] price realized, they've got a contract, so there's a bit of a difference there."
>
> KF: "So, and, how do you get that number? I thought…"
>
> FA: "They provide it."
>
> KF: "They provide that number?"
>
> FA: "Yeah."
>
> (Financial Analyst Interview)

The provision of the average realized price number is used to estimate a price for revenue. The volume of revenue, and the costs of production, are derived from other sources, including the technical report on the individual mine that is required by securities law.

> "Well, there's a number of different ways. For [The Company] it's a little bit more oblique than it might be for other companies, but, under Canadian regulations, Canadian mining companies have to produce independently verified technical reports on their assets called NI 43-101 reports. They fall into a number of different categories from as basic as a review of the drilling data and testing methodology that they've undertaken in order to determine the size of a resource. So, [The Company], at Douglas Lake, approximately has about 375 million pounds of [commodity], contains [commodity] in its deposit there at an average grade of about 20%. So, if you were a new company, and you just discovered that deposit, and you were drilling into the deposit and sampling it, you'd build up a data set, and from that you establish your resource."
>
> (Financial Analyst Interview)

The resulting revenue and cost projections are used to forecast the income from each mine into the future, and are connected as automatic inputs from the spreadsheet tabs in the operating model to the spreadsheet tabs with the calculations in the financial model.

The Financial Model

The financial model is a reformatting of The Company's financial statements, that are updated with the actuals every quarter, performs a comparison of estimates to actuals, and makes a new estimate based on the results, new information, and the analysts' assumptions, incorporating their production model outputs. It is in this sub-model that The Company's pro forma adjustments to Adjusted Net Income may be used as inputs in the comparison of actuals to estimates. It is also where The Company's sales contract deliveries become important, as the analysts try to forecast quarterly income, which is largely dependent upon the timing of product delivery.

Whether or not they use the IFRS net income number or the Adjusted Net Income number affects both their forecast of Net Income, and the valuation that is performed in the Valuation Model, discussed next. The usefulness of The Company's IFRS statements becomes apparent here, and the ability of the analysts to make use of the IFRS net income number or the adjusted net income number is expressed by this analyst.

> "IFRS is probably no worse, broadly, than GAAP. But, but….it's…not helpful. All of this stuff that…I was out of this business from early 2001 to 2004, and, by the time I came back, accounting for hedging, and all of this stuff, had changed. And it's…it's just a nightmare. And a total waste of time. Because, there's not a mining analyst in the world that doesn't go back from IFRS numbers to, you know, what's the cash effect of the hedge, and…and…that, just that. We all have to adjust that out. So, in fact we used to use earnings, relied on heavily…we still do but, really what it's doing is chasing everybody back, just to relying on EBITDA numbers. Some f...some variable….well everybody's moving in that direction. They wouldn't describe it in that way, but, in terms of, they wouldn't say, "gee, no, we're now valuing everything on EBITDA", but

> they're moving somewhere between reported IFRS numbers and EBITDA, everybody's moved to, to get something that they can understand, and then, that the investors can understand. It's friggin' hopeless."
>
> (Financial Analyst Interview)

As the quote suggests, either the IFRS number or the adjusted number is equally (un)important in the attempt to come up with some EBITDA number. In their models, the analysts used both the IFRS number and the Adjusted Net Income number in their financial model. When determining an Earnings Before Interest, Taxes, Depreciation, and Amortization, however, they either used the adjusted number provided by The Company, or they came up with their own adjusted number. The IFRS net income number, while used in their elaborate spreadsheets of The Company's statements, was not used as the starting point for the calculation of EBITDA.

The Valuation Model:

The Valuation Model is the sub-model where the analysts combine the information from the other two models in the derivation of a share price for comparison to the current price. The analysts all use a Discounted Cash Flow model, as suggested by prior literature (e.g. Barker, 1999 and 2000; Bradshaw, 2011). The discounting of cash flows is, however, but one technique used to derive value based on an income measure. The income measure that is taken as "cash-flow" is the more important part of the modeling, as that is where the analysts' numerous assumptions have the most impact on the valuation outcome.

In the analyst interviews, and in their models, the analysts demonstrate a preference for a blend of Net Asset Value (NAV) per share, and Enterprise Value over Earnings Before Interest, Tax, Depreciation and Amortization (EV/EBITDA). The analysts use a weighted blend of these two measures, generally forty per cent of the current NAV plus sixty per cent of the

EV/EBITDA. The Net Asset Value is the net present value of the future mine production revenue and costs calculated in the Operating Model, and EBITDA is projected in to the near future at various lengths.

> "No...I don't think so...Uhm....well, we were, I think we were, one of the first to move...a long time in Canada the analysts focused purely on cash flow. And...and multiples to cash flows, for setting a target price. And we were the...one of the first to move to EBITDA, and I did that, one, because cash flow doesn't capture the balance sheet, at all. Some of these companies, certainly through the mid 2000's were building up massive cash piles. So, you take your cash flow, you say, I'm getting six times cash flow, then I'll add X dollars per share for the cash they have. Which to me sounds...it was just getting too cumbersome. And it was missing all the debt some of these companies had. So we're trying to bring it all into one metric. So EV to EBITDA was the best way to do that. And also I think we were one of the first to move to a blend of EV to EBITDA and Net Asset Value. And the reason for doing that was that EV to EBITDA captures the next 12 - 18 months, but without that you're also not recognizing the optionality of the very long term resource base that some of these companies have with production. So we typically do a blend of EV to EBITDA and NAV to come up with our target price. And we typically use a bit of a heavier weighting towards the short term. So 60% of the target would be weighted towards EV to EBITAD, and 40% to our NAV. I know we were one of the first to move towards doing that, and I think that's become pretty much accepted practice across the Street now."

(Financial Analyst Interview, emphasis added)

This analyst's description of the usefulness of EV/EBITDA echoes the sentiment in mining-industry specific textbooks, such as the one cited below.

> "The enterprise value (EV) of a company can be defined as its market capitalization (share price times number of issued shares) less any net cash or, more often, plus any net debt. The resulting figure therefore reflects more accurately the market view of the business's value."

(Rudenno, 2004, p.194)

The CFA (2014) curriculum contains a similar suggestion, and both Rudenno and the CFA curriculum carry a common definition of Enterprise Value. The calculation of EBITDA is similarly endorsed by both sources, and the value of it is explained by Rudenno:

> "The EBITDA is the company's earnings before interest before interest, tax, depreciation and amortisation. This figure is an estimate of the ungeared cashflow. The EV/EBITDA multiple is therefore effectively an ungeared price to cashflow ratio. When comparing companies from a similar sector the variability of this ratio between companies is often a lot less than other ratios and therefore can be more meaningful when trying to identify expensive or cheap stocks. As with other ratios it should not be used on its own in deciding on the relative value of a resources stock."

(Rudenno, 2004, p.194)

The use of both NAV and EV/EBITDA are common among analysts, and it is not entirely surprising that these analysts build the outputs of the models around these two measures.

The inputs to both the numerator and the denominator of EV/EBITDA, are however, at the discretion of the analyst, and the inclusions differ amongst them. The CFA Curriculum suggests that Enterprise Value's usefulness lies in its representation of the value of the company as a whole, not just its common equity. It incorporates the market value of the shares with the market value of the debt, while subtracting the assets not directed to long-term capital (cash and short-term investments). It is described as:

> Market value of the common equity (number of share outstanding x Price per share)
>
> **Plus:** Market value of preferred stock if any
>
> **Plus:** Market value of debt
>
> **Less:** Cash and investments (specifically: cash, cash equivalents, and short-term investments)
>
> **Equals:** Enterprise Value

(Source: CFA Curriculum, 2014, p.325)

The differences that exist in the analysts' models, and the point where they exercise their judgment over the output of the model, have to do with the inclusions in the above calculation.

The analysts all differ on what they include in Enterprise Value. The market value of common equity is straightforward and the same across all models. What is included in debt, however, is diverse, and depends upon the analysts' interpretation of management's strategy, as discussed in Chapter 7, and how capital is available to be employed towards that strategy. This is a function of how the analyst interprets The Company's quarterly results, and its description of its strategy in both the financial reports and the quarterly conference call, as discussed in Chapters 6 and 7. That strategy was one that included increased production (by double the current level), driven by acquisition and expansion. The "double-double" strategy was largely scaled back, and focus shifted on development of existing deposits, rather than acquiring more exploration properties.

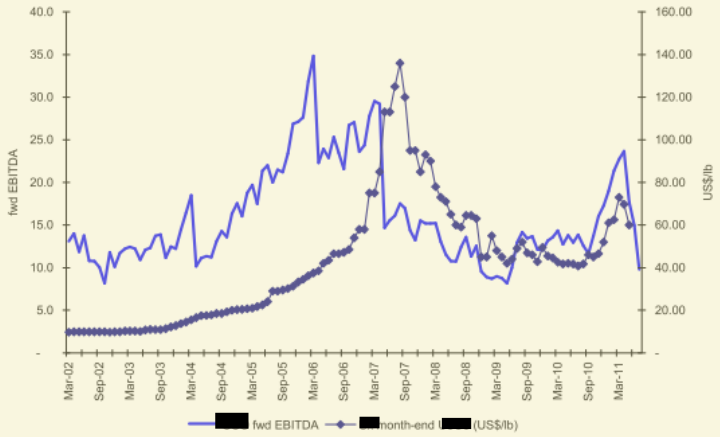
8.2.3 The Output of the Model: Connection to the Analysts Reports

The combination of the inputs from various parts of the model, and the sources of information, into the Analysts reports can be summarized with the following inscription from one analyst report. This inscription demonstrates the correlation between the spot price and analyst's valuation of The Company. It shows how the analyst uses a combination of NAV and EBITDA, and the weight given to each. It also shows the comparison of the analysts' calculations to both other companies, and the commodity market. This single inscription contains all of the previous inscriptions that punctualize the analyst's model, such as the spot price calculation, The Company's production estimates, and the write-down value ascribed to the Argyle deposit, and included in Adjusted Net Income. It further inscribes the calculations performed by the analyst in one inscription that irreversibilizes those calculations, as well as all of those that punctualize the analyst's model. This is offered as justification of the analyst's target price, which is the product of this long process of calculation.

Valuation

[redacted] trades at an EV/2012 EBITDA multiple of 9.9x and a P/NAV multiple of 1.2x, compared with its large cap. peer group average of 6.8x and 1.2x, respectively.

Exhibit 2. [redacted] EV/fwd. EBITDA & [redacted] Spot [redacted] Price – 2002 to current



Source: [redacted]

Justification of Target Price

Our revised C$37.00 target price is based upon an EV/2012E EBITDA multiple of 14.0x (60% weighting) and a 1.5x multiple to our NAV-10% (40% weighting).

8.4 Framing a Franchise

The term franchise was used by several analysts in the interviews, and became a recurring theme, standing in for the business process, but also as a measure of success, reputation, and influence. Barker et al. (2012) considers this reputational effect one possible explanation for the private meetings between management and fund managers: the appearance of an intimate relationship with management seems to bolster the fund managers' reputation. Similarly, the analysts seemed to perceive that their success was dependent upon their franchise, which was made up of their ability, their reputation, and the use of their research.

FA: "That we…yeah. That is the primary way we decide what coverage...well, primary, that's one of the two. You've got to cover, to have a viable equity trading… sales, trading, and research franchise, you've got to cover…you've got to cover the stocks that are, you know, that are traded on the exchanges. You've

got to match that. But, you've also got to align the resources where you're getting the most revenue.

KF: "Franchise? What do you mean when you say franchise?"

FA: "Uhmm…business. I guess. Yeah…I'm talking about our equities business, in that sense, which is revenues generated from sales, trading, and research, which is an integral part of it."

(Financial Analyst Interview)

So the franchise includes the business activity, but is also a way of distinguishing themselves amongst the other analysts:

FA: "I mean, just taking the average report, our problem is…the only two ways that gets read by anyone, one, is if it's first on their desk. Because the institutional investor is going to get, god knows how many of those. I mean, if there are fifteen analysts covering the stock, there'll be fifteen of those things in their inbox. You know. So, there's only two ways it gets read. One is it's there first. Or two, uhm…you're good enough, you've got a strong enough franchise that I'm their go to guy. Then they'll read it. They'll even read it if it's late. But the time, that comes down to us."

KF: "When you say 'strong enough franchise', again, you mean a strong enough relationship with these people? Like, enough of their business that they…"

FA: "I mean, I'm one of the top ranked mining analysts in the world, so, people read my stuff."

(Financial Analyst Interview)

The success of the analysts allows their firms to charge fees, but it also puts a lot of pressure on the analysts to perform, to differentiate themselves, and to maintain a level of accuracy.

> "Essentially, it's like any other business, so…If they want a whole bunch of my time, and my model, or any of our analyst time and model, they need to be paying us, you know, an appropriate amount of money."
>
> (Financial Analyst Interview)

> "Our focus and objective is not to let our clients make a mistake. Okay? If I'm batting 50/50 they can flip a coin, they don't need me. Okay? I gotta do 70, 80 percent accuracy. If you bat .5 you make a lot of money in baseball, but in our business you're gone."
>
> (Financial Analyst Interview)

The components of the franchise seem to be the relationship to management, the ability to model effectively, based on the information gained from that relationship, per the mosaic theory, and the ability to communicate that to the institutional investors, certainly in a timely manner, but in a way that the institutional investor can make sense of. That means providing the model to the investor, presented in a format they can understand.

> "Uhhmmm....I think that, you know, one of the key...the key things that institutional clients want to hear is that you are close to management**,** and that you do have an ear in to them, and when it comes to, you know, perhaps, conveying the question that they have, they don't really want to wait until the conference call. They'll ask you, or, you know, I'll ask on their behalf. Or, you know, every month or so, I'll have a discussion with the investor relations people on, sort of, how, you know, who they've been seeing, what type of questions are they getting asked. So, you're kind of building this, this communication loop between the management team..."

(Financial Analyst Interview)

The above analyst quote demonstrates the general perception of the analysts' relationship with management. The importance of modeling, and of the model itself, is exemplified by this analyst:

> "When we build these models, we build them with the ability for clients to use them as well. So, they have to be functional, but flexible. All right? Clients...institutional clients, they want to run it at their own commodity price forecast, or more conservative assumptions on production. So, the ability for a model to be easy, or flexible, is the primary way in which we, sort of, feel this is a user friendly. And we send our models to the clients, every day, multiple times....Yeah...and I think that's the primary way in which a client relationship develops with the analyst, where a comfort factor, on the reliability of his or her estimates, can be taken into account. And you're only going to get that with a competent model. "

(Financial Analyst Interview)

The competence of the model is generally judged based on the resulting analyst report, but for many institutional investors, the model itself is judged to be competent by actually seeing it, and

assessing the calculations and underlying assumptions. During the interviews, all of the analysts confirmed that they do send their models to the institutional investors.

> "Uh…yes….it depends on what, you know, it depends how much business they do with us. So, and it, how much service they get depends on how much they're willing to pay for it. Essentially, it's like any other business, so…If they want a whole bunch of my time, and my model, or any of our analyst time and model, they need to be paying us, you know, an appropriate amount of money."
>
> (Financial Analyst Interview)

With respect to the content of the models, the qualitative information seemed to be more important than the quantitative analysis, or the resulting recommendation:

> "I'm going to be honest with you. I have never had a question that reconciled the model to my rating. Never happens. In general terms, clients don't care about ratings, or target prices. They want to know, what does a company look like under a certain set of circumstances. A scenario...it's all about scenario analysis. Right? And..uhm...that's why we're able to build models that flex different price forecasts, different sensitivities on...as many inputs...and the more rigorous you can make it, while still maintaining that flexibility and functionality...is the key way in which you create value for a client."
>
> (Financial Analyst Interview)

The model is subject to the scrutiny of their clients, and the analysts suggested that they build the model with this scrutiny in mind. But the analysts also seemed to rely on the model to defend against criticism, to lend strength to their own viewpoint when questioned by the institutional investors:

> "… we send these models to our clients, and some of them rip them to shreds and say 'why did you do this?', or 'why did you that?'..."
>
> (Financial Analyst Interview)

> "Buy-side clients...we'll send a model to a company...uhh...if they want to have a look at it, under the understanding that it goes nowhere. And don't come back and tell me that I'm missing X Y and Z here. It's my model, and I do it my way..."
>
> (Financial Analyst Interview)

Part of the analysts' development of their franchise depended upon them developing a relationship with The Company, but also helping The Company to develop a relationship with the Institutional Investors:

> "And that's by discussion, by discussion with management as often as you can. One of the most important things that you do, in my franchise, anyway, is to go on the road with management. To do non-deal roadshows, which is essentially chaperoning them to go see shareholders. "
>
> (Financial Analyst Interview)

This sentiment echoes managements' perspective on the importance of the analysts in getting The Company recognized in the market, demonstrated in Chapter 5. In that chapter it was demonstrated to influence the financial reporting practices of the analysts. Here it demonstrates the importance of the relationship to the modelling practices of the analysts, and the construction of their franchise.

8.6 Discussion and Analysis

Similar to the purpose of Chapters 6, 7, and 8, the lengthy description of the analysts' modelling process in this chapter is intended to make a contribution of in-depth description of the modelling process. I have shown here how there are different but inter-related parts to the modelling process, each of which plan an important role in the resulting valuation and recommendation made by the analysts.

The process of modelling, depicted above as a combination of three connected sub-processes, can be interpreted as a process of translation (Callon, 1986) where the various components that make up the calculation are disentangled, reassembled, and re-entangled (Callon, 1998a). While this process of framing serves to create a new entity for analysis, it is

connected by many points to other calculations. Here I discuss the results using Callon's notion of framing, which appreciates the importance of these connections to other possibilities that lie outside the frame: "…the more fundamental concept of framing, which implies the possibility of identifying overflows and containing them". (Callon, 1998b, p. 248)

As discussed in Chapter 3, Callon elaborated his notion of translation (Callon, 1986) describing the processes of singularization and objectification, punctualization and irreversibility (Callon, 1991). The process of singularization is a process of defining the qualities of the object of calculation so that it can be depicted, or objectified, as just that, an object or a separate entity. This entity is connected to the outside world from which it has been bounded. It is "punctualized" by the various actors and intermediaries upon which it relies. These are the "overflows" (Callon, 1998b) that are ever present and must be contained in order for the calculation to be culminated, that is, a stock price targeted, and recommendation made. The containment of the overflows requires a degree of "irreversibility" where there is no going back to the point where the calculation was controversial, where other possible outcomes existed.

> "But the framing process does not just depend on this commitment by the actors themselves; it is rooted in the outside world, in various physical and organizational devices." (Callon, 1998b, p.249)

The modelling process continues the singularization and objectification processes that are evolving during the formation of the analysts' franchises, through their interaction with The Company and its management. The process is one of collective formation (Latour, 2005), whereby the analysts' franchise is a socio-technical agencement that is made up of numerous actors, devices, and calculations. Within this agencement (Hardie and Mackenzie, 2007) the connections to the outside world are ever present: these were demonstrated above as the points in

the Operating Model, the Financial Model, and the Valuation Model where the calculations performed by the consulting companies, The Company, and indeed, the market itself were stabilized in the analysts' model.

The Company's Average Realized Price served as an input to the Operating Model, as was the spot price and long-term price indicators calculated by the consulting companies. These prices have a constituting effect on each other, as the size and magnitude of The Company has an effect on the Supply and Demand calculations performed by both the analysts and the consultants, because of The Company's effect on commodity demand.

The spot and long-term indicators relate to The Company's portfolio of contracts, which affects the analyst's operating model in terms of production volumes and delivery timing. The spot and long-term indicators also have an effect on the reserves and resource calculations performed by The Company's Subject Matter Experts and Qualified Persons, and contained in The Company's financial reports and NI 43-101 technical reports. The analysts use these figures in the forecasting of production volumes and revenue, and associated costs in the Operating Model.

The effect of the price indicators, and the price forecasts on The Company's financial reporting, specifically the extra-ordinary adjustments to Adjusted Net Income for write-downs, was demonstrated in Chapter 5. These are in turn seen to affect the Financial Model that the analysts use to drive the figures used in the valuation model. Whether the analysts use some adjusted net income figure as the starting point for earnings in EBITDA, or begin directly with The Company's figure, that measure is punctualized by the calculations that went into The Company's financial calculations.

Finally, the Valuation model is driven by the forecast prepared in the Operating Model, and utilizes the measures taken from the calculation of what constitutes "earnings" in the Financial Model. The NAV calculation discounts to the present the forecast of mine production and costs. Further, EV/EBITDA incorporates the overall effect of the market, by calculating the market value of the common equity and the market value of the debt. It is certainly affected by the analysts' discretion of what they choose to include in Enterprise Value, and how they calculate EBITDA. It is also affected by The Company's strategy, however, as the analyst will exclude or include components of Enterprise Value based on what they determine The Company's strategy to be in relation to those components.

The modeling process, as a process of "framing", illustrates how the various actors detach various components, reassemble them in a calculative space, and extract a result (Callon and Muniesa, 2005). The close relationship to the calculations performed by various actors, and to the market itself, helps to create this new entity that has been extracted, where these other associations are ever-present but have been contained, even if only momentarily.

8.7 Conclusion

As Beunza and Garud (2007) suggest, "…what analysts do is create and provide a compelling frame that is persuasive." (P. 23). The analysts' process of framing The Company depicted above can be understood according to Callon's (1998b) notion of calculation, discussed in Chapter 3. This process, similar to the process of translation (Callon, 1986) depends upon the processes that contain possible overflows (Callon, 1998b), those points in the calculative process where the result could be different, and depend upon the momentary stabilization of other calculations. The current calculation, the modeling of The Company, can be thought of to be "punctualized" (Callon, 1991) by these prior calculations, where they become a single point in

the analysts' models. "Punctuatlization" therefore "converts an entire network into a single point or node in another network" (Callon, 1991, p. 153) and the result of the prior calcluations thus represents the multitude of actors and processes that did the calculation, and the result becomes "irreversible". These assist in the stabilization of the current calculation, in turn assisting it in becoming irreversible.

When thusly conceived, the process of modelling described here enhances our understanding of framing by expanding upon the processes highlighted in previous studies: Where Beunza and Garud (2007) offer the notion of frame-making to expand upon Callon's (1998a and 1998b) work, my description examines the process in greater detail to identify the calculative mechanisms the analysts use; to expand upon Fogarty and Rogers' (2006) examination of the content of analysts' reports, I demonstrate how the analysts employ their models to generate the output that is the report; and to contribute to Barker et al.'s (2012) examination of information exchange between management and analysts, I offer the suggestion that, despite securities regulation perceived as limiting the information content of such exchanges, the "mosaic theory" approach expressed by the analysts at once allows them to perform their calculation, and to build a "viable franchise". At this point in the story, the 'franchise' has been established as a socio-technical agencement that calculates. The viability of the franchise, much like the success of translations described by Latour (2005), is in the hands of subsequent actors. The success of the analysts' franchise is thus in the hands of the institutional investors that receive the output of the long process of the analysts' calculation.

Chapter 9 – Discussion and Conclusion

9.1 Introduction

In terms of Callon's (1986) sociology of translation, the description of the financial reporting, interaction, and valuation could be interpreted as one of certain actors defining a problem, and a solution, surrounding themselves with support and directing action towards the acceptance of their agenda. And certainly the actions of managers, and financial analysts, have been described and examined separately in terms of the influence they exert on the other, and on the market. This dissertation seeks to contribute to the understanding of financial calculation by going beyond the early Actor-Network Theory notions of the "obligatory passage point" (Callon, 1986), and to contribute the more recent applications of framing and collective formation in financial markets. The examination here also seeks to contribute to a more encompassing examination of the practices of managers and analysts in a specific case context, and provides a description of how interaction between managers and analysts leads The Company to change its financial reporting. The description also offers an examination of financial analysts' activities beyond the limited focus on forecasting, by providing empirical evidence of the modeling process, and what measures are contained therein.

The preceding chapters have provided detailed descriptions of the processes of financial reporting and financial modelling. Chapters 5, 6, 7, and 8 were intended to provide the empirical contribution of answering the questions of how does The Company produce its financial statements, how do financial analysts produce their models and reports, and how do the various actors interact in the process. These descriptions add to the accounting literature on financial reporting and financial analysis that has been lacking such detail of these well-studied processes.

Relying on Callon's (1986, 1991, 1998b) notions of framing, agencement forming and calculation, the descriptive empirical contribution is enhanced by the demonstration of the how the process of framing is a collaborative effort, accomplished by rendering stable the potential overflows that punctualize the calculative process. By removing uncertainty and assumptions that would allow overflows to frustrate calculation, the various prior calculations become "irreversible" and thus stable in The Company's reports, carried to the analysts models, and ultimately to their reports. This process requires interaction, relying on devices, and the production of various inscriptions. During the process of forming the analysts' "franchise" a socio-technical agencement is formed by the various actors whereby the managers, analysts, spreadsheets, models, reports, and even "the commodity" are enrolled and domesticated, if only temporarily, in a model that constitutes, but is constituted by, the market.

These results extend Barker et al. (2012) with respect to information exchange, and Roberts et al, (2006) by demonstrating a different perspective on interaction, and show that influence is multi-directional by including more actors in the analysis. I build upon the suggestions of Neu (1992) that the financial economics notion of "utility" is limiting in the examination of management decisions over financial disclosure. I build upon the study of analysts by Fogarty and Rogers (2006) by showing that there is indeed a connection between the company's reports, interaction with analysts, and the analysts' reports, but also that the intervening process of modeling must be considered, and I show the connection between the processes that the models serve. This expands the discussion of framing advanced by Beunza and Garud (2007) by further unpacking the frame-construction to examine the individual components in detail: the process of selecting the key metric is and shown to be part and parcel of the forming of the socio-technical agencement that this key metric is to represent. By

examining and identifying the framing process, its different rules, and how it constitutes practice in the market, I demonstrate how calculation is practiced, and, in identifying the various points of punctualization, how overflows are contained and calculation is momentarily stabilized.

Future work in this area could include more exploration of the processes I have described here. The sample could be expanded, more models could be obtained, and more about the market, both the capital market for The Companies shares, and the commodity market for "The Commodity" could be explored further. This would serve to extend our understanding of calculation as distributed cognition, and expand our understanding of how accounting works with other calculations in markets to affect prices, thus identifying different forms of performativity (Callon, 2007; MacKenzie, 2007)

In this chapter, I first revisit the empirical findings in Chapters 5, 6, 7, and 8. I then demonstrate how these findings answer the empirical questions set out in Chapter 2. I then demonstrate the empirical contributions, in terms of the relevant literature to which it adds, extends, or elaborates. I then re-examine Callon's notion of framing, and demonstrate how the dissertation brings Callon's notions of socio-technical agencement to the forefront, and how the examination of the interaction of financial market actors offers an example of the processes of puctualization and irreversibility, and how those processes are effected in practice through the elimination of uncertainty in the containment of overflows.

9.2 Main Empirical Findings

In Chapter 5, I described The Company's relationship with financial analysts, and how it has changed over time. I described the resulting processes for the production of the annual report, with a focus on the various meetings that were held in the preparation of the voluntary

disclosures contained in the Management's Discussion and Analysis. The production of the annual report was shown as one of collective forming, where the various Subject Matter Experts, Qualified Persons, devices (models, reports, and calculations) came together, with the assistance of the financial analysts, in producing financial results that are shaped by the analysts' needs, but also by The Company's activities, the market for The Commodity, and The Company's concerns over proprietary information in a thin, opaque market.

The effect of this relationship on The Company's financial reports led to the use of pro forma adjustments to GAAP Net Income to derive a useful measure for financial analysts. I identified two types of such adjustments, the recurring adjustment for foreign currency fluctuations, and those for unusual items. I then focused on the production of Adjusted Net Income, and narrowed the analysis to one representative unusual transaction and its reporting, the Argyle acquisition, write-down, and presentation as an adjustment to IFRS Net Income to arrive at Adjusted Net Income.

The relevant inscriptions that were identified in Chapter 5 include The Company's Average Realized Price Table, the Production Target Levels Table (the Production table), the Adjusted Net Income table, the Price Sensitivity Table. The Company also made use of the spot- and long-term indicator prices calculated and posted by two industry consulting companies. The different meetings during the financial reporting process include the Tone Meeting, the SME Disclosure Meeting (Cast of Thousands), the Disclosure Committee meeting, and the Bring Down Due Diligence meeting. Chapter five demonstrated the multiple lines of influence connecting The Company, its reporting, its SME's and QP's, and its strategy, to the analysts, and to the market.

In Chapter 6, I picked up where Chapter 5 left off, with descriptions of the processes that The Company's Management, and the financial analysts, go through in preparation for the conference call, held subsequently to the release of The Company's financial results. I described conference call preparation meetings held by The Company, and demonstrated how these are linked to and in response to the early reports prepared by the financial analysts. I examined conference call interaction, demonstrating how the pre-call and call activity is linked, and is related to the post-call modeling and reporting by the financial analysts. I identify the formal and informal rules governing interaction between The Company and the analysts, and how these rules set the stage for the conference call, and govern behaviour and influence the interaction and thus the reporting and valuation outcomes before, during, and after the call. I identified a number of inscriptions that were carried by the analysts from The Company's financial reports, challenged, discussed, and defended in the conference call, and inscribed in the Analysts' reports.

I find that within the process of frame construction, there is interaction between management that drives the process. This interaction occurs before, during, and after the contact in the conference call. I find that the process results in settlement upon what is going to be included in the frame (how overflows are contained); what figure will represent that frame (how metrics are established) and how inscriptions are used to carry the prior calculations that lead to metric selection (how calculations punctualize the calculation, and how different possible measures are cast aside as the appropriate figure is selected).

I continue the examination of framing in Chapter 7, where I describe how the inscriptions identified in Chapter 5, and discussed and defended in Chapter 6, are carried to the analysts' reports. These inscriptions are directly related to Adjusted Net Income, as they are inputs and

considerations in the valuation of the Argyle deposit, which led to its write-down, and are used in the calculation of its ANI adjustment. Leaving the discussion of the analysts' modeling practices until Chapter 8, Chapter 7 demonstrates how the uncertainties associated with the various calculations performed by The Company, and the industry consultants, are settled through the activity before, during, and after the conference call, and obscured as they are carried to the analyst reports. Conceptualizing this process of stabilizing prior calculations as one of settling on a key metric for The Company, I identify that key metric as Adjusted Net Income, showing how various analysts use it, and how it has been adopted over time, where other key metrics could have easily replaced it.

Turning to the analysts' models, Chapter 8 offers a detailed description of the analysts' modeling process, and of the models themselves. Describing the process in such detail allows the multitude of associations to be drawn, and I use them to identify how the analysts' calculations rely on numerous prior calculations that have been performed in the production of the inscriptions identified in Chapter 5, and described as defended, stabilized, and carried in Chapters 6 and 7.

9.3 Discussion and Implications

In my discussion of the extant literature on corporate financial reporting, pro forma earnings, company-analyst interaction, and financial analysts, I identified the opportunity for a descriptive study of the production and communication of corporate financial information, and its use by key market actors, financial analysts. In answering the questions of how do The Company's managers calculate pro forma earnings, I contribute to the voluntary corporate disclosure literature following the suggestion by Neu (1992) that more social factors should be examined to complement the abundance of Positive Accounting Theory based research on

managers' corporate reporting decisions. By addressing the question of how these earnings are communicated to financial analysts, I contribute to the findings of Barker et al, (2012) which suggest that interaction between managers and analysts serves no useful economic purpose, and Roberts et al (2006) which seems to indicate that the discipline of the market, through investors, on corporate managers, is the main reason for such interaction.

In describing the interaction, and the resulting analyst reports, a number of inscriptions, serving as boundary objects to connect The Company to the commodity, the market, the price reporters, and the analysts, were identified, and how they came to be stabilized, or "black-boxed", exhibiting a certain taken-for-grantedness that allowed for settlement. These inscriptions were produced through collaboration, and rather than the uni-directional influence of social factors described by Neu (1992), or the discipline of the analysts/market solely on managers suggested by Barker et al., (2012) and Roberts et al., (2006), I demonstrate how both parties (and numerous other actors) are implicated in the construction of the collective that is part of a larger "market".

Answering the question of how financial analysts model the companies they follow, addressed the gap identified by Bradshaw (2012), for an elaboration of the process beyond the use of the earnings forecast, but also extended the assertion by Beunza and Garud (2007) that analysts serve as "frame-makers". By examining the micro-processes of analysts' calculations, I expand Beunza and Garud's notion of framing, originally put forth by Callon (1998b), and preceded by Goffman (1974), by examining the sub-process of determining the "key metric" to represent The Company's performance. In exploring the interaction between financial analysts and company management, the process is understood as one of forming a socio-technical

agencement, which depends upon numerous boundary objects, and actors that collect them, and associate them in a calculative space.

9.3.1 Forming a Socio-technical Agencement

Callon's notion of the socio-technical agencement, discussed in Chapter 3, was effectively used by Hardie and MacKenzie (2007) in their analysis of a hedge fund as an economic actor. They suggest that the study of a hedge fund as "collectives of human beings, technical devices, algorithms, and so on…" (p. 57) is an effective way to "theorize actors and action in [financial markets]" (p. 57). In order to understand calculation, one must examine the many different intermediaries that make up the collective that calculates. My study highlights the formation of the socio-technical agencement that is the analysts' "franchise".

The forming of a socio-technical agencement encompassed the evolution of the relationship between The Company and the financial analysts. As shown in Chapter 5, the development of The Company's fledgling Investor Relations department occurred alongside the developing relationship with the financial analysts, which in turn influenced both The Company's financial reporting, and the analysts modeling practices. As The Company became more aware of its users' needs, it adopted new disclosures, including changing the type of cash-flow reporting it used, as well as commencing publication of an Average Realized Price Table, a Price Sensitivity Table, and a focus on a pro forma earnings measure, termed Adjusted Net Income.

Citing concerns over the release of proprietary information in a market with few producers and customers, The Company suggested that its reluctance to release certain information such as realized contract price was due to the effect that it could have on its

customers. It does also, however, seem to be somewhat strategic on The Company's part, in that it served to direct the focus of the calculations by the analysts by offering some of the information that the analysts need, but maintaining the analysts' dependence upon The Company's calculations. This dependence was further solidified by the use of pro forma earnings adjustments for unusual items. The Company's calculation of the initial valuation of the Argyle acquisition was used to exemplify this dependence. The Analysts' ability to determine the value, and potential effect on future production, of Argyle was limited by The Company's disclosure. As The Company determined that the acquisition had lost some of its original value, the communication with the analysts through the conference call served to buffer The Company against analyst criticism, leading to acceptance of the write-down, its adjustment out of IFRS Net Income to arrive at Adjusted Net Income, and its acceptance, exclusion, and disregard by the analysts.

9.3.2 Boundary Objects in action

In Chapters 6 and 7, I examined in greater detail the process of communicating financial information, such as the Argyle write-down, to the analysts through the regular conference call to discuss results. I demonstrated how there were certain rules that governed the interaction, and that there were processes of information release, analyst initial reports, company meetings, conference call, model updates, and subsequent analysts' reports that linked, and active throughout the process.

I demonstrated how the analysts perceived their conduct as one of obtaining "colour" on The Company, which seems to be related to the formation of their franchise, discussed below, as demonstrating the ability to extract "special", if not "inside", information from management. The maintenance of a rules-based relationship with management suggested that that interaction

conference call interaction was to be conducted a certain way, and that the analysts were to serve a certain purpose. The setting the stage of the conference call was assisted by the formal rules of analysts' queueing, asking two questions, and returning to the queue helped establish the conference call space as one of challenge and defense: the analyst were there to challenge management, and management was there to defend itself. This is embedded with various securities laws governing interaction, but also with the over-arching relationship between management and the analysts.

The analysis continued with a number of boundary objects employed by management and the analysts that aid communication between them, but also serve to support calculations. Some of these could be considered as "intermediaries", while others serve as actors in their own right. The process of calculation seems to depend somewhat on the calculations performed by and within these various boundary objects being accepted, taken for granted, and carried.

The inscriptions that I focused on include the Spot-price calculation by the industry consultants, The Company's Average Realized Price Table, Adjusted Net Income table, and Production Table. These tables capture the results of the calculations they represent, and within them, the potential for other possible collections has been removed. They are further carried by the analysts, where any reference to uncertainties or assumptions is removed, and they become "irreversible" as they are carried to the analysts' reports.

The process for this was evident before, during, and after the conference call. The publication of The Company's results set in motion a series of related events: the analysts prepared a preliminary "flash" report, The Company's managers used the flash reports as cues to what kind of information is to be focused on in the conference call, and met to discuss the strategy for doing so. The reports also served to indicate what information would be excluded

from the conference calls. This is in contrast to Barker et al (2012), which suggests that there seems to be no purpose to interactions between management and market actors.

In the investigation of manager-institutional investor interaction, Barker et al (2012) suggest that the paradox of these meetings indicates some purpose other than information exchange. Noting the securities rules over the release of material non-public information, yet also the assertion by institutional investors that these meetings represent a significant source of investment decision-making information, Roberts et al. (2012) identify this as a paradox. With securities rules in the UK being similar to those in Canada and the US, the release of material, non-public information during private meetings between corporate managers and institutional investors would result in black-outs, cease trading orders, and questions about ethics and reputation. If the information exchanged in these meetings is limited to non-material public information, what purpose could they serve?

Barker et al. (2012) explore the possibility that the investors are irrational in their belief that they can piece bits of non-material non-public information together with public information, in order to derive superior investment decisions, and thus abnormal investment returns. They postulate three reasons for this paradox: 1) the failure of theory to recognize the importance of tacit knowledge, 2) the failure of the investors and analysts to behave rationally, 3) the reputational effect conferred on the investors by appearing to have a strong relationship with management.

The authors suggest that financial economic theory fails to take into consideration tacit knowledge, and the different time frames that market actors must face. Tacit knowledge stemming from the actors' own experience suggests that they can make useful inferences from the information received in private meetings. Expanding on this, when confronted with

conflicting time frames, that is, the short term of two years or less, and the long term, over which uncertainty is greater, and the price-sensitivity of information is lower due to the effect of discounting to the present, a developed relationship with management will give an indication of how management will react to as yet unforeseen future circumstances. Thus the meetings convey a type of knowledge not considered by notions of earnings "persistence" (Lougee and Marquardt, 2004).

The second possibly that the authors contemplate is that the institutional investors are irrational in the economic sense, in that they incorrectly believe that the meetings are useful, but they actually are not. The third hypothesis is that the meetings serve a reputational purpose, where the investors can claim to have a special relationship with management, and thus the meetings are merely self-aggrandizing.

Barker et al, (2012) deals with private meetings between management and institutional investors, but their findings have implications for the current dissertation. If private meetings paradoxically convey no new information, how can the information exchanged in the very public conference calls? Considering the suggestion of tacit knowledge and uncertain future states of their first postulate, and the self-aggrandizing implications of their third postulate, my dissertation can expand upon Barker et al (2012), and my results can be interpreted with reference to their postulates. While an exclusive relationship with management can certainly seem to be self-aggrandizing, considering the effect of the interaction between the analysts and management that I describe in Chapters 6 and 7, the relationship that is forming is more complex than simply the ability to name-drop in front of clients. As I have shown the long process of developing the relationship between management and the analysts has had an effect on the evolving financial reporting, and the calculations performed by both management and the

analysts. While other studies, such as Roberts et al (2006), Zajac and Westphal (2004) and Zuckerman (1999) have suggested that there is something of an influence or disciplining effect on management conveyed by the meetings, the collective formation described here seems to indicate that both management and the analysts have influenced each other over time.

The analysts do also seem to be guided by the belief in their ability to apply a certain level of expertise to their analysis, which may also indicate that the notion of tacit knowledge has some traction here. As suggested in Chapter 8, the modeling practices of the analysts are largely based on the experiences of the analyst. While they claim a large degree of autonomy, they may or may not actually enjoy that autonomy in their work. The tacit knowledge that they do develop, however, is influenced by their interaction with The Company, and others like it, and the limits of the information that is available to them in their analysis. As The Company's report has evolved, so too has the analysts' models. In order to "model to disclosure" the disclosure changed, but so too did the information in the model. This also relies upon the interaction in the conference calls, and the cues regarding what is important and not important to the analysts, coupled with how they are able to challenge management, and how management is successful, or not, in their defense.

Considered as part of collective forming, the coincidental process of framing is illuminated by the description of the activities. The process that is described expands the notion of frame-making put forth by Callon (1998b), and elaborated by Beunza and Garud (2007). Callon (1998b) suggests that framing is a process of detachment, association, and reattachment, in a calculative space. Beunza and Garud (2007) suggest that financial analysts serve as "frame-makers", and that, when it comes to analyzing public companies, the frame requires a category, an analogy, and a key metric. In order to calculate, analysts must first have some idea of what

they are calculating. This seems to be an interpretation of Callon's (1991) notions of objectification and singularization, where the company being analyzed must first become an object with identifiable properties. By first categorizing the company, it is put in a space with other like companies, indicating what features it exhibits. An analogy can then be established, which serves as an exemplar of the companies within the category. The key metric can then be settled upon as an appropriate performance measure, consistent with the category and the companies that represent that category.

Focusing on the framing sub-process of establishing this key metric, Chapter 7 demonstrates that the key metric is a result of a long process of calculations where prior calculations must first become stabilized. The stabilization serves to support the calculation performed by the analysts in their models, but the model also serves to stabilize the prior calculations, which "punctualize" the model: the results of the calculations are defended and supported by interaction with management, and further carried to the analysts' modeling, which lends an "irreversibility" to the calculations. The prior calculations that result in the figures contained in the spot price indicator, the Average Realized Price table, the Price Sensitivity table, and the Production table all become more solid by their inclusion in the analysts' reports. They also support the management strategy that effected the acquisition, valuation, and subsequent write-down of the Argyle project. The culmination of all of these sub-calculations in the adjustments that go into Adjusted Net Income serves to determine the key metric utilized by the analysts, and taken to the market.

In Chapter 8, I provide a detailed description of the modelling process, based on the interviews with financial analysts and an examination of their models. This chapter connects the financial information, and the processes for its communication, discussed in Chapter 6, 7, and 8.

This chapter demonstrates that the focus of the academic literature on financial analysts' can benefit from an in-depth consideration of the different sub-models that make up an equity valuation model. Building on the work of Barker (1998, 1999, 2000) I demonstrate that the information gleaned from The Company's financial reports and conference call is used by the analysts, and is part of a process of co-elaboration of The Company's properties that is part of building the analysts' franchise. This process, described by Callon (1991) as objectification and singularization, progresses in conjunction with the evolution of The Company's financial reporting, its communication with analysts, and the analysts' modelling. The process is examined as one of constructing a socio-technical agencement, the hybrid-collective that performs the calculation. This is motivated by the anaslyts' mosaic theory approach to information gathering, and occurs as they build their franchise. Groysberg (2013) suggests that a "franchise" is something that builds around an analyst:

> "Research managers also provide analysts with training and mentoring to help them build their franchise, particularly for firms that develop talent internally rather than hiring stars."
>
> (Groysberg, 2013, p. 21)

I have shown that their "franchise", a network of support around themselves and The Company, is constituted by the process of calculation-as-translation. Thus, a social collective is formed, and calculation is understood as a crucial aspect of that formation.

9.4 Opportunities for further exploration

The relatively small sample size, and the reliance on interviews, serve to exacerbate some limitations of my study, and more could be done to explore both the phenomena addressed herein, and to extend the study to related phenomena. There are more aspects of financial

statement production, financial analysis, the relationship between the two, and both the financial and commodity markets that could be examined to add to our knowledge of calculation, distributed cognition, the carrying of values by subsequent actors, and performativity.

As Hopwood (2012) suggests, there is much to be learned at the interface of accounting and finance. For the purpose of my case study, I was able to interview 9 of the 18 analysts that followed The Company during the period of analysis. I was also able to interview a significant number of key management personnel. These participants' interviews, when added to the plethora of public information published by The Company, the analysts, and the unique data provided in the analysts' models, served to generate a detailed description of The Company's financial reporting practices, the analysts' modeling practices, and the interaction between the two. Although there are challenges to accessing executive management and financial analysts, more could be gained by expanding the sample, and also not just interviewing, but also observing of the practices the actors claim to undertake.

I focused on one aspect of Beunza and Garud's (2007) framing components, that of the key metric, as distributed cognition. Demonstrating that the determination of this key metric is a collaborative effort reinforces the appropriateness of this approach to examining calculation in financial markets. As prior research has shown, however, the aspect of "categorization" (Zuckerman, 1999; Zajac and Westphal, 2004) is also an important part of the process. Continuing the application of the frame-making to the study of collectives could serve to expand upon both the categorization literature, and the calculation literature, by determining how the actors collaborate on the stabilization of social categories in the first place.

My study drew artificial boundaries around the case of The Company and the analysts, and therefore can say nothing about the carrying of the result of valuation to the capital market. While I was able to learn a great deal about the process of calculation, my informants and textual data do not offer anything in the way of the success of the calculation, that is, whether or not it is indeed carried by subsequent actors. In addition to increasing the sample, the sample could also be extended to include the intuitional investors to further our understanding of the irreversibility of the analysts' model through the use of both the model and the report.

To expand upon the performativity aspect of the different calculations that punctualize the valuation process, more examination of overlap between the financial market and The Commodity market could be done. The many prior calculations that create overflows in one frame provide conduits into other frames, which could also be studied. While the devices that contain these overflows may be an intermediary in one frame, they may be a mediator, and therefore an actor, in another frame. An examination of these overflows could extend the study of performativity to investigate the degree of and different types of performativity.

References

Abdolmohammadi, M., Simnett, R., Thibodeau, J. C., & Wright, A. M. (2006). Sell-side analysts' reports and the current external reporting model. *Accounting Horizons, 20*(4), 375.

Abolafia, M. Y. (1996). *Making markets: Opportunism and restraint on wall street.* Cambridge, MA: Harvard University Press.

Abolafia, M. Y. (1998). Markets as cultures: An ethnographic approach. In M. Callon (Ed.), *The laws of the markets* (pp. 69-85). Oxford: Blackwell Publishers.

Åhblom, P. (forthcoming), The financial performance: An Investigation into the creation of meaning in company-capital market interaction, Stockholm School of Economics (Published PhD thesis).

Ahrens, T. (2008). Overcoming the subjective–objective divide in interpretive management accounting research. *Accounting, Organizations and Society, 33*(2-3), 292-297.

Ahrens, T., & Chapman, C. S. (2006). Doing qualitative field research in management accounting: Positioning data to contribute to theory. *Accounting, Organizations and Society, 31(8)*, 819-841.

Ahrens, T., & Chapman, C. S. (2007). Management accounting as practice. *Accounting, Organizations and Society, 32*(1-2), 1-27.

Allee, K. D., Bhattacharya, N., Black, E. L., & Christensen, T. E. (2007). Pro forma disclosure and investor sophistication: External validation of experimental evidence using archival data. *Accounting, Organizations and Society, 32*(3), 201-222.

Alpert, B. (2000). The numbers game: Reporting of pro forma earnings is rising and so is the debate about it. *Barron's, 80(37)*, 22-24.

Alpert, B. (2001). Maybe pro forma earnings aren't so evil after all. *Barron's, 81(32)*, 30.

Alvesson, M. (2003). Beyond neopositivists, romantics, and localists: A reflexive approach to interviews in organizational research. *The Academy of Management Review, 28*(1), 13.

Alvesson, M., & Karreman, D. (2007). Constructing mystery: Empirical matters in theory development. *The Academy of Management Review, 32*(4), 1265.

Alvesson, M., & Karreman, D. (2008). On the social nature of explicating mystery construction in theory development: A response to McKinley. *The Academy of Management Review, 33*(2), 543-545.

Alvesson, M., & Sandberg, J. (2011). Generating research questions through problematization. *The Academy of Management Review, 36*(2), 247.

Anantharaman, D., & Zhang, Y. (2011). Cover me: Managers' responses to changes in analyst coverage in the post-regulation FD period. *The Accounting Review, 86*(6), 1851-1885.

Ancona, D. G., Goodman, P. S., Lawrence, B. S., & Tushman, M. L. (2001). Time: A new research lens. *Academy of Management Review, 26*(4), 645-563.

Anderson-Gough, F., Grey, C., & Robson, K. (2001). Tests of time: Organizational time-reckoning and the making of accountants in two multi-national accounting firms. *Accounting, Organizations and Society, 26*(2), 99-122.

Annisette, M., & Richardson, A. J. (2011). Justification and accounting: Applying sociology of worth to accounting research. *Accounting, Auditing & Accountability Journal, 24*(2), 229-249.

Asquith, P., Mikhail, M. B., & Au, A. S. (2005). Information content of equity analyst reports. *Journal of Financial Economics, 75*(2), 245-282.

Ayers, B. C., & Freeman, R. N. (2003). Evidence that analyst following and institutional ownership accelerate the pricing of future earnings. *Review of Accounting Studies, 8*(1), 47-67.

Bae, K., Tan, H., & Welker, M. (2008). International GAAP differences: The impact on foreign analysts. *The Accounting Review, 83*(3), 593.

Bae, K., Stulz, R. M., & Tan, H. (2008). Do local analysts know more? A cross-country study of the performance of local analysts and foreign analysts. *Journal of Financial Economics, 88*(3), 581-606.

Baginski, S. P., Hassell, J. M., & Kimbrough, M. D. (2002). The effect of legal environment on voluntary disclosure: Evidence from management earnings forecasts issued in U.S. and Canadian markets. *The Accounting Review, 77*(1), 25-50.

Bamber, L., Jiang, J., Petroni, K., & Wang, I. (2010). Comprehensive income: Who's afraid of performance reporting? *The Accounting Review, 85*(1), 97.

Barber, B., Lehavy, R., McNichols, M., & Trueman, B. (2001). Can investors profit from the prophets? Security analyst recommendations and stock returns. *The Journal of Finance, 56*(2), 531-563.

Barker, R. G. (1998). The market for information -- evidence from finance directors, analysts and fund managers. *Accounting & Business Research, 29*(1), 3-20.

Barker, R. G. (1999). The role of dividends in valuation models used by analysts and fund managers. *European Accounting Review, 8*(2), 195-218.

Barker, R. G. (2000). FRS3 and analysts' use of earnings. *Accounting & Business Research, 30*(2), 95-109.

Barker, R., Hendry, J., Roberts, J., & Sanderson, P. (2012). Can company-fund manager meetings convey informational benefits? Exploring the rationalisation of equity investment decision making by UK fund managers. *Accounting, Organizations and Society, 37*(4), 207-222.

Barker, R., & Imam, S. (2008). Analysts' perceptions of 'earnings quality'. *Accounting and Business Research, 38*(4), 313-329.

Barniv, R., Hope, O., Myring, M., & Thomas, W. (2009). Do analysts practice what they preach and should investors listen? effects of recent regulations. *The Accounting Review, 84*(4), 1015.

Barry, A., & Slater, D. (2002). Technology, politics and the market: An interview with Michel Callon. *Economy and Society, 31*, 285-306.

Baxter, J., & Chua, W. F. (2008). The field researcher as author-writer. *Qualitative Reasearch in Accounting and Management, 5(2)*, 101-121.

Beaver, W. H. (1968). The information content of annual earnings announcements. *Journal of Accounting Research, 6*, 67-92.

Beccalli, E., P. Miller & T. O'Leary. (2014). How analysts process information: Technical and financial disclosures in the micro-processor industry. *European Accounting Review*.

Berger, P. L., & Luckman, T. (1967). *The social construction of reality: A treatise in the sociology of knowledge*. New York: Doubleday Anchor.

Bernhardt, D., Campello, M., & Kutsoati, E. (2006). Who herds? *Journal of Financial Economics, 80*(3), 657-675.

Beunza, D., & Garud, R. (2007). Calculators, lemmings, or frame-makers? the intermediary role of securities analysts. In M. Callon, Y. Millo & F. Muniesa (Eds.), *Market devices* (pp. 13-39). Malden, MA; Oxford: Blackwell Pub./The Sociological Review.

Beunza, D., & Millo, Y. (2008). "The SSF manual" how to design an SSF study.

Beunza, D., & Stark, D. (2012). From dissonance to resonance: Cognitive interdependence in quantitative finance. *Economy and Society, 41*(3), 383-417.

Bhattacharya, N., Black, E. L., Christensen, T. E., & Larson, C. R. (2003). Assessing the relative informativeness and permanence of pro forma earnings and GAAP operating earnings. *Journal of Accounting and Economics, 36*, 285-319.

Bhattacharya, N., Black, E. L., Christensen, T. E., & Mergenthaler, R. D. (2007). Who trades on pro forma earnings information? *The Accounting Review, 82(3)*, 581-619.

Bhattacharya, N., Black, E. L., Christensen, T. E., & Mergenthaler, R. D. (2004). Empirical evidence on recent trends in pro forma reporting. *Accounting Horizons, 18*(1), 27-43.

Bhushan, R. (1989). Firm characteristics and analyst following. *Journal of Accounting and Economics, 11*(2–3), 255-274.

Bijker, W., Hughes, T. P., & Pinch, T. J. (Eds.). (1987). *The social construction of technological systems: New directions in the sociology and history of technology.* Cambridge Massachusetts: The MIT Press.

Black, D., Black, E. L., Christensen, T. E., & Heninger, W. (2012). Has the regulation of pro forma reporting in the US changed investors' perceptions of pro forma earnings disclosures? *Journal of Business Finance and Accounting, 39*, 876-904.

Black, D., & Christensen, T. E. (2009). US managers' use of 'pro forma' adjustments to meet strategic earnings targets. *Journal of Business Finance and Accounting, 36*, 297-326.

Block, S. B. (1999). A study of financial analysts: Practice and theory. *Financial Analysts Journal, 55*(4), 86-95.

Boltanski, L., & Thévenot, L. (1983). Finding one's way in social space: A study based on games. *Social Science Information, 22*(4-5), 631-680.

Boltanski, L., & Thévenot, L. (1999). The sociology of critical capacity. *European Journal of Social Theory, 2*(3), 359-377.

Bonner, S. E., Hugon, A., & Walther, B. R. (2007). Investor reaction to celebrity analysts: The case of earnings forecast revisions. *Journal of Accounting Research, 45*(3), 481-513.

Bourdieu, P. (1977). *Outline of a theory of practice*. New York: Cambridge University Press.

Bourdieu, P. (1990). *The logic of practice*. Cambridge: Polity Press.

Bouwman, M. J., Frishkoff, P., & Frishkoff, P. A. (1995). The relevance of GAAP-based information: A case study exploring some uses and limitations. *Accounting Horizons, 9*(4), 22.

Bowen, R. M. (1981). Valuation of earnings components in the electric utility industry. *The Accounting Review, 56*(1), 1.

Bowen, R. M., Davis, A. K., & Matsumoto, D. A. (2002). Do conference calls affect analysts' forecasts? *The Accounting Review, 77*(2), 285.

Bowen, R. M., Davis, A. K., & Matsumoto, D. A. (2005). Emphasis on pro forma versus GAAP earnings in quarterly press releases: Determinants, SEC intervention, and market reactions. *The Accounting Review, 80*(4), 1011-1038.

Bradshaw, M. T. (2009). Analyst information processing, financial regulation, and academic research. *The Accounting Review, 84*(4), 1073.

Bradshaw, M. T. (2011). Analysts' forecasts: What do we know after decades of work? *Unpublished Working Paper, Boston College*, 1-55.

Bradshaw, M. T., & Sloan, R. G. (2002). GAAP versus the street: An empirical assessment of two alternative definitions of earnings. *Journal of Accounting Research, 40 (1)*, 41-66.

Bradshaw, M. T. (2002). The use of target prices to justify sell-side analysts' stock recommendations. *Accounting Horizons, 16*(1), 27.

Bradshaw, M. T. (2004). How do analysts use their earnings forecasts in generating stock recommendations? *The Accounting Review, 79*(1), 25.

Briers, M., & Chua, W. F. (2001). The role of actor-networks and boundary objects in management accounting change: A field study of an implementation of activity based costing. *Accounting, Organizations and Society, 26(3)*, 237-269.

Brown, L. (1993). Earnings forecasting research: Its implications for capital markets research. *International Journal of Forecasting, 9*, 293-320.

Brown, L. D., Call, A. C., Clement, M. B., & Sharp, N. Y. (2015). *Toward a greater understanding of buy-side analysts.* Unpublished manuscript.

Brown, L.D., A.C. Call, M.B. Clement & N.Y. Sharp. (2015). Inside the "black box" of sell-side financial analysts. *Journal of Accounting Research 53 (1)*, 1-47.

Brown, N. C., Christensen, T. E., Elliott, W. B., & Mergenthaler, R. D. (2012). Investor sentiment and pro forma earnings disclosures. *Journal of Accounting Research, 50*(1), 1-40.

Brown, S. V., & Tucker, J. W. (2011). Large-sample evidence on firms' year-over-year MD&A modifications. *Journal of Accounting Research, 49*(2), 309-346.

Burchell, S., Clubb, C., Hopwood, A., Hughes, J., & Nahapiet, J. (1980). The roles of accounting in organizations and society. *Accounting, Organizations and Society, 5 (1)*, 5-27.

Bureau of Labor Statistics, U.S. Department of Labor. *Http://www.bls.gov/ooh/business-and-financial/financial-analysts.htm*, Accessed August 31, 2012

Bushee, B. J., Matsumoto, D. A., & Miller, G. S. (2004). Managerial and investor responses to disclosure regulation: The case of Reg FD and conference calls. *The Accounting Review, 79*(3), 617-643.

Bushee, B. J., & Miller, G. S. (2012). Investor relations, firm visibility, and investor following. *The Accounting Review, 87*(3), 867-897.

Caccese, M. S. (1997). Insider trading laws and the role of securities analysts. *Financial Analysts Journal, 53*(2), 9-12.

Çalışkan, K., & Callon, M. (2009). Economization, part 1: Shifting attention from the economy towards processes of economization. *Economy and Society, 38*(3), 369-398.

Çalışkan, K., & Callon, M. (2010). Economization, part 2: A research programme for the study of markets. *Economy & Society, 39*(1), 1-32.

Callon, M. 2008. "Economic Markets and the Rise of Interactive Agencements: From Prosthetic Agencies to Habilitated Agencies." In R. Swedberg & T. Pinch's, *Living in a Material*

World: Economic Sociology Meets Science and Technology Studies. Cambridge, Mass: MIT Press.

Callon, M. (2007). What does it mean to say that economics is performative? In D. MacKenzie, F. Muniesa & L. Siu (Eds.), *Do economists make markets?* (pp. 311-357). Princeton, New Jersey: Princeton University Press.

Callon, M. (2005). Why virtualism paves the way for impotence: A reply to daniel miller's critique of laws of the markets. *Economic Sociology European Electronic Newsletter* , 3-20.

Callon, M. (2004). Europe wrestling with technology. *Economy & Society, 33*(1), 121-134.

Callon, M. (1999). Actor-network theory - the market test. In J. Law, & J. Hassard (Eds.), *Actor network theory and after* (pp. 181-195). Oxford: Blackwell.

Callon, M. (1998a). Introduction: The embeddedness of economic markets in economics. In M. Callon (Ed.), *Laws of the markets* (). Oxford: Blackwell.

Callon, M. (1998b). An essay on framing and overflowing: Economic externalities revisited by sociology. In M. Callon (Ed.), *The laws of the markets* (pp. 244-269). Oxford: Blackwell Publishers.

Callon, M. (1991). Techno-economic networks and irreversibility. In J. Law (Ed.), *A sociology of monsters: Essays on power, technology and domination*. London: Routledge.

Callon, M. (1987). Society in the making: The study of technology as a tool for sociological analysis. In W. Bijker, T. P. Hughes & T. J. Pinch (Eds.), *The social construction of*

technological systems: New directions in the sociology and history of technology (). Cambridge, Massachusetts: The MIT Press.

Callon, M. (1986). Some elements of a sociology of translation: Domestication of the scallops and the fishermen of st. brieuc bay. In J. Law (Ed.), *Power, action, and belief: A new sociology of knowledge*. London: Routledge.

Callon, M., & Latour, B. (1981). Unscrewing the big leviathan: How actors macro-structure reality and how sociologists help them do it. In K. Knorr-Cetina, & A. V. Cicourel (Eds.), *Advances in social theory and methodology: Toward an integration of micro- and macro-sociologies*. Boston: Routledge.

Callon, M., & Law, J. (2005). On qualculation, agency, and otherness. *Environment and Planning D: Society and Space, 23*, 717-733.

Callon, M., & Muniesa, F. (2005). Peripheral vision: Economic markets as calculative collective devices. *Organization Studies, 26 (8)*, 1229-1250.

Callon, M., Méadel, C., & Rabeharisoa, V. (2002). The economy of qualities. *Economy & Society, 31*(2), 194.

Carruthers, B. G., & Wendy Nelson Espeland. (1991). Accounting for rationality: Double-entry bookkeeping and the rhetoric of economic rationality. *American Journal of Sociology, 97*(1), pp. 31-69.

CFA Institute. (2008). *CFA program curriculum volume 1: Ethical and professional standards and quantitative methods*. Boston, MA: Pearson Custom Publishing, Inc.

CFA Institute. (2012). *CFA program curriculum. level II. volume 4.* John Wiley and Sons.

CFA Institute. (2012). *CFA program curriculum. level II. volume I.* John Wiley and Sons.

CFA Institute/National Investor Relations Institute. (2004). *Best practice guidelines governing Analyst/Corporate issuer relations.* United States: CFA Centre for Financial Market Integrity/NIRI Task Force.

Chen, C. Y. (2010). Do analysts and investors fully understand the persistence of the items excluded from street earnings? *Review of Accounting Studies, 15*, 32-69.

Cheng, Q. (2005). The role of analysts' forecasts in accounting-based valuation: A critical evaluation. *Review of Accounting Studies, 10*(1), 5-31.

Chih-Ying Chen. (2010). Do analysts and investors fully understand the persistence of the items excluded from street earnings? *Review of Accounting Studies, 15*(1), 32-69.

Christensen, T., Merkley, K., Tucker, J., & Venkataraman, S. (2011). Do managers use earnings guidance to influence street earnings exclusions? *Review of Accounting Studies, 16*(3), 501-527.

Clarke, J., Khorana, A., Patel, A., & Rau, R. (2007). The impact of all-star analysts job changes on their coverage choices and investment banking deal flow. *Journal of Financial Economics, 84*, 713-737.

Clarke, J., & Subramanian, A. (2006). Dynamic forecasting behavior by analysts: Theory and evidence. *Journal of Financial Economics, 80*(1), 81-113.

Clegg, S. R., Hardy, C., Lawrence, T. B., & Nord, W. R. (Eds.). (2006). *The sage handbook of organization studies, 2nd edition*. Thousand Oaks, CA: Sage Publications.

Cohen, L., Frazzini, A., & Malloy, C. (2010). Sell-side school ties. *Journal of Finance, 65*(4), 1409-1437.

Coleman, L. Why finance theory fails to survive contact with the real world: A fund manager perspective. *Critical Perspectives on Accounting,* (0)

Cooper, D. J. (1975). Rationality and investment appraisal. *Accounting and Business Research, 5 (19) Summer*, 198-202.

Cooper, D. J., & Morgan, W. (2008). Case study research in accounting. *Accounting Horizons, 22 (2)*, 178.

Cooper, D. J., & Robson, K. (2006). Accounting, professions and regulation: Locating the sites of professionalization. *Accounting, Organizations and Society, 31*(4-5), 415-444.

Corbin, J., & Strauss, A. L. (2008). *Basics of qualitative research* (3rd ed.). Thousand Oaks, California: Sage Publications, Inc.

Covaleski, M. A., & Dirsmith, M. W. (1990). Dialectic tension, double reflexivity and the everyday accounting researcher: On using qualitative methods. *Accounting, Organizations and Society, 15*(6), 543-573.

Cowles, A. (1933). Can stock market forecasters forecast? *Econometrica,* 309-324.

CSA (2005) National Instrument 43-101: Standards of Disclosure for Mineral Projects.

CSA (2012). *CSA staff notice 52-306 (revised) - non-GAAP financial measures and additional GAAP measures.*

Czarniawska, B. (2001). Is it possible to be a constructionist consultant? *Management Learning, 32*(2), 253-266.

De Franco, G., & Zhou, Y. (2009). The performance of analysts with a CFA designation: The role of human-capital and signaling theories. *The Accounting Review, 84*(2), 383-404.

de Jong, A., Mertens, G., van der Poel, M., & van Dijk, R. (2009). The demand for corporate financial reporting: A survey among financial analysts. *Working Paper, Rotterdam School of Management,* , 1-63.

Deegan, C., & Blomquist, C. (2006). Stakeholder influence on corporate reporting: An exploration of the interaction between WWF-Australia and the Australian minerals industry. *Accounting, Organizations and Society, 31*(4–5), 343-372.

Deleuze, G. (1991). What is a dispositif? In T. J. Armstrong (Ed.), *Michel Foucault philosopher: Essays translated from the French and German*. New York: Routledge.

Demirakos, E. G., Strong, N. C., & Walker, M. (2004). What valuation models do analysts use? *Accounting Horizons, 18*(4), 221.

Derman, E. (2011). *Models. Behaving. Badly.* New York, NY.: Free Press.

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review, 48*(2), 147-160.

Doganova, L. (2011). Necessarily untrue: On the use of the discounted cash flow formula in the valuation of exploratory projects. *, CMS7.* pp. 1-21.

Doyle, J. T., Russell J. Lundholm, & Mark T. Soliman. (2003). The predictive value of expenses excluded from pro forma earnings. *Review of Accounting Studies, 8*, 145-174.

Doyle, J. T., Jennings, J. N., & Soliman, M. T. (2013). Do managers define non-GAAP earnings to meet or beat analyst forecasts? *Journal of Accounting and Economics, 56*(1), 40-56.

Durand, R., & Paolella, L. (2013). Category stretching: Reorienting research on categories in strategy, entrepreneurship, and organization theory. *Journal of Management Studies, 50*(6), 1100-1123.

Elliott, B. W. (2006). Are investors influenced by pro forma emphasis and reconciliations in earnings announcements? *The Accounting Review, 81(1)*, 113-133.

Ely, M., & Anzul, M. (1991). *Doing qualitative research: Circles within circles*. London: The Falmer Press, Taylor and Francis Inc.

Entwistle, G. M. (1999). Exploring the R&D disclosure environment. *Accounting Horizons, 13(4)*, 323-341.

Entwistle, G. M., Feltham, G. D., & Mbagwu, C. (2005). The voluntary disclosure of pro forma earnings: A U.S. - canada comparison. *Journal of International Accounting Research, 4(2)*, 1-23.

Entwistle, G. M., Feltham, G. D., & Mbagwu, C. (2006). Financial reporting regulation and the reporting of pro forma earnings. *Accounting Horizons, 20(1)*, 39-55.

Espeland, W., & Sauder, M. (2007). Rankings and reactivity: How public measures recreate social worlds. *American Journal of Sociology, 113*(1), pp. 1-40.

Espeland, W., & Stevens, M. L. (1998). Commensuration as a social process. *Annual Review of Sociology, 24*, 313-343.

Espeland, W., & Stevens, M. (2009). A sociology of quantification. *Archives Européennes De Sociologie, 49*(3), 401-436.

Ezzamel, M., & Robson, K. (1995). Accounting in time: Organizational time-reckoning and accounting practice. *Critical Perspectives on Accounting, 6*(2), 149-170.

Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. *Journal of Finance, 25 (2)*, 383-417.

Fine, B. (2003). Callonistics: A disentanglement. *Economy and Society, 32*(3), 478-484.

Fligstein, N. (1990). *The transformation of corporate control*. Cambridge, Mass.: Harvard University Press.

Fligstein, N. (2001). *The architecture of markets: An economic sociology of twenty-first-century capitalist societies*. Princeton: Princeton University Press.

Fligstein, N., & Dauter, L. (2007). The sociology of markets. *Annual Review of Sociology, 33*(1), 105-128.

Flyvbjerg, B. (2001). *Making social science matter: Why social inquiry fails and how it can succeed again*. Oxford, UK ; New York: Cambridge University Press.

Flyvbjerg, B. (2004). Five misunderstandings about case-study research. In C. Seale, G. Gobo, J. F. Gubrium & D. Silverman (Eds.), *Qualitative research practice.* London: Sage Publications.

Fogarty, T. J., & Rogers, R. K. (2005). Financial analysts' reports: An extended institutional theory evaluation. *Accounting, Organizations and Society, 30(4)*, 331-356.

Foucault, M. (1980). In Gordon C. (Ed.), *Power/Knowledge: Selected interviews and other writings 1972 - 1977*. New York: Harvester Press.

Fourcade, M., & Healy, K. (2007). Moral views of market society. *Annual Review of Sociology, 33*(1), 285-311.

Francis, J., Douglas Hanna, J., & Philbrick, D. R. (1997). Management communications with securities analysts. *Journal of Accounting and Economics, 24*(3), 363-394.

Francis, J., & Schipper, K. (1999). Have financial statements lost their relevance? *Journal of Accounting Research, 37*(2), 319-352.

Frankel, R., Kothari, S. P., & Weber, J. (2006). Determinants of the informativeness of analyst research. *Journal of Accounting and Economics, 41*(1–2), 29-54.

Frederickson, J. R., & Miller, J. S. (2004). The effects of pro forma earnings disclosures on analysts' and nonprofessional investors' equity valuation judgments. *The Accounting Review, 79(3)*, 667-686.

Friedland, R., & Alford, R. (1991). Bringing society back in: Symbols, practices, and institutional contradictions. In W. W. Powell, & P. J. DiMaggio (Eds.), *The new institutionalism in organizational analysis*. Chicago: The University of Chicago Press.

Gendron, Y. & C.R. Baker. (2005). On interdisciplinary movements: The development of a network of support around Foucaultian perspectives in accounting research. *European Accounting Review 14*, 525-569.

Gephart Jr., R. P. (2004). *Qualitative research and the academy of management journal* Academy of Management.

Gibbins, M., Richardson, A., & Waterhouse, J. (1990). The management of corporate financial disclosure: Opportunism, ritualism, policies, and processes. *Journal of Accounting Research, 28*(1), 121-143.

Gibbins, M., & Trotman, K. T. (2002). Audit review: Managers' interpersonal expectations and conduct of the review. *Contemporary Accounting Research, 19*(3), 411-444.

Givoly, D., Hayn, C., & Lehavy, R. (2009). The quality of analysts' cash flow forecasts. *The Accounting Review, 84*(6), 1877.

Givoly, D., & Lakonishok, J. (1984). Properties of analysts' forecasts of earnings: A review and analysis of the research. *Journal of Accounting Literature, 3*, 117-152.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research.* New York: Aldine.

Goffman, E. (1974). *Frame analysis. An essay on the organization of experience*. Cambridge, Massachusetts: Harvard University Press.

Graham, J. R., Harvey, C. R., & Rajgopal, S. (2005). The economic implications of corporate financial reporting. *Journal of Accounting and Economics, 40*(1-3), 3-73.

Graaf, J. (2015). Equity Market Interactions: A Study on the Role Performances of Intermediaries", paper presented at the 38th Annual Congress of the European Accounting Association, Glasgow

Granovetter, M. (1985). Economic action and social structure: The problem of embeddedness. *American Journal of Sociology, 91*(3), pp. 481-510.

Grey, C. (1998). Ethnographic methods in accounting/education research. *Accounting Education, 7*, S161-S169.

Groysberg, B., Healy, P., & Chapman, C. (2008). Buy-side vs. sell-side analysts' earnings forecasts. *Financial Analysts Journal, 64*(4), 25.

Groysberg, B., & Healy, P. M. (2013). *Wall street research: Past present and future*. Palo Alto, CA: Stanford University Press.

Groysberg, B., Healy, P., Nohria, N., & Serafeim, G. (2011). What factors drive analyst forecasts? *Financial Analysts Journal, 67*(4), 18-29.

Gu, Z., & Chen, T. (2004). Analysts' treatment of nonrecurring items in street earnings. *Journal of Accounting and Economics, 38*, 129-170.

Gubrium, J. F., Holstein, J. A., Marvasti, A. B., & McKinney, K. D. (Eds.). (2012). *The sage handbook of interview research: The complexity of the craft.* Thousand Oaks, California: Sage Publications, Inc.

Hacking, I. (1983). *Representing and intervening: Introductory topics in the philosophy of natural science*. Cambridge: Cambridge University Press.

Hammersley, M., & Atkinson, P. (2007). *Ethnography: Principles in practice (3rd ed.)*. New York: Routledge.

Hardie, I., & MacKenzie, D. (2007). Assembling an economic actor: The agencement of a hedge fund. *Sociological Review, 55*(1), 57-80.

Hatherly, David, David Leung and Donald MacKenzie. 2008. "The Finitist Accountant." In R. Swedberg & T. Pinch's, *Living in a Material World: Economic Sociology Meets Science and Technology Studies.* Cambridge, Mass: MIT Press.

Healy, P.M. (1985). The effect of bonus schemes on accounting decisions. *The Accounting Review 7*, 85-107.

Healy, P. M., & Wahlen, J. M. (1999). A review of the earnings management literature and its implications for standard setting. *Accounting Horizons, 13(4)*, 365-383.

Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics, 31*(1–3), 405-440.

Heflin, F., & Hsu, C. (2008). The impact of the SEC's regulation of non-GAAP disclosures. *Journal of Accounting and Economics, 46*(2–3), 349-365.

Heflin, F., Subramanyam, K. R., & Zhang, Y. (2003). Regulation FD and the financial information environment: Early evidence. *The Accounting Review, 78*(1), 1.

Hilton, A.S. & P.C. O'Brien. (2009). Inco Ltd.: Market Value, Fair Value, and Management Discretion. *Journal of Accounting Research 47*, 179-211.

Hines, R. D. (1988). Financial accounting: In communicating reality, we construct reality. *Accounting, Organizations and Society, 13*(3), 251-261.

Hirshleifer, D. (2001). Investor psychology and asset pricing. *Journal of Finance, LVI, No. 4*, 1533-1597.

Hirst, D. E., & Hopkins, P. E. (1998). Comprehensive income reporting and analysts' valuation judgments. *Journal of Accounting Research, 36 (Supplement)*, 47-75.

Hirst, D. E., Hopkins, P., & Wahlen, J. (2004). Fair values, income measurement, and bank analysts' risk and valuation judgments. *The Accounting Review, 79 (2)*, 453-472.

Ho, K. (2009). *Liquidated: An ethnography of Wall Street.* Durham, NC: Duke University Press.

Hodder, L., Hopkins, P., & Wood, D. (2008). The effects of financial statement and informational complexity on analysts' cash flow forecasts. *The Accounting Review, 83*(4), 915.

Hoffman, A. (2011), Carson block: The man who felled a forestry giant. *Globe and Mail, Report on Business*

Hogarth, R. M. (1991). A perspective on cognitive research in accounting. *The Accounting Review, 66*(2), 277.

Holland, J. (1998). Influence and intervention by financial institutions in their investee companies. *Corporate Governance, 6 (4)*, 249-264.

Holland, J. (2006). Fund management, intellectual capital, intangibles, and private disclosure. *Managerial Finance, 32 (4)*, 277-316.

Holland, J., & Doran, P. (1998). Financial institutions, private acquisition of corporate information, and fund management. *European Journal of Finance, 4(2)*, 129-155.

Holland, J. (2005). A grounded theory of corporate disclosure. *Accounting and Business Research, 35*(3), 249-267.

Holm, P. (2007). Which way is up on Callon? In D. MacKenzie, F. Muniesa & L. Siu (Eds.), *Do economists make markets?* (pp. 225-243). Princeton, New Jersey: Princeton University Press.

Hong, H., Kubick, J., & and Solomon, D. (2000). Security analysts' career concerns and herding of earnings forecasts. *Rand Journal of Economics, 31*, 121-144.

Hopkins, P. E., Houston, R. W., & Peters, M. F. (2000). Purchase, pooling and equity analysts' valuation judgments. *The Accounting Review, 75 (3)*, 257-281.

Hopwood, A. G. (2000). Understanding financial accounting practice. *Accounting, Organizations and Society, 25*(8), 763-766.

Hopwood, A. G. (2009). Exploring the interface between accounting and finance. *Accounting, Organizations and Society, 34*(5), 549-550.

Hopwood, A.G. (1979). Editorial. *Accounting, Organizations and Society 4*, 1-2.

Horngren, C. (1978). *Implications for accountants of the uses of financial statements by security analysts.* New York: Arno Press.

Huault, I., & Rainelli-Weiss, H. (2011). A market for weather risk? Conflicting metrics, attempts at compromise, and limits to commensuration. *Organization Studies, 32*, 1395-1419.

Hunton, J. E., & McEwen, R. A. (1997). An assessment of the relation between analysts' earnings forecast accuracy, motivational incentives and cognitive information search strategy. *The Accounting Review, 72*(4), 497.

Hunton, J. E., & Rose, J. M. (2008). Can directors' self-interests influence accounting choices? *Accounting, Organizations and Society, 33*(7-8), 783-800.

International Accounting Standards Board (IASB). (2010). *Discussion paper: Extractive industries*. London, UK: International.

International Accounting Standards Board (IASB. (2015 Edition). The Conceptual Framework for Financial Reporting. *International Financial Reporting Standards*, OB1.

Imam, S., Barker, R., & Clubb, C. (2008). The use of valuation models by UK investment analysts. *European Accounting Review, 17*(3), 503-535.

Iran, A. J., & Karamanou, I. (2003). Regulation fair disclosure, analyst following, and analyst forecast dispersion. *Accounting Horizons, 17*(1), 15.

Irvine, P. J. (2004). Analysts' forecasts and brokerage-firm trading. *The Accounting Review, 79*(1), 125.

Isidro, H. & A. Marques. (2015). The role of institutional and economic factors in the strategic use of non-GAAP disclosures to beat earnings benchmarks. *European Accounting Review 24 (1)*, 95-128.

Isabella, L. (1990). Evolving interpretations as change unfolds: How managers construe key organizational events. *Academy of Management Journal, 33 (1)*(1), 7-41.

James, C., & Karceski, J. (2006). Strength of analyst coverage following IPOs. *Journal of Financial Economics, 82*(1), 1-34.

Jegadeesh, N., Kim, J., Krische, S. D., & Lee, C. M. C. (2004). Analyzing the analysts: When do recommendations add value? *The Journal of Finance, 59*(3), 1083-1124.

Jensen, M., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics, 3(4)*, 305-360.

John Hendry, Paul Sanderson, Richard Barker, & John Roberts. (2006). Owners or traders? Conceptualizations of institutional investors and their relationship with corporate managers. *Human Relations, 59*(8), 1101-1132.

Justesen, L., & Mouritsen, J. (2011). Effects of actor-network theory in accounting research. *Accounting, Auditing & Accountability Journal, 24*(2), 161-193.

Kachelmeier, S. (2009). Introduction to a forum on the mapping from analysts' forecasts to analysts' recommendations. *The Accounting Review, 84*(4), 1013.

Kadous, K., Mercer, M., & Thayer, J. (2009). Is there safety in numbers? The effects of forecast accuracy and forecast boldness on financial analysts' credibility with investors. *Contemporary Accounting Research, 26*(3), 10.

Kadous, K., Krische, S. D., & Sedor, L. M. (2006). Using counter-explanation to limit analysts' forecast optimism. *The Accounting Review, 81*(2), 377.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica, 47(2)*, 1120-1141.

Kalthoff, H. (2005). Practices of calculation: Economic representations and risk management. *Theory, Culture & Society, 22(2)*, 69-97.

Kee-Hong Bae, Tan, H., & Welker, M. (2008). International GAAP differences: The impact on foreign analysts. *Accounting Review, 83*(3), 593-628.

Kellogg, K. C., Orlikowski, W. J., & Yates, J. (2006). Life in the trading zone: Structuring coordination across boundaries in post-bureaucratic organizations. *Organization Science, 17*(1), 22-44.

Kimbrough, M. (2007). The influences of financial statement recognition and analyst coverage on the market's valuation of R&D capital. *The Accounting Review, 82*(5), 1195.

Kimbrough, M. D. (2005). The effect of conference calls on analyst and market under-reaction to earnings announcements. *The Accounting Review, 80*(1), 189-219.

Kimbrough, M. D. (2007). The influences of financial statement recognition and analyst coverage on the market's valuation of R&D capital. *The Accounting Review, 82*(5), 1195-1225.

Kimbrough, M. D., & Louis, H. (2011). Voluntary disclosure to influence investor reactions to merger announcements: An examination of conference calls. *The Accounting Review, 86*(2), 637-667.

Kimbrough, M. D., & Wang, I. Y. (2014). Are seemingly self-serving attributions in earnings press releases plausible? Empirical evidence. *The Accounting Review, 89*(2), 635.

Knorr-Cetina, K. 2011. "Financial Analysis. Epistemic profile of an Evaluative Science." In C. Camic, N. Gross & M. Lamont's, *Social Knowledge in the Making* Chicago, Illinois: University of Chicago Press.

Knorr-Cetina, K. (1999). *Epistemic cultures: How the sciences make knowledge*. Cambridge, Massachusetts: Harvard University Press.

Knorr-Cetina, K. (1981). *The manufacture of knowledge : An essay on the constructivist and contextual nature of science*. Oxford ; New York: Pergamon Press.

Knorr-Cetina, K., & Bruegger, U. (2002). Global microstructures: The virtual societies of financial markets. *American Journal of Sociology, 107*(4), 905-950.

Knorr-Cetina, K., & Preda, A. (Eds.). (2012). *The Oxford handbook of the sociology of finance*. Oxford, UK: Oxford University Press.

Kolev, K., Marquardt, C., & McVay, S. E. (2008). SEC scrutiny and the evolution of non-GAAP reporting. *The Accounting Review, 83 (1)*, 157-184.

Koonce, L. (2001). Inefficient markets: An introduction to behavioral finance by Andrei Schleifer. *The Accounting Review, 76*(3), pp. 461-462.

Kornberger, M., Justesen, L., & Mouritsen, J. (2011). "When you make manager, we put a big mountain in front of you": An ethnography of managers in a big 4 accounting firm. *Accounting, Organizations and Society, 36*(8), 514-533.

Kothari, S. P. (2001). Capital markets research in accounting. *Journal of Accounting and Economics, 31*(1–3), 105-231.

Koven, P. (2013, After $50 billion in write-downs, miners are entering a new era. *Financial Post,*

KPMG. (2014). *Mining financial reporting survey 2014*. Canada: KPMG LLP.

Kreiner, K., & Mouritsen, J. (2005). The analytical interview - relevance beyond reflexivity. In S. Tengblad, R. Solli & B. Czarniawska (Eds.), *The art of science*. Malmö: Liber and Copenhagen Business School Press.

Kross, W., & Ro, B. (1990). Earnings expectations: The analysts' information advantage. *Accounting Review, 65*(2), 461-476.

Lang, M. H., & Lundholm, R. J. (1996). Corporate disclosure policy and analyst behavior. *The Accounting Review, 71*(4), 467.

Larcker, D. F., & Zakolyukina, A. A. (2012). Detecting deceptive discussions in conference calls. *Journal of Accounting Research, 50*(2), 495-540.

Latour, B. (1987). *Science in action: How to follow scientists and engineers through society.* Cambridge, Mass.: Harvard University Press.

Latour, B. (1999). On recalling ANT. In J. Law, & J. Hassard (Eds.), *Actor network theory and after*. Oxford, UK: Blackwell Publishing.

Latour, B. (2005). *Reassembling the social: An introduction to actor-network-theory.* Oxford: Oxford University Press.

Law, J. (2004). *After method: Mess in social science research*. New York: Routledge.

Law, John. (1999). "After ANT: complexity, naming and topology." In J. Law & J. Hassard's, *Actor-Network Theory and after.* Oxford, UK: Blackwell Publishing.

Lawrence, T. B., & Suddaby, R. (2006). Institutions and institutional work. In S. R. Clegg, C. Hardy, T. B. Lawrence & W. Nord (Eds.), *Sage handbook of organization studies*. London: Sage Publications.

Lee, H., & Liebenau, J. (1999). Time in organizational studies: Towards a new research direction. *Organization Studies, 20*, 1035-1058.

Lehavy, R. (2009). Discussion of "Are earnings forecasts more accurate when accompanied by cash flow forecasts?". *Review of Accounting Studies, 14*(2), 392-400.

Lehavy, R., Li, F., & Merkley, K. (2011). The effect of annual report readability on analyst following and the properties of their earnings forecasts. *Accounting Review, 86*(3), 1087-1115.

Lépinay, V., & Callon, M. (2009). Sketch of derivations in Wall Street and atlantic africa. In C. S. Chapman, D. J. Cooper & P. Miller (Eds.), *Accounting, organizations, and institutions.* (). New York: Oxford University Press, Inc.

Li, F. (2010). Textual analysis of corporate disclosures: A survey of the literature. *Journal of Accounting Literature, 29*, 143-165.

Libby, R. (1981). *Accounting and human information processing: Theory and applications*. Englewood Cliffs, NJ: Prentice-Hall.

Libby, R., Bloomfield, R., & Nelson, M. (2002). Experimental research in financial accounting. *Accounting, Organizations and Society, 27*, 775-810.

Libby, R., & Emett, S. A. (2014). Earnings presentation effects on manager reporting choices and investor decisions. *Accounting and Business Research, 44*(4), 410-438.

Libby, R., Hunton, J. E., Tan, H., & Seybert, N. (2008). Relationship incentives and the Optimistic/Pessimistic pattern in analysts' forecasts. *Journal of Accounting Research, 46*(1), 173-198.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. London: Sage Publications.

Lougee, B., & Marquardt, C. (2004). Earnings informativeness and strategic disclosure: An empirical examination of "Pro forma" earnings. *The Accounting Review, 79(3)*, 769-795.

Lounsbury, M. (2008). Institutional rationality and practice variation: New directions in the institutional analysis of practice. *Accounting, Organizations and Society, 33*(4-5), 349-361.

Lounsbury, M. (2007). A tale of two cities: Competing logics and practice variation in the professionalizing of mutual funds. *Academy of Management Journal, 50 (2)*, 289-307.

Lounsbury, M. (2002). Institutional transformation and status mobility: The professionalization of the field of finance. *Academy of Management Journal, 45*(1), 255.

Lowe, A. (2001). After ANT: An illustrative discussion of the implications for qualitative accounting case research. *Accounting, Auditing & Accountability Journal, 14*(3), 327.

Lukka, K., & Modell, S. (2010). Validation in interpretive management accounting research. *Accounting, Organizations and Society, 35(4)*, 462-477.

Lukka, K., & Kasanen, E. (1995). Methodological themes: The problem of generalizability: Anecdotes and evidence in accounting research. *Accounting, Auditing & Accountability Journal, 8*(5), 71.

Lukka, K., & Kasanen, E. (1995). The problem of generalizability: Anecdotes and evidence in accounting research. *Acc Auditing Accountability J, 8*(5), 71-90.

Macintosh, N. (2006). Accounting - truth, lies, or "bullshit"? A philosophical investigation. *Accounting and the Public Interest, 6*, 22-36.

Macintosh, N. B., Shearer, T., Thornton, D. B., & Welker, M. (2000). Accounting as simulacrum and hyperreality: Perspectives on income and capital. *Accounting, Organizations and Society, 25*(1), 13-50.

MacKenzie, D. (2009). Making things the same: Gases, emission rights and the politics of carbon markets. *Accounting, Organizations and Society, 34*(3–4), 440-455.

MacKenzie, D. (2009). *Material markets*. Oxford: Oxford University Press.

MacKenzie, D. (2006). *An engine, not a camera: How financial models shape markets.* Cambridge, Mass.: The MIT Press.

MacKenzie, D. (2004). The big, bad wolf and the rational market: Portfolio insurance, the 1987 crash and the performativity of economics. *Economy & Society, 33*(3), 303-334.

MacKenzie, D., & Millo, Y. (2003). Constructing a market, performing theory: The historical sociology of a financial derivatives exchange. *American Journal of Sociology, 109*(1), 107-145.

MacKenzie, D., Muniesa, F., & Siu, L. (2007). Introduction. In D. MacKenzie, F. Muniesa & L. Siu (Eds.), *Do economists make markets?* (pp. 1-19). Princeton, New Jersey: Princeton University Press.

Maines, L., McDaniel, L., & Harris, M. (1997). Implications of proposed segment reporting standards for financial analysts' investment judgments. *Journal of Accounting Research, 35*, 1-24.

Maines, L. A., & McDaniel, L. S. (2000). Effects of comprehensive-income characteristics on nonprofessional investors' judgments: The role of financial-statement presentation format. *The Accounting Review, 75*(2), 179.

Marques, A. (2010). Disclosure strategies among S&P 500 firms: Evidence on the disclosure of non-GAAP financial measures and financial statements in earnings press releases. *The British Accounting Review, 42*(2), 119-131.

Marques, A. (2006). SEC interventions and the frequency and usefulness of non-GAAP financial measures. *Review of Accounting Studies, 11*, 549-574.

Marston, C. (2008). Investor relations meetings: Evidence from the top 500 UK companies. *Accounting and Business Research, 38*(1), 21-48.

Matsumoto, D. A. (2002). Management's incentives to avoid negative earnings surprises. *The Accounting Review, 77*(3), 483-514.

Matsumoto, D., Pronk, M., & Roelofsen, E. (2011). What makes conference calls useful? The information content of managers' presentations and analysts' discussion sessions. *The Accounting Review, 86*(4), 1383-1414.

Mayew, W. J. (2008). Evidence of management discrimination among analysts during earnings conference calls. *Journal of Accounting Research, 46*(3), 627-659.

Mayo, M. (2011). Shouting down the wall on Wall Street: Banking analyst Mike Mayo details the pressure against saying 'sell'; 20 years of being yelled at. *Wall Street Journal Europe,* pp. 22-23.

McEwen, R. A., & Hunton, J. E. (1999). Is analyst forecast accuracy associated with accounting information use? *Accounting Horizons, 13*(1), 1.

McNichols, M., & O'Brien, P. C. (1997). Self-selection and analyst coverage. *Journal of Accounting Research, 35*(3), 167-199.

Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey: Bass Publishers.

Meyer, J., Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology, 83 (2)*, 440-463.

Mikes, A. (2009). Risk management and calculative cultures. *Management Accounting Research, 20*(1), 18-40.

Mikhail, M., Walther, B., & Willis, R. (2007). When security analysts talk, who listens? *The Accounting Review, 82*(5), 1227.

Miles, M., & Humberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. London: Sage Publications.

Miller, P. (1998). The margins of accounting. In M. Callon (Ed.), *The laws of the markets* (pp. 174). Oxford: Blackwell Publishers.

Miller, P. (2008). Calculating economic life. *Journal of Cultural Economy, 1(1)*, 51-64.

Miller, P., & O'Leary, T. (2007). Mediating instruments and making markets: Capital budgeting, science and the economy. *Accounting, Organizations and Society,* (32), 701-734.

Miller, D. (2002). Turning Callon the right way up. *Economy & Society, 31*(2), 218.

Miller, P. (2001). Governing by numbers: Why calculative practices matter. *Social Research, 68*(2), 379-396.

Miller, P., & Power, M. (2013). Accounting, organizing, and economizing: Connecting accounting research and organization theory. *The Academy of Management Annals, 7*(1), 557-605.

Millo, Y., & MacKenzie, D. (2009). The usefulness of inaccurate models: Towards an understanding of the emergence of financial risk management. *Accounting, Organizations and Society, 34*, 638-653.

Mohanram, P. S., & Sunder, S. V. (2006). How has regulation FD affected the operations of financial analysts? *Contemporary Accounting Research, 23*(2), 491.

Mouck, T. (1998). Capital markets research and real world complexity: The emerging challenge of chaos theory. *Accounting, Organizations and Society, 23*(2), 189.

Mouritsen, J., Hansen, A., & Hansen, C. Ø. (2009). Short and long translations: Management accounting calculations and innovation management. *Accounting, Organizations and Society, 34*(6–7), 738-754.

Muniesa, F., Millo, Y., & Callon, M. (2007). An introduction to market devices. In M. Callon, Y. Millo & F. Muniesa (Eds.), *Market devices* (pp. 318). Malden, MA; Oxford: Blackwell Pub./The Sociological Review.

Naccache, P., & Leca, B. (2008). On justification: Economies of worth. *Administrative Science Quarterly, 53*(4), 762-764.

Negro, G., Hannan, M. T., & Rao, H. (2011). Category reinterpretation and defection: Modernism and tradition in Italian winemaking. *Organization Science, 22*(6), 1449-1463.

Nichols, N. B., Gray, S. J., & Street, D. L. (2005). Pro forma adjustments to GAAP earnings: Bias, materiality, and SEC action. *Research in Accounting Regulation, 18*, 29-52.

Nicolini, D. (2013). *Practice theory, work, and organization: An introduction*. Oxford, UK: Oxford University Press.

O'Brien, P. C., McNichols, M. F., & Lin, H. (2005). Analyst impartiality and investment banking relationships. *Journal of Accounting Research, 43*(4), 623-650.

O'Brien, P. C. (1990). Forecast accuracy of individual analysts in nine industries. *Journal of Accounting Research, 28*(2), 286-304.

O'Brien, P. C., & Bhushan, R. (1990). Analyst following and institutional ownership. *Journal of Accounting Research, 28*(3), 55-82.

Orlikowski, W. J. (1992). The duality of technology: Rethinking the concept of technology in organizations. *Organization Science, 3*(3, Focused Issue: Management of Technology), 398-427.

Orlikowski, W. J. (2000). Using technology and constituting structures: A practice lens for studying technology in organizations. *Organization Science, 11*(4), 404-428.

Orlikowski, W. J. (2002). Knowing in practice: Enacting a collective capability in distributed organizing. *Organization Science, 13*(3, Knowledge, Knowing, and Organizations), 249-273.

Orlikowski, W. J. (2007). Sociomaterial practices: Exploring technology at work. *Organization Studies, 28 (09)*, 1435-1448.

Orlikowski, W. J., & Yates, J. (2002). It's about time: Temporal structuring in organizations. *Organization Science, 13*(6), 684-700.

Orlikowski, W. J., Yates, J., Okamura, K., & Fujimoto, M. (1995). Shaping electronic communication: The metastructuring of technology in the context of use. *Organization Science, 6*(4), 423-444.

Plumlee, M. A. (2003). The effect of information complexity on analysts' use of that information. *The Accounting Review, 78*(1), 275.

Pollock, N., & D'Adderio, L. (2012). Give me a two-by-two matrix and I will create the market: Rankings, graphic visualisations and sociomateriality. *Accounting, Organizations and Society, 37*(8), 565-586.

Porter, T. M. (1995). *Trust in numbers :The pursuit of objectivity in science and public life*. Princeton, N.J.: Princeton University Press.

Potter, J., & Mulkay, M. (1985). Scientists' interview talk: Interviews as a technique for revealing participants' interpretive practices. In M. Brenner, J. Brown & D. Canter (Eds.), *The research interview. Uses and approaches*. London: Academic Press, Inc.

Power, M. (2012). Accounting and finance. In K. Knorr-Cetina, & A. Preda (Eds.), *The oxford handbook of the sociology of finance* (). Oxford, UK: Oxford University Press.

Pratt, M.G. (2009). For the Lack of a Boilerplate: Tips on Writing Up (And Reviewing) Qualitative Research. *Academy of Management Journal 52*, 856-862.

Preda, A. (2007). Where do analysts come from? The case of financial chartism. In M. Callon, Y. Millo & F. Muniesa (Eds.), *Market devices*. Oxford, UK: Blackwell PUblishing.

Preda, A. (2012). Interactions and decisions in trading. In K. Knorr-Cetina, & A. Preda (Eds.), *The Oxford handbook of the sociology of finance*. Oxford: Oxford University Press.

Preda, A. (2009). Brief encounters: Calculation and the interaction order of anonymous electronic markets. *Accounting, Organizations and Society, 34*(5), 675-693.

Preston, A. M., Cooper, D. J., & Coombs, R. W. (1992). Fabricating budgets: A study of the production of management budgeting in the National Health Service. *Accounting, Organizations and Society, 17(6)*, 561-593.

Previts, G. J., Bricker, R. J., Robinson, T. R., & Young, S. J. (1994). A content analysis of sell-side financial analyst company reports. *Accounting Horizons, 8*(2), 55-70.

Qu, S.Q. & D.J. Cooper. (2011). The role of inscriptions in producing a balanced scorecard. *Accounting, Organizations and Society 36*, 344-362.

Quattrone, P. (2000). Constructivism and accounting research: Towards a trans-disciplinary perspective. *Accounting, Auditing & Accountability Journal, 13*(2), 130-155.

Quattrone, P. (2004). Accounting for god: Accounting and accountability practices in the society of jesus (Italy, XVI–XVII centuries). *Accounting, Organizations and Society, 29*(7), 647-683.

Quattrone, P. (2006). The possibility of the testimony: A case for case study research. *Organization, 13*(1), 143-157.

Quattrone, P. (2009). Books to be practiced: Memory, the power of the visual, and the success of accounting. *Accounting, Organizations and Society, 34*(1), 85-118.

Quattrone, P., & Hopper, T. (2005). A 'time–space odyssey': Management control systems in two multinational organisations. *Accounting, Organizations and Society, 30*(7–8), 735-764.

Ramnath, S., Rock, S., & Shane, P. (2006). Financial analysts' forecasts and stock recommendations: A review of the research. *Foundations and Trends in Finance, 2, No. 4*, 311-421.

Ramnath, S., Rock, S., & Shane, P. (2008). The financial analyst forecasting literature: A taxonomy with suggestions for further research. *International Journal of Forecasting, 24*(1), 34-75.

Rao, H., & Sivakumar, K. (1999). Institutional sources of boundary-spanning structure: The establishment of investor relations departments in the fortune 500 industrials. *Organization Science, Jan/Feb*, 27-42.

Roberts, J., Sanderson, P., Barker, R., & Hendry, J. (2006). In the mirror of the market: The disciplinary effects of company/fund manager meetings. *Accounting, Organizations and Society, 31*(3), 277-294.

Roberts, J. & R. Scapens. (1985). Accounting systems and systems of accountability — understanding accounting practices in their organisational contexts. *Accounting, Organizations and Society 10*, 443-456.

Robson, K. (1991). On the arenas of accounting change: The process of translation. *Accounting, Organizations and Society, 16*(5-6), 547-570.

Robson, K. (1992). Accounting numbers as "inscription": Action at a distance and the development of accounting. *Accounting, Organizations and Society, 17*(7), 685-708.

Rock, S., Sedo, S., & Willenborg, M. (2000). Analyst following and count-data econometrics. *Journal of Accounting and Economics, 30*(3), 351-373.

Rogers, R., & Grant, J. (1997). Content analysis of information cited in reports of sell-side financial analysts. *Journal of Financial Statement Analysis, 3(1)*, 17-30.

Roscoe, P., & Howorth, C. (2009). Identification through technical analysis: A study of charting and UK non-professional investors. *Accounting, Organizations and Society, 34*(2), 206-221.

Rudenno, v. (2004). *The mining valuation handbook*. Milton, Australia: Wrightbooks John Wiley & Sons.

Samiolo, R. (2012). Commensuration and styles of reasoning: Venice, cost–benefit, and the defense of place. *Accounting, Organizations and Society, 37*(6), 382-402.

Schipper, K. (1991). *Analysts' forecasts* American Accounting Association.

Scott, W. R. (2008). *Institutions and organizations: Ideas and interests* (3rd ed.). Los Angeles: Sage Publications.

Searcy, D. & J. Mentzer. (2003). A Framework for Conducting and Evaluating Research. *Journal of Accounting Literature 22*, 130-167.

Securities and Exchange Commission. (2003). *The securities and exchange commission, NASD, and the New York stock exchange permanently bar Henry Blodget from the securities industry and require $4 million payment.* New York: SEC.

Securities and Exchange Commission (SEC). (2003). *Final rule: Conditions for use of non-GAAP financial measures. Release nos. 33-8176; 34-47226; FR-65.* Washington, DC. Government Printing Office.

Securities and Exchange Commission (SEC). (2001). *Cautionary advice regarding the use of "pro forma" financial information in earnings releases. Release nos. 33-33809; 34-45124, FR-59.* Washington, D.C.: Government Printing Office.

Securities and Exchange Commission (SEC). (1973). *Accounting Series Release No. 142*, Release No. 33-5337. Washington, D.C.: Government Printing Office.

Shleifer, A. (2000). *Inefficient markets*. Oxford: Oxford University Press.

Silverman, D. (2006). *Interpreting qualitative data: Methods for analyzing talk, text and interaction* (3rd ed.). London; Thousand Oaks: Sage.

Silverman, D. (2013). *Doing qualitative research, fourth edition*. London: Sage Publications.

Simpson, A. (2010). Analysts' use of nonfinancial information disclosures. *Contemporary Accounting Research, 27*(1), 249.

Slater, D. (2002). From calculation to alienation: Disentangling economic abstractions. *Economy & Society, 31*(2), 234.

Slater, D. (2002). Technology, politics and the market: An interview with Michel Callon. *Economy & Society, 31*(2), 285.

Smelser, N., & Swedberg, R. (Eds.). (2005). *The handbook of economic sociology, 2nd edition*. New York: Princeton Univeristy Press.

Soltes, E. (2014). Private interaction between firm management and sell-side analysts. *Journal of Accounting Research, 52 (1)*, 245-272.

Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage Publications.

Stake, R. E. (1994). Case studies. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of qualitative research*. Thousand Oaks: Sage Publications.

Star, S. L., & Griesemer, J. R. (1989). Institutional ecology, 'translations' and boundary objects: Amateurs and professionals in berkeley's museum of vertebrate zoology. *Social Studies of Science,* , 387-420.

Stoner, G., & Holland, J. (2004). Using case studies in finance research. In C. Humphrey, & B. Lee (Eds.), *The real life guide to accounting research*. Oxford: Elsevier Inc.

Suddaby, R. (2006). From the editors: What grounded theory is not. *Academy of Management Journal, 49(4)*, 633-642.

Svetlova, E. (2012). On the performative power of financial models. *Economy and Society, 41*(3), 418-434.

Thévenot, L. (1984). Rules and implements: Investment in forms. *Social Science Information, 23*(1), 1-45.

Thévenot, L. (1995). New trends in French social sciences. *Cutlure, 9 (2)*, 1-7.

Thévenot, L. (2001). Organized complexity: Conventions of coordination and the composition of economic arrangements. *European Journal of Social Theory, 4*(4), 405-425.

Thornton, P. H., & Ocasio, W. (2008). Institutional logics. In R. Greenwood, C. Oliver, K. Sahlin & R. Suddaby (Eds.), *The sage handbook of organizational institutionalism* (). London: Sage Publications.

Thornton, P. H., Ocasio, W., & Lounsbury, M. (2012). *The institutional logics perspective: A new approach to culture, structure, and process.* USA: Oxford University Press.

Tyre, M. J., & Orlikowski, W. J. (1994). Windows of opportunity: Temporal patterns of technological adaptation in organizations. *Organization Science, 5*(1), 98-118.

Uzzi, B. (1999). Embeddedness in the making of financial capital: How social relations and networks benefit firms seeking financing. *American Sociological Review, 64*(4), 481-505.

Van Maanen, J. (1988). *Tales of the field: On writing ethnography.* Chicago: University of Chicago Press.

Vollmer, H. (2003). Bookkeeping, accounting, calculative practice: The sociological suspense of calculation. *Critical Perspectives on Accounting, 14*(3), 353-381.

Vollmer, H., Mennicken, A., & Preda, A. (2009). Tracking the numbers: Across accounting and finance, organizations and markets. *Accounting, Organizations and Society, 34*(5), 619-637.

Walker, M., & Louvari, V. (2003). The determinants of voluntary disclosure of adjusted earnings per share measures by UK quoted companies. Accounting and Business Research, 33, 295–309.

Wansleben, L. (2012). Financial analysts. In K. Knorr-Cetina, & A. Preda (Eds.), *The oxford handbook of the sociology of finance*. Oxford, UK: Oxford University Press.

Watts, R.L. & J.L. Zimmerman. (1990). Positive accounting theory: a ten year perspective. *The Accounting Review 65*, 131-156.

Watts, R. L., & Zimmerman, J. L. (1979). The demand for and supply of accounting theories: The market for excuses. *The Accounting Review, 54(2)*, 273-305.

Watts, R. L., & Zimmerman, J. L. (1978). Towards a positive theory of the determination of accounting standards. *Accounting Review, 53*(1), 112.

Westphal, J. D., & Zajac, E. J. (1998). The symbolic management of stockholders: Corporate governance reforms and shareholder reactions. *Administrative Science Quarterly, 43(1)*, 127-153.

Westphal, J., & Graebner, M. (2010). A matter of appearances: How corporate leaders manage the impressions of financial analysts about the conduct of their boards. *Academy of Management Journal, 53*(1), 15.

Westphal, J. D., & Clement, M. B. (2008). Sociopolitical dynamics in relations between top managers and security analysts: Favor rendering, reciprocity, and analyst stock recommendations. *Academy of Management Journal, 51*(5), 873-897.

White, H. (1981). Where do markets come from? *American Journal of Sociology, 87*, 517-547.

White, R., & Hanson, D. (2002). Economic man and disciplinary boundaries: A case-study in corporate annual reports. *Accounting, Auditing & Accountability Journal, 15*(4), 450-477.

Williams, P. A., Moyes, G. D., & Park, K. (1996). Factors affecting earnings forecast revisions for the buy-side and sell-side analyst. *Accounting Horizons, 10*(3), 112.

Winroth, K., Blomberg, J., & Kjellberg, H. (2010). Enacting overlapping markets. *Journal of Cultural Economy, 3*(1), 3-18.

Womack, K. (1996). Do brokerage analysts' recommendations have investment value? *Journal of Finance, 51*, 137-167.

Wry, T., & Lounsbury, M. (2013). Contextualizing the categorical imperative: Category linkages, technology focus, and resource acquisition in nanotechnology entrepreneurship. *Journal of Business Venturing, 28*(1), 117-133.

Yates, J., Orlikowski, W. J., & Okamura, K. (1999). Explicit and implicit structuring of genres in electronic communication: Reinforcement and change of social interaction. *Organization Science, 10*(1), 83-103.

Young, S. (2014). The drivers, consequences and policy implications of non-GAAP earnings reporting. *Accounting and Business Research, 44*(4), 444-465.

Yu, F. (2008). Analyst coverage and earnings management. *Journal of Financial Economics, 88*(2), 245-271.

Zajac, E. J., & Westphal, J. D. (2004). The social construction of market value: Institutionalization and learning perspectives on stock market reactions. *American Journal of Sociology, 69 (3)*, 433-457.

Zhang, H., & Zheng, L. (2011). The valuation impact of reconciling pro forma earnings to GAAP earnings. *Journal of Accounting and Economics, 51*(1–2), 186-202.

Zimmerman, J. (1989). Improving a manuscript's readability and likelihood of publication. *Issues in Accounting Education, 4(2)*, 458-466.

Zorn, D., Dobbing, F., Dierkes, J., & Kwok, M. S. (2005). Managing investors: How financial markets reshaped the american firm. In K. Knorr-Cetina, & A. Preda (Eds.), *The sociology of financial markets*. Oxford: Oxford University Press.

Zuckerman, E. W. (1999). The categorical imperative: Securities analysts and the illegitimacy discount. *American Journal of Sociology, 104 (5)*, 1398-1438.

Zuckerman, E. W. (2004). Structural incoherence and stock market activitiy. *American Sociological Review, 69(3)*, 405-432.

Zuckerman, E. W. (2000). Focusing the corporate product: Securities analysts and de-diversification. *Administrative Science Quarterly, 45*(3), 591-619.