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Can Internet-based disclosure reduce information asymmetry?

Jean-François Gajewski [a,*], Li Li [b,1]

[a] IAE Savoie Mont-Blanc, Université Savoie Mont Blanc, IREGE, BP 80439, 74944 Annecy-le-Vieux, Cedex, France
[b] Montpellier Business School, 2300 Avenue des Moulins, 34185 Montpellier, Cedex 4, France

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ABSTRACT

The Internet is widely used by listed companies to manage investor relations. Since January 2007, the French Financial Authority has required companies listed on Euronext-Paris to disclose all mandatory financial information via the Internet in order to enhance information transparency. This paper examines the impact of Internet-based disclosure on the French stock market by analyzing the relationship between information asymmetry and Internet disclosure practices. Extending previous studies on Web-based disclosure, a checklist of 40 items is developed to evaluate the level of Internet-based voluntary disclosure. Measuring information asymmetry by the spread and the probability of informed trading, we show that greater Web-based disclosure lowers information asymmetry in the French financial market.

1. Introduction

The Internet has triggered a revolution in the area of financial transparency for both listed companies and investors in financial markets. Compared with traditional media, such as the paper-based annual report, the Internet allows firms to aggregate and disseminate different types of information (video, sound, flash, text, etc.) on their websites. Internet disclosure offers firms the opportunity to enhance communication quality, improve reputation, attract potential investors, and reduce information distribution costs (Ettredge, Richardson, & Scholz, 2002). As a consequence, firms that improve their communication to investors may reduce their cost of capital. The investors may also benefit from Web disclosure, because Internet-based technologies facilitate the information gathering process. Via the Internet, investors can very quickly obtain different types of financial information, which is presented in various formats (Word, Excel or Pdf, etc.) and is directly usable. Web disclosure may also help investors to bridge the information gap between themselves and managers. Moreover, as Web information is widely disseminated, it may be able to reduce the information asymmetry between informed and uninformed investors. As Hodge, Kennedy, and Maines (2004) point out, Internet technology helps investors to access, analyze and understand information, which, in turn, leads to better interpretation.

This paper attempts to develop a better understanding of the effects of Internet-based voluntary disclosure on the French stock market. The main purpose is to determine whether Internet disclosure could lead to a reduction in information asymmetry. Based on the works of Pirchegger and Wagenhofer (1999), Debreceny, Gray, and Rahman (2002), Ettredge et al. (2002) and Marston and Polei (2004), a checklist of 40 items is developed to assess the level of Web disclosure. Moreover, this checklist takes into account not only the quantity of information available via the Internet, but also the presentation of information on websites. Information asymmetry is measured by the spread, the probability of informed trading (PIN) defined by Easley, Kiefer, O'Hara, and Paperman (1996) and the adjusted probability of informed trading (AdjPIN) extended by Duarte and Young (2009). Our empirical findings show a negative relationship between Internet-based disclosure and information asymmetry.

This paper also extends prior studies on Web-based disclosure in several ways. Firstly, instead of studying the determinants of Web-based disclosure, we focus on the consequences of this new information dissemination channel and try to extend the existing empirical studies on the impact of financial disclosure on information asymmetry. Several researchers have already investigated this relationship, but through using traditional communication channels (annual reports, preliminary announcements, earnings announcements, financial analysts' information, etc.). For example, Petersen and Plenborg (2006) found a negative relationship between the amount of financial information published via annual reports and information asymmetry. By using the Association of Investment Management and Research (AIMR) total disclosure scores as a proxy for a firm's disclosure quality, Brown and Hillegeist (2007) prove that there is a negative association between disclosure quality and information asymmetry.

* Corresponding author. Tel.: +33 4 50 09 24 22.
E-mail addresses: gajewski@univ-savoie.fr (J.-F. Gajewski), l.li@montpellier-bs.com (L. Li).
[1] Tel.: +33 4 67 10 25 52.

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Secondly, several empirical papers investigate the impact of electronic communication on asymmetry by analyzing the adoption of XBRL[2]. They show that the technique of XBRL improves financial transparency and reduces information asymmetry in the capital market (Pinsker & Li, 2008; Yoon, Zo, & Ciganek, 2011). Instead of focusing on one single Web disclosure technology, we study the overall level of company website-based disclosure and its impact on the French capital market. A sophisticated checklist is developed to cover not only the content of voluntary disclosure online, but also the presentation of online disclosure.

Thirdly, this paper provides empirical evidence of the impact of Web disclosure on information asymmetry in the French institutional context. Up until now, most empirical studies on information asymmetry and voluntary disclosure have been developed using American samples. Few works, except those of Leuz and Verrecchia (2000), Hail (2002) and Petersen and Plenborg (2006), have focused on European companies, and none have studied French listed companies. As Jaggi and Low (2000) show, the legislative system and culture influence financial practices. Compared with Anglo-American firms, the capital concentration of French firms is relatively high and generally characterized by state, family or cross-shareholding. Investor protection is also weaker in France than in the U.S. In light of these differences, it is valuable to examine whether the results obtained through empirical studies using other samples are valid in the case of France. While quarterly earnings announcements are legally required in the US, French firms generally publish semi-annual earnings[3]. Gajewski and Quéré (2013) study the effect of earnings disclosures on information asymmetry in France and the US and prove that the lower frequency of earnings announcements in France induces a steeper decrease of information asymmetry at the time of release of semi-annual earnings.

Lastly, empirical studies on information asymmetry generally use the spread-based measure as a proxy for information asymmetry. This metric lacks precision in the sense that spreads do not only represent adverse selection costs. The paper here estimates the probability of informed trading in order to capture more precisely the extent of information asymmetry on the stock market (Duarte & Young, 2009; Easley et al., 1996).

2. The regulation of information disclosure in France

As part of the European continental system, the French accounting disclosure regulation is less equity-outsider oriented than the Anglo-American system (Nobes, 1998). For instance, French regulations do not require firms to publish their results for the first and third quarters, while all four quarterly earnings announcements are legally required in the US. French firms must publish only their sales quarterly and their earnings semi-annually.

In France, Internet financial disclosure has been voluntary and unregulated for many years. In order to guarantee a high level of investor protection and efficient markets, the European transparency directive (2004/109/CE) has established the detailed requirements for disclosure of periodic and on-going information concerning issuers whose securities are already admitted to trading on a regulated market[4]. France has adopted this directive and modified the AMF's General Regulations (Book II: Issuers and financial disclosure)[5]. Since January 2007, all listed companies on Euronext-Paris must ensure that the regulated information is disseminated effectively and in full. Furthermore, the regulated information should be posted "*on its website as soon as it has been disseminated*" and be kept as stored data for at least five years. These new regulations are designed to improve the integrity of the information dissemination system, reduce the opacity of financial statements, and protect investors from accounting fraud. Appendix A provides a summary of regulated financial information for the firms listed on the French capital market.

3. Literature review and hypotheses

3.1. Literature review on Internet-based disclosure

Studies on Web-based disclosure started in the mid-1990s when the Internet began to have a powerful impact on culture and the business environment. The research from this early stage is generally descriptive, with most studies providing an overall observation of the extent of Internet-based disclosure internationally (Deller, Stubenrath, & Weber, 1999; Ettredge, Richardson, & Scholz, 2001; Gowthorpe & Amat, 1999; Gray & Debreceny, 1997; Petravick & Gillett, 1996; Trites, 1999).

By extending the earlier descriptive studies on Internet-based disclosure, more recent studies have sought to explain the determinants of Internet-based disclosure (Ashbaugh, Johnstone, & Warfield, 1999; Brennan & Hourigan, 2000; Craven & Marston, 1999; Debreceny et al., 2002; Ettredge et al., 2002; Marston & Polei, 2004; Pirchegger & Wagenhofer, 1999; Trabelsi, Labelle, & Dumontier, 2008). Since the release of information via the Internet has been a voluntary choice for the listed companies for several years, these studies have introduced agency theory, signal theory and cost–benefits analyses, which are generally used in voluntary disclosure studies. It is assumed that these theories can explain voluntary disclosure via both the traditional media, such as annual reports, and the new channels, such as the Internet (Marston & Polei, 2004; Trabelsi et al., 2008).

One common finding in prior studies is the positive relationship between firm size and Web reporting. The empirical results from different countries show that firm size is the most important determinant of the Internet used to disseminate information. As Buzby (1975) points out, the cost of information disclosure is relatively low for larger firms. Furthermore, large companies are more exposed to public scrutiny. As a result, they are motivated to enhance information transparency to satisfy the needs of information users.

It is generally accepted that corporate governance factors can influence a company's communication strategy, particularly regarding voluntary disclosure (Ajinkya, Bhojraj, & Sengupta, 2005; Gul & Leung, 2004; Velury & Jenkins, 2006). Kelton and Yang (2008) extend these studies by focusing on the relationship between governance mechanisms and voluntary Web disclosure. They show that better Internet-based disclosure is positively linked to weaker shareholder rights, lower capital concentration, a higher percentage of independent directors and financial experts on the board, and a greater frequency of audit committee meetings. The findings of Kelton and Yang (2008) emphasize the importance of corporate governance in Web practices. On the contrary, Alali and Romero (2012) find that highly concentrated firms in Argentina disclose more information on their websites than firms with less concentration.

Later, empirical research began to investigate the effects of Internet-based disclosure on the financial market. For example, Cormier, Aerts, Ledoux, and Magnan (2009) find a negative impact of the Web-based social and human capital disclosure on stock volatility and Tobin's Q. Yoon et al. (2011) show that the technique of XBRL improves financial transparency and reduces information asymmetry in the capital market. Blankespoor, Miller, and White (2014) find that dissemination via Twitter is negatively associated with information asymmetry. Efendi, Park, and Smith (2014) show that XBRL filings can improve informational efficiency because XBRL filings make the financial data easier to use and analyze for all the information users. Chang, D'Anna, Watson, and Wee (2008) examine the relationship between information asymmetry and

[2] XBRL: eXtensible Business Reporting Language.

[3] The publication of quarterly accounts by French firms on 1st and 3rd quarters is not mandatory. Only turnover publication is required.

[4] Directive 2004/109/CE of the European Parliament and the Council of 15 December, 2004, on the harmonization of transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market.

[5] AMF ("Autorité des Marchés Français") stands for French Financial Authority.

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