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An empirical comparison of the effect of XBRL on audit fees in the US and Japan

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A B S T R A C T

This study examines the effect of eXtensible Business Reporting Language (XBRL) on audit fees, and assesses whether and how this effect varies across different countries. We specifically consider publicly listed firms in the US and Japan over the eight-year period centered around the dates on which XBRL was first mandated for use by publicly listed firms in these jurisdictions. Our comparative results show that XBRL use is inversely associated with audit fees, which are in turn positively associated with firm size. We also find that, overall, XBRL moderates the association between firm size and audit fees in both the US and Japan. However, these moderation effects are weaker among Japanese firms.

1. Introduction

There have been growing calls from investors and regulators around the world to increase the degree of transparency in financial reporting to improve confidence in the capital markets, especially in response to several high-profile corporate scandals at the beginning of the 21st century, such as Enron and WorldCom in the US and Kanebo and Nanaboshi in Japan (Numata and Takeda, 2010; Roohani et al., 2009). Several countries have thus carried out legal reforms and promulgated new directives and laws. For example, the 2002 Sarbanes-Oxley Act (SOX) in the US and the 2006 Financial Institution and Exchange Laws (J-SOX) in Japan recognize the importance of transparency in financial reporting (Bedard et al., 2009; Roohani et al., 2009; TheCorporateCouncil, 2011; Uehara et al., 2008). To a large extent, financial reporting transparency is adversely affected by the lack of interchangeability in the ways in which financial data are collected, processed, repurposed and reported. In fact, the paper and digital formats that are currently used, including HTML, PDF, and Excel, do not provide sufficient semantics to enable the automated processing of financial data, making the realization of efficient and effective transparency objectives expensive and difficult to achieve (Debreceny et al., 2010; Doolin and Troshani, 2004, 2007; Troshani and Doolin, 2007; Troshani and Rao, 2007; Troshani et al., 2014).

eXtensible Business Reporting Language (XBRL) is a data formatting standard that enables the electronic communication of financial reports (Blankenspoor et al., 2014; Efendi et al., 2014; Troshani and Lymer, 2010). It can enhance the interchangeability of financial data by streamlining and integrating information flows among heterogeneous organizations. XBRL can facilitate the exchange of financial data between different computer platforms and accounting information systems

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and in doing so, enhance the transparency of financial reports (Abdolmohammadi et al., 2002; Doolin and Troshani, 2007; Troshani and Lymer, 2010, 2011). With greater transparency, it is reasonable to expect that firm monitoring functions, including external auditing, could be enhanced and related auditing costs reduced.

The objective of this study is to examine the effect of XBRL on audit fees, and to assess whether and how this effect varies across different jurisdictions. We specifically focus our attention on external auditing because it is considered to be an important monitoring function in the business information supply chain (Simkin et al., 2012). In fact, auditing evaluates the accuracy and fairness of financial statements relative to a jurisdiction's generally accepted accounting principles (GAAP) (De George et al., 2013; Simkin et al., 2012) and consequently improves the credibility of the firms which produce them. This makes it less costly for firms to achieve their investment growth aims (Khurana and Raman, 2004) while also facilitating compliance with appropriate legislation (Li et al., 2007; Rezaee, 2009). We argue that XBRL enhances the transparency of financial reporting, which facilitates external auditing functions. With greater transparency, audit risks are likely to be reduced, resulting in lower audit costs for the firm (Khadaroo, 2005).

Although XBRL is expected to "revolutionize" business reporting (Abdolmohammadi et al., 2002), there has been little research on its related effects. Specifically, research has examined the effects of XBRL on alleviating information asymmetry (Yoon et al., 2011), improving the information environment by reducing event return volatility and cumulative abnormal returns (Bai et al., 2013) and information content (Efendi et al., 2009, 2014), reducing the cost of equity capital (Li et al., 2012), improving corporate governance (Premuroso and Bhattacharya, 2008) and enhancing the forecast accuracy of financial statement analysts (Liu et al., 2014). To the best of our knowledge, no study in the accounting literature has specifically examined the effect of XBRL on financial statement auditing.

We conduct pre- and post-XBRL adoption comparisons of the audit fees paid by publicly listed firms in two different jurisdictions: the US and Japan. We deliberately select these particular jurisdictions because the use of XBRL for filing financial statements has been mandated for all publicly listed firms in the US and Japan with the expectation of greater transparency and timely access to financial statement information, resulting in more efficient and effective regulatory processes, including auditing (Starr, 2012). In December 2008, the US Securities and Exchange Commission (SEC) mandated that publicly listed firms file key financial statements in XBRL format using a phased-in approach, commencing in June 2009 (Srivastava and Kogan, 2010). In its efforts to achieve international interoperability with the International Accounting Standards Committee Foundation (IASCF) and the SEC, Japan's Financial Services Authority (FSA) mandated that all publicly listed firms file their financial statements in XBRL format, commencing in April 2008 (Bai et al., 2013; FSA, 2008; Kobayashi, 2008). Given that firms in these countries are subject to regulatory mandates for XBRL use, the US and Japan represent ideal settings for conducting our research. Moreover, both countries constitute important global jurisdictions characterized by a large number of statements filed by firms of various sizes, suggesting that these jurisdictions might offer greater insight than other less prominent jurisdictions where XBRL has also been mandated (Bai et al., 2013).

We use a data set containing 17,010 firm-year observations of firms listed on the New York Stock Exchange (NYSE) and NASDAQ in the US over the 2005–2012 period, and a data set comprising 7067 firm-year observations for firms listed on the Tokyo Stock Exchange (TSE) in Japan over the 2004–2011 period. Thus, we are able to capture four years of observations before and after the XBRL use mandates took effect in the two jurisdictions. Finally, we focus our attention on publicly listed firms because they are subject to the XBRL use mandates in the US and Japan.

We specifically compare and contrast the US and Japan, given the paucity of research concerning whether the effect of XBRL on auditing in a common law jurisdictional setting (e.g. the US) can be generalized to non-common law jurisdictional settings (e.g. Japan), where country differences exist and legal regimes may offer less investor protection and weaker laws for suing auditors for misconduct and negligence (Francis, 2004; Markus and Kitayama, 1991).

Our comparative results indicate that XBRL filers in the US and Japan have experienced savings in audit costs as measured by audit fees paid to external auditors. In particular, XBRL use is negatively associated with audit fees, which are, in turn, positively associated with firm size. We also observe that, overall, XBRL moderates the association between firm size and audit fees both in the US and Japan. However, these moderation effects are weaker among Japanese firms.

Our study's contribution is threefold. First, to the best of our knowledge, this is the first cross-country comparative study to consider the effect of XBRL on audit fees. In fact, we use large data sets with eight-year time spans for the US and Japan, thereby enhancing the generalizability of our findings. Furthermore, we also observe differences regarding the effect of XBRL between the US and Japan, which are characterized by very different legal frameworks (La Porta et al., 2003).

Second, XBRL is a complex technology that has raised a number of concerns in relation to the compliance costs and benefits of regulatory business reporting (Li et al., 2012). Although XBRL reporting is expected to enhance transparency and facilitate auditing, it suffers from significant setup, implementation, education and training costs (Bai et al., 2013). Our study contributes to the ongoing debate over whether the purported economic benefits of XBRL do indeed materialize in practice (Efendi et al., 2014; Hwang et al., 2008; Troshani and Lymer, 2010). We provide evidence which suggests that XBRL assists firms to become more transparent to the public and therefore easier and less risky to audit, resulting in lower auditing fees. This study thus contributes to the broader literature concerning the economic implications for auditing that result from enhanced financial reporting practices, while also responding to calls to examine the economic viability of XBRL (Debreceny et al., 2010).

Third, this study has implications for auditors and accountants in countries where XBRL adoption has been mandated and in those countries where XBRL is currently being considered for adoption. The existing literature suggests that policy-making deliberations and regulations in the accounting realm are predominantly driven by political rather than scientific objectives (see e.g. Francis, 2004). Our findings can thus provide a solid foundation to facilitate a change in this tradition, at least as it pertains to XBRL use. More specifically, our findings can inform the business case for using XBRL in the regulatory sphere.