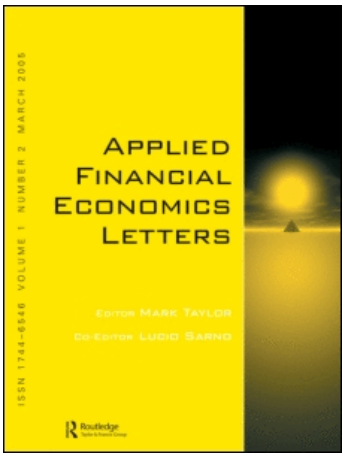

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Does the rule for voluntary disclosure induce truthful disclosure?

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This article demonstrates how Rule 10b-5 of the 1934 Securities and Exchange Act fails to induce voluntary disclosure. We show that company owners may deter the disclosure policy for their financing decisions. While there is a link between the way in which firms raise external capital and the information which their firms disclose, we show that the transformed reaction of disclosure is the signal for the company's financing policy.

I. Introduction

Taking a look at voluntary disclosure, one can see that Rule 10b-5 of the 1934 Securities and Exchange Act may not function very well. We separate firms into two types by the method of raising capital and analyze the decisions those firms make beyond the Rule's execution. It is clear to see why the disclosure of information regulated by the Rule fails, as well as that the honesty of firms is unable to be distinguished by investors.

While a manager's objective is to maximize the current market capitalization of the firm, which may thus incur costs associated with information disclosure, by disclosing more information, a firm can lower its cost of capital at the possible expense of generating losses through the disclosure of proprietary information. Proprietary information here means that, information causes an interaction between the firm and the capital market. Dye (2001) tried to illustrate an optimal disclosure policy that trades-off costs of capital gains against proprietary losses that typically involve some, but not a complete, disclosure of the firm's information.

Through perfect Bayesian equilibrium, we find that the derivation and the discretion to offer disclosure is supported reasonably by related literature, as in Dye (2001) who quoted anecdotal evidence about the link between the processes by which firms raise external capital and the extent to which their firms are scrutinized. He argued that, it may play an important role in determining firms' financing choices. Healy and Palepu (2001) also reviewed research on financial reporting and voluntary disclosure of information by management and argued that one factor which enhanced the credibility of management disclosures is regulators. However, we prove that the credibility of management disclosures affected by regulators will be false.

Analyzing voluntary disclosure equilibrium in a game with two types of owners – expected liquidating dividends motivated (VMO) and expected price motivated (PMO) – Ronen and Yaari (2002) found that Rule l0b-5 for Disclosure does not deter misrepresentation and may suppress voluntary disclosure. To demonstrate the economic intuition concisely, we simply draw the discretion to disclose information as a right that the manager should have. We thus argue that the Rule of Disclosure may affect a manager's tendency to disclose truthful information.

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II. The Model

Consider that there are only two types of companies in the market, and their percentage is μ and $(1-\mu)$, respectively. Type H (Honest or the debt-issuing firm) is the one whose manager operates the company and announces any informative signal truthfully. The other company type, D (Dishonest or the equity (stock)-issuing firm), is the one whose owners wish that the manager tries his best to enhance the company's stock price, no matter what nor how the manager may select different kinds of signal to disclose. Since the owners' actions are motivated by the expectations of the firm's stock price, the managers of D companies may disclose news dependent of the shareholders' and their own self-interests (Fig. 1).

The timing

(1) The firms operate and yield a market value, in which $\bar{\lambda}$ represents a higher value of the company while $\underline{\lambda}$ is a lower value of the company than that of the last quarter on date 1.
(2) On date 2, the manager pre-observes the information of the outcome of operating performance and decides the timing to disclose it.
(3) On date 3, the manager of D company decides to disclose wrong news to the public or not to do so. At the same time, the manager of H company announces the news truthfully. Thus, the news-signal, s, can be either good, g, or bad, b, i.e. $s \in \{g, b\}$. It is common knowledge that the prior probability that the signal is good is p, i.e. $\Pr[s = g] = p$.
(4) Finally, the investors can choose to believe (B), the signal disclosed by the company accordingly, or the investors do not believe (N).

We denote α as the probability to hold back false disclosure, and assume that all investors do not hold debt and equity simultaneously. Once debt is placed and equity is issued, the question arises as to what information firms voluntarily disclose to these two groups. The investors thus believe good news is the truth from the H firm and then they form a probability distribution over the company types upon disclosure of bad news. This leads us to Proposition 1 as follows.

Proposition 1: *Without the Rule, company D always discloses bad news while company H discloses any news truthfully. The investors may sometimes have a difficulty in distinguishing the company type and thus discount the bad news either from company D or company H.*

Proof: While $\bar{\lambda} > \underline{\lambda}$ means the difference of different companies' values, we thus can prove that the investors may react differently to distinguish between two cases as follows:

Case 1: If the disclosure is bad news ($\underline{\lambda}$), then the investors would not believe the news rather than believe it. This is because, the benefit from believing the bad news is $[\mu(1-p)(1-\alpha)\underline{\lambda} + (1-\mu)(1-p)\alpha 2\underline{\lambda} - (1-\mu)(1-p)(1-\alpha)\bar{\lambda}]$, which is lower than the expense $(1-\mu)(1-p)2\alpha\bar{\lambda} - \mu(1-p)\alpha\underline{\lambda}$ of not believing it.

Case 2: If the disclosure is good news, then the investors would believe it. This is because, the benefit from believing the good news is $[\mu p\bar{\lambda} + (1-\mu)p\alpha 2\bar{\lambda} - (1-\mu)p(1-\alpha)\underline{\lambda}]$, which is higher than the expense $(1-\mu)p2\alpha\underline{\lambda} - \mu p(1-\alpha)\bar{\lambda}$ of not believing it.

The two cases explicitly imply that the company types are pooled if bad news is disclosed. Since, the investors would choose not to believe (N) the news, then the condition for H to choose $\underline{\lambda}$ is $\underline{\lambda} > \alpha\bar{\lambda}$, and

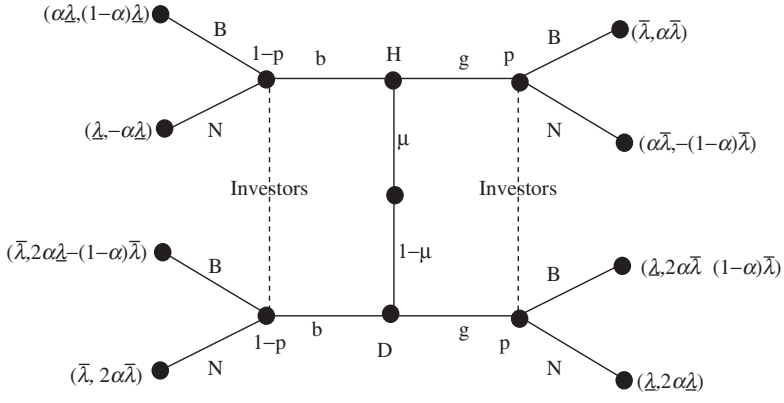

Fig. 1. The model setting

the condition for D to choose $\underline{\lambda}$ is $\bar{\lambda} > \underline{\lambda}$. As α is the probability to hold back false disclosure, which is assumed to be less than 1, we make sure that the pooling equilibrium does exist for the difference of different companies' values.

If firm D chooses $\underline{\lambda}$, then the condition for investors to choose N (not to believe) is $2\alpha\bar{\lambda} > 2\alpha\underline{\lambda} - (1-\alpha)\bar{\lambda}$. At the same time, the condition for investors to choose B (to believe) is $\alpha\bar{\lambda} > -(1-\alpha)\bar{\lambda}$, if H chooses $\bar{\lambda}$. Hence, the condition for investors to choose B (to believe) is $2\alpha\underline{\lambda} - (1-\alpha)\bar{\lambda} > 2\alpha\bar{\lambda}$.

Through derivation, we find that there is one pooling and separating equilibrium under settings of the actions by all players and the beliefs of the investors about the firms' type by the signal. Without the Rule, the equilibrium is thus one pooling and the other one separating equilibrium.

After the Rule 10b-5 executed, the tendency of firms H and D to disclose their information may be affected by the Rule. This leads us to Proposition 2.

Proposition 2: *With the Rule, firm H would rather not disclose bad news than to disclose it. To avoid being distinguished as a firm D and not to have its financial leverage be investigated, firm H then decides not to disclose good news. Firm D may at the same time avoid disclosing good news since it will be penalized if misrepresentation is found. Hence, bad news disclosed by firm D will be truthful.*

Proof: While $\bar{\lambda} > \underline{\lambda}$ means the difference of different companies' values, we can prove that the investors may react differently to distinguish between two cases as follows:

Case 1: If the disclosure is bad news ($\underline{\lambda}$), then the investors would rather not believe the news than believe it, because the benefit from believing the bad news is $[\mu\underline{\lambda}(1-3\alpha+2\alpha p) + 2\alpha\underline{\lambda}(1-p) + \mu\bar{\lambda}(1-p-\alpha+\alpha p) + \bar{\lambda}(p-1+\alpha-\alpha p)]$, which is lower than the expense $\mu(-\alpha\underline{\lambda}) + 2\alpha\bar{\lambda}(1-\mu-p+\mu p)$ of not believing it.

Case 2: If the disclosure is good news ($\bar{\lambda}$), then now the investors would still not believe it, because the benefit from believing the good news is $p\alpha 2\bar{\lambda}(1-\mu) + p\underline{\lambda}[1-\alpha-\mu\alpha+\mu]$, which turns out to be lower than the expense $2\alpha\underline{\lambda}(p-\mu)$ of not believing it.

The two cases explicitly imply that the company types are pooled if bad news is disclosed. Since, the investors choose not to believe (N) the news, then the condition for H to choose $\underline{\lambda}$ is $\underline{\lambda} > \alpha\bar{\lambda}$, and the condition for D to choose $\underline{\lambda}$ is $\bar{\lambda} > \underline{\lambda}$. Furthermore, H does not disclose good news ($\bar{\lambda}$) with the Rule enforced. Because, the penalty regulated in the Rule forces company H to decrease the probability α so as to prevent itself from being audited for its higher leverage, the Rule indirectly pushes company H towards untruthful disclosure while it directly induces company D to provide a truthful disclosure.

As a result, either bad news or good news is disclosed with the Rule, and then the only reaction for investors to choose is N (not to believe). This is because, the condition for H to choose $\underline{\lambda}$ is $\underline{\lambda} > \alpha\bar{\lambda}$, while the condition for D to choose $\underline{\lambda}$ is $\bar{\lambda} > \underline{\lambda}$.

With the Rule, the equilibrium is only a one-pooling equilibrium. As for H firms, debt holders do not directly benefit from financing projects when a firm in financial distress or near default faces the penalty of the rule. To that extent, debt holders are not interested in the firm's maximum upside potential, but rather in the sustainability of the firm's current level of operating performance.

III. Conclusions

This article demonstrates how Rule 10b-5 of the 1934 Securities and Exchange Act fails to induce voluntary disclosure. While the method of raising capital affects a firm's disclosure policy, we show that Rule 10b-5 fails to induce credible disclosure.

To identify disclosures of different firms' types, we apply that equity holders are interested in the upside potential of a firm, whereas debt holders are concerned with the downside (or default) risk. Therefore, we expect highly-leveraged firms to voluntarily disclose more information on corporate governance without the execution of the Rule of Disclosure. The results in this article also show that, capital structure is an important determinant of voluntary disclosures, especially for the sake of the penalty.

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