

Credibility of Prospective Information under IFRS

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Abstract—While the notion of more disclosure of prospective information is increasingly embraced by the international financial community and the International Accounting Standards Board (IASB), accounting researchers are still debating the credibility of such disclosures. Management disclosure of prospective information is considered costless signaling because such disclosure can be made with little or no cost. Existing literature generally questions the credibility of costless signaling. This study presents a model of a non-cooperatively supported signaling equilibrium. At equilibrium, the international financial community correctly anticipates that firms will disclose prospective information honestly, and reacts to the disclosed information as if it truthfully reflects management private knowledge. The analysis has direct policy implications in that it supports IASB's efforts in several of its new International Financial Reporting Standards (IFRS) which require more disclosure of prospective information as a means to satisfy the growing information needs of the global financial community.

Index Terms—IASB, IFRS, prospective information, signaling.

I. INTRODUCTION

International Accounting Standards Board (IASB) has been the driving force in international accounting standard setting. International Financial Reporting Standards (IFRS) prescribed by the IASB and its predecessor, International Accounting Standards Committee (IASC), have been accepted by over 120 countries and by all major stock exchanges around the world. To satisfy the growing information needs of the global financial community, IASB has been advocating for more disclosure of prospective information [1]. Several Exposure Drafts (EDs) of IASB's proposed new standards require the disclosure of more forward-looking information [2].

Proponents of more disclosure of prospective information contend that such disclosure constitutes an important component of the information for making investment and credit decisions and therefore should be encouraged [3]. While the relevance of prospective information is not disputed, the credibility of management disclosure of such information is still being debated [4]–[6]. Critics remain

skeptical about such disclosures, and argue that financial reporting should focus on disclosing facts and that forecasting should be the role of investors [4], [7].

The disclosure of prospective information encouraged by the IASB is considered costless signaling because it can be made with little or no cost. The signaling literature generally questions the credibility of costless signaling. If a company were able to make credible claims about its future cash flow prospects through prospective information disclosure, it would have incentive to lie to the global financial community since it would benefit from manipulating the global financial community's perception about the company's future performance. This implies that knowing the above, the global financial community would never believe in any such disclosure of prospective information and the company would never be able to communicate credibly about its future cash flow prospects through prospective information disclosure.

The signaling literature had examined two types of signaling mechanisms, namely costless signaling and costly signaling [8]. Costless signaling refers to management's disclosure at its annual report, the announcement by a firm to the press, reports to analysts, or any public statements. Costless signaling can be made timely with little or no cost. Costly signaling, on the other hand, refers to management actions, such as dividend policy or stock repurchases plans, which must be interpreted by the financial community [9]. Compared to costless signaling, costly signaling is more expensive. Because it consumes the company's real economic resource, costly signaling is considered more credible and has a more powerful effect than costless signaling [8].

This study presents a model of a non-cooperatively supported signaling equilibrium. Unlike previous studies in the signaling literature, which generally examine either the costless signaling or the costly signaling mechanism, this study's model requires the use of both signaling mechanisms for credible signaling. Specifically, it argues that since costless signaling can be made timely and with little cost, firms prefer costless signaling to costly signaling. Such preference acts an incentive for honest disclosure of prospective information because the global financial community can punish dishonest disclosures swiftly by ignoring costless disclosures entirely, and therefore force the firm to rely on the more expensive costly signaling mechanism to communicate to the global financial community. At equilibrium, the global financial community correctly anticipates that companies will disclose prospective information about their cash flow prospects honestly and reacts to the disclosed information as if it truthfully reflects management private knowledge. According to the model, despite the fact that the disclosing

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company will never want to defect from the equilibrium, for some distributions of the alternative information, the disclosing company and the global financial community will enter into a non-cooperative episode, during which the company can communicate to the global financial community only through costly signaling such as dividend policy or stock repurchasing plans.

The findings of this study seem to be consistent with the observation that some companies use the costless signaling mechanism while others have to rely on costly signaling mechanisms such as stock repurchase plans to communicate to the financial community [5], [8]. This conclusion also provides an explanation to the conflicting empirical evidence regarding the informativeness of management voluntary disclosure in previous empirical studies. Specifically, this study's findings suggest that management disclosure is informative during the cooperative periods and may not appear to be informative during the non-cooperative episodes. The conclusion of this research has direct policy implications in that it supports IASB's efforts of encouraging more management disclosures of prospective information to satisfy the information needs of financial statement users.

The rest of this study is organized as follows. Section 2 discusses the controversy on management disclosure of prospective information. Section 3 presents the model of analysis which shows that under certain assumptions, a cooperative result can be achieved in the non-cooperative disclosure game. Section 4 presents discussions and analyses of the model. Section 5 presents a brief summary and suggestions for future research.

II. THE HISTORICAL V. PROSPECTIVE INFORMATION CONTROVERSY

IASB has been advocating for more reporting and disclosure of prospective information as a means to meet the growing information needs of the global financial community [1], [2]. Accounting, however, has traditionally focused on the reporting and disclosing of historical data, and has left the forecasting and prospective information to investors. Reporting and disclosing prospective information would represent a major shift in accounting thoughts and would significantly expand the boundaries of financial reporting.

While the relevance of prospective information generally is not disputed, significant controversies currently exist regarding the credibility of management disclosure of such information. Over the last four decades, researchers and accounting standard setting bodies around the world have been debating whether the reporting and disclosing of prospective information should be required, permitted, or prohibited. Before the IASB, the predecessor of IASB, was created, Financial Accounting Standards Board (FASB) of the United States had already debated the role of prospective information in financial reporting in the early 1970s. In April 1971, the Study Group on Objectives of Financial Statements (also known as the Trueblood Study Group) was created to identify the fundamental objectives of financial statements. After two years of study, the Study Group identified in Objective Ten that financial forecasts

should be provided [10]. However, in subsequent public hearings conducted by the FASB, there was mixed feedback on the subject of financial forecasts and prospective information. Some board members and FASB's constituents argued that the "predictive process should not play a role in financial statements" [11]. It appeared that few questioned the relevance of forecasts or prospective information but there were significant concerns over the credibility of such disclosure. Some constituents believe that "financial forecasts should be left to the financial statement users" [12]. It was argued that "forecasts, which subsequent events prove erroneous, only serve to add to existing confusion and loss of confidence by the public" [13]. After considering these concerns, the FASB decided that forecasting would not be included in the objectives of financial reporting, but the Board has not ruled out future considerations of this topic. However, the Board didn't consider this topic in the next three decades.

The reporting environment has changed over time. The financial community showed more and more interest in forward-looking financial information. The Securities Exchange Commission (SEC) of the United States has also encouraged the publication of prospective information and provided safe harbor provisions for issuers and reviewers of prospective financial information [14]. In 2005, Mr. Robert Herz, chairman of the FASB, raised concerns about financial reporting that only provides information limited to past and excludes forecasted information [15]. Mr. Herz stated,

"The objective of financial reporting is to provide guidance on future cash flows, thus, forecast should be provided to users. Financial reports provided today as at a point in time are incomplete and suboptimal to users by indirectly addressing the objective" [15].

Over the last several years, the FASB has been working closely with the IASB on the disclosure and reporting of prospective information. In several of the joint projects of the two Boards, prospective information has been incorporated in the disclosure and reporting requirement [2].

Significant differences on the reporting and disclosure of prospective information also exist across other accounting standards setting bodies over the world, ranging from requiring the disclosure/reporting of prospective information to the prohibition of such disclosure. The Financial Reporting Standards Board (FRSB) of New Zealand issued a standard on prospective financial information – FRS No. 29 in 1996, which required a statement of prospective financial performance be prepared for companies choosing to disclose prospective information [16]. In 2005, FRSB revised its FRS No. 29 and encourages, but does not require, companies who disclose prospective financial information to prepare a complete set of prospective financial statements. In Japan, however, disclosure of prospective financial information is generally discouraged. The Accounting Standards Board of Japan states in a discussion paper that

"Management is expected to disclose the necessary information so that investors can fulfill their role. Investors are responsible for predictions and management is basically responsible for disclosing facts. Even when management is required to make predictions in the process of disclosing accounting information, the purpose

of disclosing such predictions is basically to clarify the facts at present” [17].

The Accounting Standards Board (ASB) of Great Britain issued Reporting Standard No.1, in which it states,

“The ASB believes it important that the operating and financial review (OFR) shall have a forward-looking orientation, identifying those trends and factors relevant to the investors’ assessment of the current and future performance of the business and the progress towards the achievement of long-term business objectives” [18].

In summary, despite the efforts of IASB and accounting standards setting bodies across the world for more disclosure of prospective information, the fundamental theoretical issue regarding the credibility of such disclosure remains unresolved. This study attempts to address the timely issue of credibility of prospective information by presenting a model of a non-cooperatively supported signaling equilibrium.

III. THE MODEL

The standard finance model of optimal financing decisions for the firm generally assumes that investors and managers have the same information about the firm's future cash flow prospects [19], [20]. When this assumption is replaced by the more plausible assumption that managers know more than investors about the firm's future cash flow prospects, Myers and Majluf demonstrated that to the extent that firms are unable to communicate their future cash flow prospects to investors, the resulting adverse-selection problem may cause significant social welfare losses by inducing firms to forego investment opportunities that would otherwise be profitable [21]. This conclusion has led to a number of research studies examining the possibility of signaling by managers who possess private information about the companies’ cash flow prospects.

The potential social welfare loss resulting from adverse selection due to information asymmetry is more profound in the global financial market. International investors are significantly less familiar with those foreign companies, which presents a more severe problem of information asymmetry. In an effort to reduce such information asymmetry and to minimize the social welfare loss, IASB and standard setting bodies across the world have been encouraging managers to communicate their private knowledge about the companies’ future cash flow prospects through prospective information disclosure [1]. Several EDs of IASB’s proposed new standards require the disclosure of more forward-looking information [2].

Two concepts of signaling have been studied in the literature, the costly-signaling and the costless-signaling [8], [22]-[26]. Management disclosure of prospective information advocated by the IASB is considered costless signaling because it can be made with little or no cost. Numerous research studies have examined various incentives, such as meeting analysts’ earnings expectations, stock incentive plans, or debt covenants, that induce managers to manipulate reported accounting numbers [27]-[29]. Given the presence of management incentives to manipulate reported accounting numbers, critics argue that if managers were able to credibly

communicate the firms’ future cash flow prospects through prospective information disclosure, and since it is generally very harder for auditors to dispute such claims, the managers would have incentive to overstate the firms’ future cash flow prospects. Furthermore, prior empirical studies had documented significant evidence that managers do manipulated reported earnings [30]- [32]. Given the significant controversies regarding prospective information disclosure on corporate annual report, it is not surprising that empirical studies examining the informativeness of management disclosure have reported mixed results [33], [34]. Some studies found management disclosure contained information content while others found such disclosure uninformative. In light of the controversies regarding prospective information disclosure and its significance for both the global financial community and the accounting profession, this study attempts to examine the credibility of management disclosure of prospective information.

The existing signaling literature generally examines either the costly signaling or costless signaling mechanism, often in a one-period static setting. However, in the real business world, both signaling mechanisms are available to all firms. Furthermore, empirical evidence in the literature indicates that both signaling mechanisms are used by companies. Finally, businesses in the real world are “going concerns.” It is evident that studies examining only one signaling mechanism in a one-period setting may not capture the insight of the real business world. This study extends the literature in that it examines a signaling equilibrium which requires the use of both costly and costless signaling mechanisms, and it addresses the disclosure equilibrium using dynamic programming in a multi-period setting. This study’s setting is clearly more realistic because both signaling mechanisms are available to all companies and business operations are “going concerns.”

Another distinctive feature of disclosure modeling is that, unlike other corporate reporting issues, the truthfulness of prospective information disclosure is not verifiable by auditors at the time of the disclosure, and is never directly observable to investors even ex post. In other words, the quality of such disclosure is never directly verifiable. Instead, the international financial community can only infer the firm’s disclosure quality indirectly by the realized returns based on prior prospective information disclosure. That is, the international financial community observes the realized return and compares it with the expected return to infer disclosure quality. Comparison between realized returns and expected returns based on the disclosed prospective information is used by the international financial community to measure disclosure quality because it either confirms or disconfirms the prospective information disclosed by the company. However, even if both the international financial community and the disclosing firms form rational expectations about the future, comparison between realized returns and expected returns is only a noisy measure of disclosure quality because returns are a function of many other variables, not all of which are under management control, nor are observable to the international financial community. In other words, the international financial community can not differentiate disclosure quality with certainty upon observing realized returns because

disconfirming information does not necessarily imply dishonest disclosure by the management. That is, uncertainty on disclosure quality exists even ex post. Consequently, this study allows ex post uncertainty of disclosure quality. Allowing ex post uncertainty in this study is another important extension to the literature because it rules out the case when only cooperative behavior can occur and because in reality the international financial community will never be able to verify with certainty whether management has truthfully disclosed its private knowledge even ex post.

This study makes the following standard assumptions about the economy, the capital market, and the disclosing firm. Specifically, the macroeconomic condition, the capital market, and the disclosing firm are assumed to be stable (i.e., the environment is stationary and time separable). This assumption is required in order to assume that both the disclosing firm and the international financial community have rational expectations - an assumption that underlies the use of Nash equilibrium.

This study makes the additional assumption that, while the past and present disclosure quality is the disclosing firm's private knowledge (i.e., only the firm's management knows whether it has truthfully disclosed its private information to the international financial community), the expected return and realized return of the investment, as well as the economic environment within which the firm operates are observable by both parties. This assumption is necessary because the realization of a common variable must be observed in order to decide for both the international financial community and the disclosing firm whether the game is in a cooperative or non-cooperative period.

Finally, the realized return based on prior prospective information disclosure, by which the international financial community assesses the disclosure quality of the firm, is only imperfectly correlated with the firm's disclosure quality. In other words, the return is subject to some factors that cannot be accurately identified in judging the disclosure quality. Furthermore, these factors, $\zeta_{i,t}$ is a random variable distributed i.i.d. with cumulative density function F having a continuous density f . Intuitively, the alternative information reflecting these economic factors comes to the market in a random manner which either confirms or disconfirms the disclosed prospective information. However, the alternative information cannot reveal disclosure quality with certainty because the market cannot differentiate with certainty the controllable (or normal) events from the uncontrollable (or unpredictable) events.

The disclosing firm's return function is $R_i(p_{i,t}, \delta_{i,t})$, where R_i is the firm's return from disclosing a future performance level $p_{i,t}$ and being perceived by the market as of quality $\delta_{i,t}$. $\delta_{i,t}$ is a function of unexpected returns, $r_{i,t}$, which, in turn, is a function of disclosed prospective information, $p_{i,t}$, and alternative information, $\zeta_{i,t}$. The disclosing firm is assumed to be risk neutral and maximize the following function:

$$\text{Max } E(\sum_{t=0}^{\infty} \beta^t (p_{i,t}, \delta_{i,t})) \quad (1)$$

where β is the discount rate.

Let ψ be the disclosing firm's strategy where ψ_0 is the

initial disclosure quality and ψ_t determines the disclosure quality at t for $t > 0$ as a function of the market perception of the firm's past disclosure quality. In a Nash equilibrium, the disclosing firm's management will initially disclose its private knowledge about the firm's future cash flow prospects to the international financial community, and the international financial community responds as if it believes such information in pricing the disclosing firm's stocks. They will continue to do so until the unexpected return (the deviation of realized return on investment from the expected return based on the firm's disclosed prospective information) falls below a trigger-level return. Then the international financial community will punish the disclosing firm for a fixed number of periods, $T-1$, during which the firm's stock price is depressed. The disclosing firm will have to rely on costly signaling mechanisms such as dividend policy to communicate to the international financial community during this period. At the conclusion of the episode (T periods after $r < \bar{r}$), the disclosing firm and the international financial community will resume cooperative behavior and will continue to do so until the next time $r < \bar{r}$.

Let's define the disclosing firm's strategy by $p = p_\phi$ if t is a cooperative period and $p = p_\tau$ if t is a non-cooperative period. t is a cooperative period if (a) $t=0$, or (b) $t-1$ was cooperative and $r > \bar{r}$, or (c) $t-T$ was normal and $r > \bar{r}$; t is a non-cooperative period otherwise. The disclosing firm faces a two-state T -stage dynamic programming problem. Its optimal policy is to report p_ϕ in cooperative periods and p_τ in non-cooperative periods. Let R_ϕ and R_τ be the disclosing firm's expected return of disclosing p_ϕ and p_τ respectively, and let R_\square be the disclosing firm's expected return of disclosing p_\square when it is supposed to disclose p_ϕ . Since during a cooperative period the firm is able to credibly communicate information about its future cash flows, overstating its future cash flow prospect would increase its return in that period. We assume that $R_\tau < R_\phi < R_\square$. The expected discounted present value of the disclosing firm under the optimal reporting strategy, $\phi(p_\square)$ satisfies the following condition:

$$\begin{aligned} \phi(p_\epsilon) = & R_\epsilon + \beta \left[1 - f\left(\frac{\bar{r}}{r(p_\phi)}\right) \right] \phi(p_\epsilon) \\ & + f\left(\frac{\bar{r}}{r(p_\phi)}\right) \left(\sum_{t=1}^{T-1} \beta^t R_\tau + \beta^T \phi(p_\epsilon) \right) \end{aligned} \quad (2)$$

where $f(\bar{r}/r(p_\epsilon))$ is the probability that $r(p_\epsilon)$ is less than \bar{r} [26]. The first term on the right hand side is the return from disclosing p_ϵ when it is supposed to disclose p_ϕ . The second term is the discounted present value of the disclosing firm times the probability that p_ϵ does not trigger a non-cooperative episode. The third term is the discounted present value of the disclosing firm when a non-cooperative period is triggered by p_ϵ . The F.O.C. of the Nash equilibrium of Equation 2 can be written.

Equation 3 states that the marginal return to the disclosing firm from overstating its cash flow prospects in cooperative periods must be offset exactly by the marginal increase in

risk of triggering a non-cooperative episode.

$$R_\varphi \left(1 - \beta + (\beta - \beta^t) f \left(\frac{\bar{r}}{r(p_\varphi)} \right) \right) = (R_\varphi(p_\varphi) - R_r) \left(\beta - \beta^t f r - r p_\varphi \right) \quad (3)$$

IV. DISCUSSIONS AND ANALYSES

It is evident from Equation 3 that it is at the disclosing firm's best interest to not defect from the equilibrium disclosure quality because the marginal gain from lying to the international financial community would be exactly offset by the marginal loss that the dishonest disclosure would trigger a non-cooperative episode. Specifically, in a cooperative period when the management is supposed to disclose truthfully its private knowledge about the firm's future cash flow prospects through prospective information disclosure and the international financial community is supposed to believe it, the disclosing firm could gain from lying to the international financial community about its future cash flow prospects. However, this would increase the probability that the return to investments based on this information will fall below the trigger-level, and the disclosing firm, therefore, incurs the risk that the international financial community will enter a punishing episode during which the firm will have to rely on costly signaling to communicate with the international financial community. At equilibrium, the marginal expected loss from possibly triggering the market punishment offsets exactly the marginal gain from lying to the international financial community by overstating its future cash flow prospects.

The discussion above suggests that managers can credibly communicate private information through the disclosure of prospective information even though it is costless. This conclusion is consistent with the empirical evidence documented in previous studies that management disclosure contains information content [33], [34]. This conclusion has direct policy implications in that it supports IASB's strategy of encouraging more management disclosures of prospective information as a means to satisfy the information needs of financial statement users.

It is also evident from Equation 3 that costly signaling by the firms and adverse market reaction are necessary conditions of the equilibrium requirement, and the frequency of reversion from cooperative states is given by $f(\bar{r}/r(p_\varphi))$. In other words, both costless signaling and costly signaling mechanisms are necessary to signal efficiently. The international financial community will react cooperatively with respect to management disclosure of prospective information as long as returns at t-1 based on prior disclosure are satisfactory to the international financial community. The international financial community will revert for a while to non-cooperative behavior when the realized return falls. During the non-cooperative period, the market severely discounts or completely ignores management disclosure of prospective information, which would force the company to rely more on costly signaling mechanisms such as stock repurchasing plans to communicate to the international financial community.

This threat by the international financial community to ignore costless signals and therefore to force the company to rely on costly signaling mechanisms acts as an incentive for truthful costless signaling by the disclosing company. This conclusion explains the conflicting empirical findings in previous studies regarding the informativeness of management disclosure in that such disclosure is informative during the cooperative periods and not informative during the non-cooperative episodes.

V. CONCLUSION

IASB has been advocating for more management disclosure of prospective information as a means to satisfy the information needs of the global financial community. This study addressed the issue of credibility of such disclosure under the assumption that the quality of the disclosure is never directly observable even ex post. A model of a non-cooperatively supported equilibrium was presented. At equilibrium, the international financial community correctly anticipates that companies will disclose their private knowledge honestly through prospective information disclosure and reacts to the disclosed information as if it truthfully reflects management private knowledge. According to the model, despite the fact that the disclosing firm would never want to defect from the equilibrium, for some distributions of the alternative information, the disclosing firm and the international financial community enter a non-cooperative episode, during which the company will have to rely on costly signaling mechanisms to communicate information to the international financial community.

The findings of this study support IASB's strategy of encouraging more management disclosure of prospective information to satisfy the information needs of financial statement users. The findings also have important implications for future studies testing the information content of prospective information disclosure under IFRS. Specifically, future studies testing disclosure quality need to separate companies/observations in cooperative episodes from those in non-cooperative episodes.

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