IASB—THE ACCOUNTING TOWER OF BABEL: LANGUAGE AND THE TRANSLATION OF INTERNATIONAL ACCOUNTING STANDARDS

by

EMILY-ANNE CHICKSEN SHAFRON

(Under the Direction of Theodore Christensen)

ABSTRACT

I assess whether translations of IFRS published by the IASB (at staggered intervals) are effective at improving financial statement comparability and accounting quality (proxied by higher quality accruals and more timely loss recognition). Using a matched sample of 1,601 English- and non-English-speaking firms, I hypothesize and find that translations are significantly associated with increases in comparability, but the results are mixed with respect to accounting quality. I also find that as the distance between the translated language and English increases, it becomes more difficult to translate IFRS. Specifically, translations into low-linguistic-distance languages are associated with significant increases in comparability and mixed results for accounting quality, while translations into high-linguistic-distance languages are associated with significantly smaller increases in comparability, and significant reductions in accounting quality. These results are robust to differences in (1) culture, (2) English fluency rates, (3) the level of market development, and (4) different model specifications. I provide the first empirical evidence that the IASB's

translations generally increase both earnings comparability and accounting quality, but that high-linguistic-distance attenuates these benefits.

INDEX WORDS: International Accounting Standards Board, International Financial Reporting Standards, IASB, IFRS, translation, financial statement comparability, accounting quality

IASB—THE ACCOUNTING TOWER OF BABEL: LANGUAGE AND THE TRANSLATION OF INTERNATIONAL ACCOUNTING STANDARDS

by

EMILY-ANNE CHICKSEN SHAFRON

BBA, Finance, The University of Texas, 2005

MPA, Accounting, The University of Texas, 2007

MAE, Economics, The University of Michigan, 2015

MA, Business Administration, The University of Michigan, 2016

A Dissertation Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

DOCTOR OF PHILOSOPHY

ATHENS, GEORGIA

2019

IASB—THE ACCOUNTING TOWER OF BABEL:

LANGUAGE AND THE TRANSLATION OF INTERNATIONAL ACCOUNTING STANDARDS

by

EMILY-ANNE CHICKSEN SHAFRON

Major Professor:	Theodore Christensen
Committee:	Frank Heflin Joshua Lee Ugur Lel

Electronic Version Approved:

Suzanne Barbour
Dean of the Graduate School
The University of Georgia
August 2019

DEDICATION

I dedicate my dissertation to my father, Jan Andrew Shafron, whose intellectual curiosity inspired my life-long love of learning and taught me to persevere though all of life's challenges.

ACKNOWLEDGEMENTS

I am particularly grateful for helpful suggestions and comments from Steve Baginski, Lucy Chen (discussant), Paul Demere, Eduardo da Silva Flores, Pedro Gomez, Michelle Lowry (discussant) Clare McGuinness (IASB staff), Grace Pownall, Syrena Shirley (discussant), Erin Towery, and Maria Wieczynska (discussant). I appreciate my committee members: Ted Christensen, Frank Heflin, Josh Lee, Ugur Lel, and Venky Nagar. I would also like to thank workshop and conference participants at Arizona State University, California State University Northridge, Chapman University, Emory University, George Mason University, Georgia Tech, Southern Methodist University, Texas A&M University, the University of Georgia, the University of Kansas, the University of Southern California, Virginia Tech, the 2019 AAA FARS Midyear Meeting, the 2019 AAA International Midyear Meeting, 2018 PhD Project's Accounting Doctoral Students Association Annual Conference (best paper), and the 2018 AAA International Midyear PhD Consortium. I acknowledge financial support from the University of Georgia. I also appreciate Kee-Hong Bae, Hongping Tan, and Michael Welker for suppling their GAAP distance measure.

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

CHAPTER 1

INTRODUCTION

Differences in languages impose a significant barrier to the adoption and implementation of International Financial Reporting Standards (IFRS) (Doupnik and Tsakumis 2004; Wong 2004).[1] As of 2018, over ninety-percent of the 166 jurisdictions that require or permit IFRS do not use English as a primary language, suggesting that language barriers can affect a majority of the firms that comply with IFRS (IFRS Foundation 2018; Pacter 2017). Translation is required to overcome language barriers, but the translation process can change the meaning of IFRS in circumstances where equivalent translations are not possible, altering how IFRS is applied (Archer and McLeay 1991; Baskerville and Evans 2011). Variation in translation quality can make IFRS implementation more (less) consistent with the International Accounting Standard Board's (IASB) intentions (Evans et al. 2015; Wong 2004). For example, in the mid-2000's, a Big Four firm in Latin America was tasked with translating certain IFRS into Spanish. It took three years for the firm to discover that it had incorrectly translated a double-negative, turning an IFRS requirement into a prohibition. Spanish does not have a concept similar to the notion of a double-negative, leading to a mistranslation. Mistranslations can lead to misapplications of IFRS, reducing comparability and accounting quality (Wong 2004).

To address the many challenges associated with translating accounting standards, and to enforce rigorous due process and promote translation best practices, the IASB, under the purview

[1] Over my sample period, global accounting standards include both International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS). For parsimony, I refer to both as IFRS.

of the IFRS Foundation, publishes language translations of IFRS. The primary goals of these translations are to increase financial statement comparability (hereafter "comparability") and

encourage high quality financial reporting by promoting the consistent application of IFRS by practitioners whose primary language is not English (IFRS Foundation 2018). Comparable financial statements are those where equivalent economic activities and outcomes are accounted for similarly (Barth et al. 2012; Yip and Young 2012). Increased comparability and accounting quality are economically beneficial because they enrich a firm's information environment, lower the cost of capital, and promote cross-border investment (DeFranco et al. 2011; Soderstrom and Sun 2007; Wang 2014). Despite the efforts that have gone into developing IFRS translations, as well as recent calls for research on this issue (Ball, 2016), there is little research examining how they influence global capital markets, and more-specifically, whether these translations are effective at meeting their intended objectives.

I study the effectiveness of IASB-published IFRS translations. Specifically, I examine whether translations improve comparability and accounting quality, as intended by the IASB (IASB 2018). Creating and maintaining translations are costly, both in human and financial capital.[2] Translating IFRS is especially challenging because the standards are generally principles-based, and their application requires professional judgement (Evans et al. 2010; Evans et al. 2015). When a translated standard conveys a different message than what is communicated in the English version, practitioners could interpret the standard differently from the IASB's intent (Doupnik and Richter 2003; Huerta et al. 2013; Wood 2011). Inconsistent interpretations could lead to variance in how the standards are applied (Neel 2012), ultimately affecting both comparability and accounting quality (Barth et al. 2012).

It may be easier to translate IFRS from English into some languages than others. For example, translating IFRS may be especially problematic when the difference between the translating language and English (i.e., linguistic distance) is large, making it harder to achieve

[2] For example, in 2015 the European Union spent €456 million on translating regulations, including IFRS (Munday 2016, p. 11).

equivalent translations (Chiswick and Miller 2008; Hart-Gonzalez and Lindemann 1993; Joshi and Lahiri 2015; Melitz and Toubal 2014). Thus, translating IFRS into high-linguistic-distance languages could reduce translation quality, which would likely result in lower financial statement comparability and accounting quality. Conversely, greater linguistic distance likely indicates lower comparability in the pre-translation period and an increase in the demand for translations since higher linguistic distance makes learning English more challenging for practitioners (Chiswick and Miller 2008). This increase in demand could magnify the effect of translation. Thus, it is an empirical question whether/how increasing linguistic distance influences translation effectiveness.

Using a pooled difference-in-differences design, which compares a matched sample of English- (control) and non-English-speaking (treatment) firms, before and after the first issuance of a translation by the IASB, I first estimate how comparability changes between these firms (Barth et al. 2012; DeFranco, et al. 2011). I find that IASB-produced translations are significantly associated with increases in comparability across countries. Although my evidence suggests that translations into both high- and low-linguistic-distance languages significantly improves comparability, I also find that translations into low-linguistic-distance languages are significantly better at increasing comparability than translations into high-linguistic-distance languages. Thus, the distance of a language from English influences how effective the translation will be at improving comparability.

I then estimate the associations between translations and changes in two measures of accounting quality: abnormal accruals and the timeliness of loss recognition (Basu 1997; Demerjian et al. 2012; Francis et al. 2005; Francis and Wang 2008). While translations do not affect accounting quality in aggregate, I find that translations into low-linguistic-distance-languages are associated with significant increases in one measure of accounting quality (abnormal accruals), and mixed results for the other measure (timely loss recognition). Conversely,

translations into high-linguistic-distance-languages are consistently associated with significant reductions in accounting quality. This result is consistent with Barth et al. (2012), who find significantly higher abnormal accruals (i.e., lower accounting quality) after IFRS adoption. This evidence may explain why translations of IFRS into high-linguistic-distance languages are associated with significantly smaller increases in comparability relative to translations into low-linguistic-distance languages.

My results are robust to alternative techniques for reducing the effects of outliers, the inclusion of year fixed effects, and controls for a country- and firm-specific factors including culture, English fluency, market development, GDP, governance, British colonial ties, inclusion in the European Union, firm size, and profitability. My difference-in-differences specification allows me to control for persistent observable and unobservable country, firm, and macroeconomic characteristics that affect comparability, as well as changes to IFRS over time (e.g., new and amended standards). An added strength of my setting is that the year each language translation is first issued (e.g., the treatment year) is staggered (Tables 1A and 1B) and plausibly exogenous to comparability (Bertomeu et al. 2016).[3] Having the treatment year outside of the control of the parties who would rely on the translations enhances the strength of my setting, reduces endogeneity concerns, and decreases the likelihood of alternative explanations.

In all, my results suggest that translations are associated with significant increases in comparability and accounting quality between companies in non-English-speaking countries and companies in English-speaking countries, as intended by the IASB. However, these benefits are largely attributable to translations into languages closest to English. Translations into languages furthest from English, conversely, are associated with significantly smaller increases in

[3] Even if a firm/country lobbies for a translation in their native language, and even if the same parties are actively involved on the committee to create the translations, it is ultimately up to the IASB as to when each translation passes their rigorous due process and is ready for publication.

comparability as well as significant reductions in accounting quality. My results suggest that increasing linguistic distance impairs translation quality.

My research makes three important contributions to the accounting literature. First, it contributes to the stream research that addresses comparability and accounting quality among IFRS adopters. Many studies find evidence that comparability and accounting quality increase after IFRS adoption (e.g., Barth et al. 2012; Daske et al. 2008; Liao et al. 2012; Soderstrom and Sun 2007; Yip and Young 2012). However, some studies condition this relation on (or attribute it to) a country's regulatory environment and a firm's reporting incentives (Cascino and Gassen 2015; Christensen et al. 2013; Jeanjean and Stolowy 2008). My evidence contributes to our collective understanding of the factors that help or hinder post-adoption comparability and accounting quality.

My study also contributes to the research that uses linguistic principles to research translation-specific accounting topics. Several experimental studies find that translated accounting terminology is not always interpreted consistently (Archer and McLeay 1991; Davidson and Chrisman 1994; Huerta et al. 2013). This study is one of the first to provide archival evidence on how translations influence comparability. My results broaden our understanding of language barriers inherent in global IFRS adoption and begin to answer questions regarding the role translations play in reducing this barrier. They also suggest that not all translations are of equal quality. Specifically, translating IFRS into languages that are particularly challenging may influence how effective the translations are.

Finally, my evidence is informative to standard setters and regulators who determine and enforce IFRS. Given the time and resources they dedicate to creating and updating translations, it is important to evaluate whether those translations meet the IASB's intended goals. Although I find strong evidence that translations improve comparability and accounting quality, my

subsequent analyses provide important insights about how linguistic characteristics may make translation more challenging, potentially reducing the quality and benefits of the translations. This evidence may help standard setters and regulators allocate translation resources more efficiently.

CHAPTER 2

THEORY AND HYPOTHESES

IFRS adoption, comparability, and accounting quality

One of the primary reasons for a country to permit/mandate IFRS is to increase comparability to attract foreign investors (Barth et al. 2011; Daske et al. 2008; DeFond et al. 2011; Liao et al. 2012; Wang 2014). [4] Increased comparability lowers information processing costs, decreasing a firm's cost of capital (Christensen et al. 2013). Greater comparability is also associated with a myriad of capital market benefits, including increased analyst following, improved forecast accuracy, and decreased analyst earnings forecast dispersion and bid-ask spread (DeFranco et al. 2011; Fang et al. 2015). Increased comparability facilitates cross-country information spillover effects, leading to a richer information environment (Wang 2014). A few studies find that country-level enforcement of standards and firm reporting and compliance incentives are essential components of this relation (Christensen et al. 2013; Cascino and Gassen 2015).

Countries may also permit/adopt IFRS to increase accounting quality. IFRS-adoption has been linked to timelier loss recognition and less earnings management—both signs of increased accounting quality (Ashbaugh and Pincus 2001; Ball et al. 2003; Barth et al. 2008; Christensen et al. 2015; Leuz 2003), although like comparability, legal and political factors can influence this relation (Soderstrom and Sun 2007). Higher accounting quality also reduces information

[4] Increased comparability leads to greater information spillovers. Specifically, earnings announcements from one firm are associated with a 0.32 percent incremental abnormal return for comparable firms when comparability between the firms increase (Wang 2014).

asymmetry and is associated with more-value relevant financial statements (Soderstrom and Sun 2007). Translations may increase comparability and accounting quality by helping practitioners better-understand and apply the standards (Barth et al. 2012). IFRS adoption is associated with higher quality accruals, more timely loss recognition and less earnings management—all of which are signs of higher accounting quality (Ashbaugh and Pincus 2001; Ball et al. 2003; Barth et al. 2008; Barth et al. 2012). Higher accounting quality suggests that equivalent economic activities experienced by different firms in the same industry should be accounted for similarly, leading to more comparable financial statements (Barth et al. 2012; Yip and Young 2012). However, recent evidence suggests that post-adoption increases in accounting quality are conditional on improvements to a country's regulatory environment that take place concurrently with IFRS adoption (Cascino and Gassen 2015; Christensen et al. 2013; Jeanjean and Stolowy 2008).

Accounting and linguistics

Differences in language create barriers to entry in the globalization of accounting standards (Doupnik and Tsakumis 2004; Goretzki et al. 2018). For example, Brochet et al. (2016) find that language barriers increase the likelihood that managers of firms from non-English-speaking countries make English errors and/or use complex expressions during conference calls, diminishing the market reaction to the call (i.e., intraday abnormal trading volume) from between 3.74 and 5.66 percent. Language differences also delay a country's decision to adopt IFRS and impair post-adoption accounting quality (Guan et al. 2019). This study builds on Guan et al.'s (2019) evidence by examining the effectiveness of translations, which are used to overcome language barriers associated with adopting IFRS.

Even though translation is needed to overcome linguistic barriers, a multitude of factors can make translating accounting terms problematic. Accounting terminology is especially challenging to translate when specific accounting concepts do not exist within certain languages

(Baskerville and Evans 2011; Evans et al. 2015; Wood 2011).[5] Even when seemingly-equivalent translations are available, some accounting terminology has accounting-specific meanings different from their colloquial ones (e.g., "conservative" and "material"), complicating the translation process. In an experimental setting, Huerta et al. (2013) find that these types of words are more challenging to translate (i.e., they observe greater variation in how experimental participants translate words with accounting-specific meanings into Spanish). In a 2004 survey undertaken by the International Federation of Accountants (IFAC) that summarized the main challenges to global adoption of IFRS (Wong 2004), IFAC identified four factors that made translating IFRS especially problematic: "lengthy English sentences; inconsistent use of terminology; the use of the same terminology to describe different concepts; and the use of terminology that is not capable of translation" (Wong 2004, pg. 11).

Differences in culture can also impede the translation process. Baskerville and Evans (2011) argue that the choice of language can influence the frame of reference with which the receiver processes the message, including how accounting standards are interpreted. For example, people fluent in languages with more future-oriented words generally make more future-oriented decisions (Chen 2013). Gray (1988) takes this idea one step further, suggesting that culture shapes the values that serve as a foundation for a country's accounting system, leading to a prioritization of certain financial reporting norms over others (e.g., professionalism/statutory control, uniformity /flexibility, conservatism/optimism, and secrecy/transparency).

Experimental accounting research has identified many examples of how culture can influence how accounting participants interpret accounting terms. Two studies find that

[5] For example, "material" is translated to mean "essential", "significant", and "tangible" in Finnish, French, and Swedish, respectively. Likewise, "depreciation", "amortization", and "impairment" is translated to mean "any write-down", "one-off write-down" and "possible to write down" in German, French, and Swedish, respectively (Baskerville and Evans 2011; Dahlgren and Nilsson 2012; Evans et al. 2015).

accountants who are fluent in both English and German interpret and apply translated accounting guidance differently, depending on which language the accounting guidance is presented in (Doupnik and Richter 2003; Holthoff et al. 2015). Davison and Chrisman (1994) find a similar result among English and French speaking Canadian accounting students when they interpret French uncertainty words. Finally, two similar studies find that Taiwanese (Korean) accountants interpret uncertainty terms significantly different based on whether they are conveyed in English or Chinese (Korean) (Lin et al. (2018) and Seo (2016), respectively). These experiments suggest that bilingual accountants may interpret translated accounting words differently than when they are conveyed in English. Mistranslating uncertainty words, in particular, could directly impair greater comparability and accounting quality because these words are typically used to identify the threshold for recognition (e.g., on- or off-balance sheet).

Finally, institutional factors could guide the translation and interpretation of translated IFRS. In Brazil, for example, IFRS is used as the basis for financial and tax reporting. Here, the blend of language and culture influences practitioners and auditors to interpret translated IFRS in ways that are advantageous for tax purposes, e.g., their threshold for recognizing impairments is lower than in other jurisdictions. For example, fair value is perceived to be less certain making it easier to recognize impairments (da Silva Flores, 2018).

Translations of IFRS – due process

IASB-issued translations of IFRS have been in circulation for at least two decades (see Table 1A). Initially they were promulgated by the various bodies that made up the International Accounting Standards Committee (IASC)—the predecessor to the IASB (Baskerville and Evans 2011), however without consistent oversight, these translations were of varying quality. In 1997, the IASC decided to implement a rigorous due process to ensure the quality of translations and safeguard against more than one translation per language (Baskerville and Evans 2011; Evans et

al. 2010; IASB 2018). By overseeing the translation process, the IASB hopes to provide sufficient structure to overcome many of the challenges associated with translated accounting standards. Moreover, the IASB retains control over the translation process and protects its copyrights (Evans et al. 2015; Pacter 2017). As of 2017, the IASB has translations in forty-six languages (IFRS Foundation 2018).

The IASB's due diligence process has two steps. First, the IASB approves a new language petition (commonly made by a country or group of countries), as only one translation is allowed per language (IFRS Foundation 2013). The IASB staff then works with the country/countries petitioning the translations to identify translators and translation committee members (IFRS Foundation 2013). Translators could be translation experts, accounting experts, or a combination of both (McGuinness 2018).[6] Ideally, a translator should be fluent in both languages and have a deep understanding of accounting practices, both locally and globally (Baskerville and Evans 2011; Wong 2004). The translation committee approves proposed translations. Translators and translation committee members must be: (1) native speakers in the target language; (2) able to communicate in English (preferably fluent); (3) technically competent in accounting; and (4) committed to the IASB's mission (IFRS Foundation 2013). The structure of the committee varies by language: some languages have democratic committees, like the coalition of Spanish translators in South America, while other languages have one country taking the lead, like Saudi Arabia translating and updating Arabic (McGuinness 2018). Once assigned, the IASB limits the translators to "render[ing] the English text into another language," and prohibits translators from "add[ing] to, reduc[ing] or alter[ing] the substance and content of IFRS" (IFRS Foundation 2013).

[6] Trained translators who also know accounting are rare (McGuinness 2018). Some countries, like Taiwan and Turkey, have multiple translation sources (e.g., regulatory and academic), whereas in other countries, such as Kenya, auditors fill this role (Shafron 2017).

The IASB's translation team supplies the translators with a list of around 1,800 key terms and conveying best practices, including the use of translation software (McGuinness 2018). This list contains the key principles and elements contained in IFRS (e.g., 'true and fair view,' 'balance sheet,' and 'more likely than not'). Focusing on key terms before translating the entire standards is one of the main ways the IASB tries to maintain translation quality. For one, it requires consensus on how each of the key principles and elements in IFRS are translated. Furthermore, it ensures there is consistency in the translation of key terminology among the various standards.[7]

In the second step, the translation committee conducts a formal review of the translated key terms (IFRS Foundation 2013). Once approved, the translators use these key terms to translate the full standards. The committee then approves the full translations before they are published by the IASB (IFRS Foundation 2013). The cost of each translation varies by language and is especially expensive for less-developed countries where few professionals are qualified to translate accounting standards (McGuinness 2018).[8] The majority of these costs are typically born by the countries overseeing the translation, with minimal costs being born by the IASB (McGuinness 2018).[9]

In almost all cases, translations are issued in the same year as the version of the standards being translated (i.e., 2001 IFRS versus 2002 IFRS), but the timeliness of the issuance (how close/far from calendar year-end) varies (McGuinness 2018). This lengthy process creates uncertainty about when each translation will be finalized. This uncertainty is beneficial from an empirical standpoint, since it helps to mitigate endogeneity concerns surrounding when each

[7] A South American delegation took three days to translate 'average' into Spanish, with the alternatives meaning 'mean' or 'median' depending on the dialect (McGuiness 2018). By enforcing the IASB's key term approach, translators were forced to use one translation consistently. Without this requirement, inconsistencies may exist among various Spanish translations, adding confusion.
[8] For example, the IASB could only identify one person in Malta who is qualified to translate IFRS (McGuinness 2018).
[9] The World Bank sometimes funds translations to encourage developing nations to adopt IFRS (McGuinness 2018; Reitan 2017).

language translation is first issued.[10] Post-issuance, the IASB's translation staff offers basic support, helping to direct translation-related inquiries to members of the appropriate translation committee. In some cases, these inquiries lead to amendments in subsequent translations.[11]

Hypotheses

Comparability and accounting quality

Translating IFRS is challenging because it is principle-based, and many terms used within the standards have accounting-specific meanings that differ from their colloquial connotations, e.g., "conservative" and "material" (Evans 2015; Huerta et al. 2013). When translating a standard alters the message, as evidenced in experimental studies, practitioners could interpret the standard differently from what the IASB intended (e.g., Doupnik and Richter 2003; Holthoff et al. 2015; Wood 2011), increasing variation in how IFRS is applied. Inconsistent application negatively affects comparability and accounting quality (Barth et al. 2012). With that said, post-translation differences in application may be minimal, and/or may not lead to material differences in accounting choices (Ball 2016). Moreover, if practitioners go from little to no understanding in the pre-translation period, to a partial understanding once the IASB issues a translation, it is plausible that accounting quality will increase.

The IASB publishes translations to promote consistent application by practitioners whose primary language is not English, which would increase comparability and accounting quality (IFRS Foundation 2018). To mitigate the challenges associated with translating accounting standards and to keep translation quality high, the IASB maintains a rigorous due process before it publishes a new translation (IFRS Foundation 2018). At a minimum, translations can inform and

[10] A new version of IFRS is finalized each January. The translation teams receive a soft copy of the new version by March. Translators typically submit updated translations before December 31, but the timing widely varies by language (McGuinness 2018).

[11] The volume of inquiries is language-specific. German and French practitioners sent several inquiries in the early years of the translations, where users from other languages, such as Arabic, send little to no inquiries to the IASB staff. (McGuinness 2018)

clarify the standards to practitioners who are not fluent in English. Even when imperfect, trained accounting professionals can apply their knowledge to make inferences that comply with IFRS. Moreover, high-quality auditors can assess whether firms are applying the standards satisfactorily and clarify misunderstandings that arise post-translation, (Christensen et al. 2013; Leuz et al. 2003; Reynolds and Francis 2000; Zeff 2007). Translations make IFRS accessible to a broader audience, and their universal use suggests that their benefits justify the time and costs associated with creating and maintaining translations (Munday 2016).

Without translations from the IASB, non-English speaking companies using IFRS must rely on alternative sources of translations (e.g., auditors, proprietary in-house, and academics). Translations provided by the IASB are likely more consistent across languages than self-translations or even translations provided by external auditors. The IASB's lengthy due process adds a level of assurance on the quality of the translations. A standardized translation process can communicate the IASB's intended meaning to non-English speakers, increasing consistency in application, and mitigating many of the challenges associated with translating accounting standards. For example, ensuring consistent translation among the 1,800 plus key terms within IFRS, directs attention to the areas of the translation that are most-important, and focuses the translators and the review committee on the underlying concepts that need to be communicated clearly.

My objective is to test whether the IASB's published translations are effective at increasing comparability and accounting quality, as intended by the IASB (IFRS Foundation 2018). Despite the challenges generally associated with translating accounting standards, the IASB has implemented a rigorous structure to ensure the translations published by the IASB are of the highest quality possible. As a result, I assume that the IASB's rigorous translation process overcomes many of the challenges generally associated with translating accounting standards.

Therefore, my first two hypotheses (stated in the alternative forms) posit that IFRS translations will influence both comparability and accounting quality in positive ways:

H1: The issuance of translations will *increase* comparability.

H2: The issuance of IFRS translations will *increase* accounting quality.

Linguistic distance

Not all languages have an equal relation to English. Linguists have developed alternative ways to quantify the etymological distance between certain languages and English, which they term the "linguistic distance" (Chiswick and Miller 2008; Hart-Gonzalez and Lindemann 1993). Measures of linguistic distance factor in differences in vocabulary, grammar, syntax (i.e., sentence structure), and written verses spoken forms. For example, Spanish uses the Latin alphabet, consistent with English, while Russian uses a Cyrillic alphabet (Hart-Gonzalez and Lindemann 1993). The more dissimilar a language is to English, presumably the harder it will be to translate IFRS into that language without significantly changing the meaning, and vice versa (Chiswick and Miller 2008; Hart-Gonzalez and Lindemann 1993; Joshi and Lahiri 2015; Melitz and Toubal 2014).

The IASB is very precise in the specific words it chooses to articulate its principles-based standards (Evans et al. 2010; Evans et al. 2015), which can complicate the translation process (Evans et al. 2015). Since the IASB requires word-for-word adoption to achieve full compliance (Pacter 2005), when equivalent translation is not possible, translators must make accommodations to render the closest translation possible (Baskerville and Evans 2011; De Saussure 1915; Evans 2004; IFRS Foundation 2013; Wood 2011). These compromises could bring about diverse interpretations of the standards (Evans et al. 2010; Evans et al. 2015), reducing comparability. The problem is exacerbated when practitioners view any translation-specific alternative interpretations to be authoritative (i.e., taking precedence over the English version of the standards) since they are

published by the IASB.[12] Thus, translations of IFRS into high-linguistic-distance languages may negatively affect comparability and accounting quality.

Alternatively, higher linguistic distance could signal a greater demand for translations, as well as lower comparability and accounting quality in the pre-translation period. The further an individual's primary language is from English, the harder it is for that person to learn and interpret English (Chiswick and Miller 2008). In high-linguistic-distance countries, IFRS will be difficult to understand without translations because the language barrier is heightened (Chiswick and Miller 2008). If the standards are not fully understood, such as when translations do not exist, hindering comparability and accounting quality. With increased demand, and lower comparability and accounting quality pre-translation, translating IFRS into a high-linguistic-distance language may magnify the effects of translations. Specifically, these translations may lead to a greater increase in comparability and accounting quality, because there is a greater void to fill.

With two plausible alternatives, I cannot predict how an increase in the linguistic distance between a language and English will affect the relation between translations and comparability. Therefore, I make a non-directional prediction for my third hypothesis (in the alternative form):

H3a: Increasing the distance between a country's national language and English will *affect* the relation between translations and comparability.

H3b: Increasing the distance between a country's national language and English will *affect* the relation between translations and accounting quality.

[12] While the IASB's translations are non-authoritative in most countries (Pacter 2017), in some cases, countries write the translations directly into law (McGuinness 2018). For example, the Brazilian Portuguese translation of IFRS is law in Brazil. In the EU, rules written in any EU language are authoritative (da Silva Flores, 2018; Evans et al. 2015)

CHAPTER 3

DATA AND RESEARCH METHODOLOGY

Data

My data spans 1987 to 2014 and includes 1,601 matched non-English (treatment) and English (control) firms, resulting in 16,598 and 12,535 firm-year observations, respectively. I obtain the specific dates the IASB issues each translation, along with supporting detail, through the IASB website and personal contacts with the IASB staff (McGuinness 2018). I match treatment and control firms (with replacement) by year and industry and closest in size—based on total assets (Barth et al. 2012). Control firms are headquartered within English-speaking countries that have adopted IFRS over the same period as their matched treatment firm. I require that both English and non-English firms have at least one year (up to seven years) before and after the first issuance of a language's translation by the IASB (Barth et al. 2012; Rosenbaum and Rubin 1985). Using a matched sample controls for macro-economic and time-invariant factors, as well as changes to IFRS that affect comparability and accounting quality.

I use financial statement and stock price data from Datastream and include all firms within Datastream that follow IFRS and meet my selection criteria. I limit my sample to December year-end firms, so I can control for macro-level economic factors, including GDP and the level of market development. The World Bank estimates GDP and market development, with missing market development data provided by FRED Economic Data (Federal Reserve Bank of St. Louis). Specifically, it estimates market development as the market capitalization of all domestically listed companies as a percentage of GDP. I estimate the quality of a country's governance mechanisms, which includes regulators, using the World Bank's Worldwide Governance Indicator—the

Consolidated Regulatory Governance Score (Kaufmann et al. 2009; The World Bank 2016). I proxy for the estimated country-specific English fluency levels using the test results from the Test for English as a Foreign Language (Fluency) (Brochet et al. 2016).[13] I use Country-specific language data from the Central Intelligence Agency's World Factbook (2017).

Estimates of linguistic distance factor in differences in vocabulary, grammar, syntax (i.e., sentence structure), and written verses spoken forms between a distinct language and English (Gonzalez and Lindemann 1993). I measure linguistic distance using Joshi and Lahiri's (2015) language friction index (LingDist). They calculate their index by averaging the comparison of 192 distinct linguistic features between English and a variety of global languages, where a one is assigned for each shared linguistic feature, zero otherwise.[14] Increases in Joshi and Lahiri's (2015) measure are associated with increases in the negative influence placed on trade and integration into a global economy (Isphording and Otten 2013) and can predict which languages are hardest to translate (Melitz and Toubal 2014).

I use Kogut and Singh (1988)'s methodology to calculate a culture difference index based on Hofstede's (2003) six culture dimensions (individualism, indulgence, long-term orientation, masculinity, power distance, and uncertainty avoidance). My measure of distance between a country's local GAAP and IFRS comes from the (gaapdiff2) measure calculated by Bae et al. (2008). To address outliers, I employ robust regression (Leone 2017).

[13] International students applying to English-medium universities take the TOEFL exam to quantify their English fluency level. The TOEFL exam is a good proxy for the English fluency level of accountants because accountants are typically highly-educated, and the participants who take the TOEFL exam are pursuing secondary education.

[14] Languages more distant from English (high score) include Japanese and Korean, while languages less distant from English (low score) include Afrikaans, Norwegian, and Swedish. English-speaking countries have a score of zero.

Descriptive statistics

Table 1A details the first year the IASB published a translation in each distinct language (1st Trans.), what IFRS product was translated (e.g., Bound Volume, Blue Book, Red Book)[15], and the years in which the translation was subsequently updated (to include any new or revised accounting standards that were issued in the interim). The first documented translation published by the IASB is for Dutch and Norwegian in 1976, followed by Canadian French in 1990 and Turkish in 1992. As of 2017, the three most recent languages to be translated are Hebrew, Korean, and Moldovan, all first issued in 2007.

In Table 1B, I present descriptive statistics for twenty treatment (non-English speaking) countries: 1,601 distinct non-English firms. The treatment year is the year in which the IASB publishes the first issuance of a language's translation. Examining linguistic distance, Greek, Slovenian, and Japanese are estimated to be furthest from English, with the highest linguistic distance scores: 1.000, 0.667, and 590 respectively; while Danish and Italian are closest to English, with the lowest linguistic distance scores: 0.211 and 0.259, respectively. For English fluency, Austria, Denmark, and Switzerland are the most fluent, with average TOFEL scores: 99, 98, and 98, respectively; while Japan and China have the lowest average scores: 0.71, and 0.79, respectively. The Russian, Portuguese, and Korean cultures are estimated furthest from British culture: 4.600, 4.051, and 4.029, respectively; while Swiss, German, and Austrian cultures are estimated closest: 0.450, 0.990, and 1.051 respectively.[16] A total of fifteen distinct languages are used by the treatment countries, two countries are former British colonies (Hong Kong and Malaysia), and nine countries are part of the European Union. Finally, Bae et al. (2008) estimates

[15] The Blue Book includes all standards that are effective as of January 1st of the year the book is issued. The Red Book includes all published standards, regardless of application date. The Bound Volume is the same as the Red Book.
[16] Due to data limitations, Israel's cultural index score is based on only five cultural dimensions. In robustness tests I exclude Israel.

Israeli and Spanish GAAP to be closest to IFRS prior to IFRS adoption, while the local GAAPs of Malaysia and Portugal are furthest from IFRS.

In Table 1C, I present descriptive statistics for seven control (English-speaking) countries: representing 1,601 English firms (599 unique firms since I match with replacement). The treatment year is the year in which the IASB publishes the first issuance of a language's translation. Canadian and American cultures are closest to the British culture, 0.237 and 0.238, respectively; while the Singaporean culture is the furthest, 2.629. All but one control country (Ireland) are former British colonies, and two are part of the European Union (Ireland and the United Kingdom). Interestingly, all English-speaking countries have local GAAPs that are relatively close to IFRS, except for Singapore, for which the GAAPdiff score is 38.

Table 2A details descriptive statistics for the treatment and control firms within my sample, consisting of 16,598 and 12,535 firm years, respectively. I require that all firms in my sample have at least one year pre- and one year post-treatment, with a maximum of seven years in the pre- and post-periods. I present Book Value of Equity (BVE), net income before extraordinary items (NI), and stock price six months after fiscal year end (Price) on a per share basis. My inputs to comparability (BVE, NI, and Price), as well as my two measures of accounting quality (AbnAcrl and Timely), are similar in magnitude to those of Barth et al. (2012).

On average, non-English treatment firms are significantly less comparable (Comp; $p < 0.01$) and significantly smaller than control firms (Size; $p < 0.01$). Non-English treatment firms have significantly higher prices per share than English firms (Price; $p < 0.01$), as well as higher book values of equity (BVE; $p < 0.01$) and net income (NI; $p < 0.01$). Compared to English-speaking countries, non-English countries also have significantly lower GDP's ($p < 0.01$) and significantly less-developed markets (MktDev; $p < 0.01$), and significantly weaker governance and regulatory environments (Gov; $p < 0.01$). As expected, non-English firms are associated with

cultures that are significantly further from the British culture (Culture; $p < 0.01$), which may be due to colonial ties that spread both the English language and the British culture. The firm-specific controls are of similar magnitude to those of Francis et al. (2005).

Table 2B details descriptive statistics on the goodness of my matches in the year of the match. The descriptive states suggest that the matches are better than the general population of treatment and control firms (Table 2A). Three firm characteristics are statistically-similar between treatment and control firms: operating cycle (Cycle), asset growth (DPPE), and leverage (LEV). The difference between a fourth firm characteristic, cash flow from operations (CFO) is only marginally significant between treatment and control firms.

Table 2C details Spearman and Pearson correlations in the bottom left (top right) of the table, for the country-specific control variables used in my tests. As predicted, comparability (Comp), abnormal accruals (AbnAccrl), and loss recognition timeliness (Timely) are all negatively correlated with linguistic distance (LingDist). My two measures of accounting quality are also negatively correlated with the difference between a country's local GAAP and IFRS (GAAPdiff), as well as the distance between a country's culture and the British culture (Culture). This evidence suggests that having a language further from English, a culture further from the British culture, or local GAAP that is further from IFRS inhibit the accounting quality and comparability of a firm's financial statements. Interestingly, strong governance (Gov) and a more-developed market (MktDev) are positively correlated with comparability and lower abnormal accruals, but negatively correlated with more timely loss recognition.

Table 2D details correlations for the firm-specific control variables used in my analyses. Only one correlation between each control is notable: operating cash flows and abnormal accruals are highly correlated 0.846 using Spearman correlations, but only marginally correlated using Pearson estimates 0.485. A test estimating variance inflation factors for the variables used in my

analyses (untabulated) does not suggest that there are any multicollinearity issues. The highest VIF is 2.87, which is well below the threshold for high correlation.

Research design

Financial statement comparability

I take four steps to estimate comparability. Adapting DeFranco et al. (2011) and Yip and Young (1994), in an international setting following Barth et al. (2012), this measure estimates how well one firm's accounting process estimates another firm's underlying economic events. First, I estimate pooled regressions for the English and non-English firms (equation 1) in the pre- and post-treatment periods, respectively, resulting in unique coefficients for each sub-group. Treatment firms are non-English-speaking firms (NEng), and control firms are English-speaking firms (Eng).

$$Price_{i,t}^{Eng}=\beta_0^{Eng} + \beta_1^{Eng} BVE_{i,t}^{Eng} + \beta_2^{Eng} NI_{i,t}^{Eng} + \delta CTRY_i^{Eng} + \gamma IND_i^{Eng} + \varepsilon_{i,t} \quad (1a)$$

$$Price_{i,t}^{NEng}=\beta_0^{NEng} + \beta_1^{NEng} BVE_{i,t}^{NEng} + \beta_2^{NEng} NI_{i,t}^{NEng} + \delta CTRY_i^{NEng} + \gamma IND_i^{NEng} + \varepsilon_{i,t} \quad (1b)$$

Within this model, *i* represents the firm, *t* represents fiscal year. I use price six-months after fiscal year end to allow for differences in market efficiency. Country and industry fixed effects are included to control for macro-level events and industry-specific factors (Christensen et al. 2013).

In the second step, I estimate predicted prices for each firm-year observation based on the coefficients obtained in equations 1a and 1b, separately for the pre and post periods, respectively. I calculate predicted prices separately using English and non-English firm coefficients, but do not include estimated fixed effects. I calculate predicted prices for non-English firms using Non-English firm data and either Non-English firm (equation 2a) or English firm (equation 2b) beta coefficients, and predicted prices for English firms using English firm data and either English firm (equation 2a) or Non-English firm (equation 2b) beta coefficients.

$$\widehat{Price}_{i,t}^{NEng,Eng} = \hat{\beta}_0^{Eng} + \hat{\beta}_1^{Eng} BVE_{i,t}^{NEng} + \hat{\beta}_2^{Eng} NI_{i,t}^{NEng} \quad (2a)$$

$$\widehat{Price}_{i,t}^{NEng,NEng} = \hat{\beta}_0^{NEng} + \hat{\beta}_1^{NEng} BVE_{i,t}^{NEng} + \hat{\beta}_2^{NEng} NI_{i,t}^{NEng} \quad (2b)$$

$$\widehat{Price}_{i,t}^{Eng,Eng} = \hat{\beta}_0^{Eng} + \hat{\beta}_1^{Eng} BVE_{i,t}^{Eng} + \hat{\beta}_2^{Eng} NI_{i,t}^{Eng} \quad (2c)$$

$$\widehat{Price}_{i,t}^{Eng,NEng} = \hat{\beta}_0^{NEng} + \hat{\beta}_1^{NEng} BVE_{i,t}^{Eng} + \hat{\beta}_2^{NEng} NI_{i,t}^{Eng} \quad (2d)$$

In the third step, I calculate the absolute value of the differences between estimated prices using estimated English firm and non-English firm betas (equations 2a/ 2b and 2c/2d for non-English firms and English firms, respectively), in the pre and post periods, respectively.

$$PriceDiff_{i,t}^{NEng} = \left|\widehat{Price}_{i,t}^{NEng,Eng} - \widehat{Price}_{i,t}^{NEng,NEng}\right| \quad (3a)$$

$$PriceDiff_{i,t}^{Eng} = \left|\widehat{Price}_{i,t}^{Eng,Eng} - \widehat{Price}_{i,t}^{Eng,NEng}\right| \quad (3b)$$

In the fourth step, I estimate my measure of comparability (equation 4) for each matched-pair by taking the average of the estimated price differences for non-English (equation 3a) and English (equation 3b) speaking firms. This process creates a sample of comparability estimates separately for the pre and post periods. A larger comparability estimate in each period represents lower comparability, and vice versa, because it represents a greater difference in predicted prices. The direction of the change in comparability estimates indicates how comparability changes.

$$Comp_{i,t} = \sum_{i,t}^{n,t} (PriceDiff_{i,t}^{NEng} + PriceDiff_{i,t}^{Eng}) \text{ / n} \quad (4)$$

Accounting quality

To understand the mechanism(s) by which translation may influence comparability, I estimate the relation between translations and accounting quality. The dependent variable (AQ) is firm-year specific accounting quality estimated two ways: abnormal accruals (AbnAcrl) and timeliness of loss recognition (Timely) (Basu 1997; Dechow et al. 1995; Francis et al. 2005). An increase in either of these estimates represents an increase in accounting quality.

Tests of hypotheses

In my primary analysis, I limit my sample to within-non-English firms (i.e., fully-interacted with the treatment). Since I match control firms with replacement, by focusing on my treatment firms in isolation, I avoid artificially inflating my R^2 produced by including the same control firm for more than one observation.

$$\left(Comp_{i,t}\right)\text{or } (AQ_{i,t}) = \beta_0 + \beta_1 Post_{i,t} + \beta_2 LingDist_{i,t} + \beta_3 Post_{i,t} \times LingDist_{i,t} + \sum_1^k \beta_k Controls + \gamma Ind\_FE_{i,t} + \varepsilon_{i,t} \quad (6)$$

Within this difference-in-differences model, i represents each firm and t represents the fiscal year. (Post) indicates when the firm/year observation is post-translation. For my multivariate tests, my dependent variable is either comparability (Comp) or accounting quality (AQ). My estimates of comparability (Comp) and one of my measures for accounting quality abnormal accruals (AbnAcrl), are multiplied by negative one, so a positive coefficient within any of my multivariate analyses signals an increase in comparability/accounting quality, and vice versa.

In my baseline specification, which I use to test H1 (no interaction with linguistic distance), β_1, estimates the treatment effect of translations. To test whether linguistic distance influences the relation between either translations and comparability (H3a) or translations and accounting quality (H3b), I include an interaction with above-median linguistic distance (LingDist). Within this specification, β_1 estimates the overall effect translations have on comparability, β_2 estimates the pre-translation comparability of firms using high-linguistic-distance languages, and β_3 estimates how increasing the linguistic distance between English and the translating language influences the relation between comparability and translations. I perform an additional F-test to determine whether the interaction is significant in the aggregate.

Specific to my tests of comparability, because my comparability estimates are a function of both the non-English and English firms (equation 4), the treatment effect is confounded within

the dependent variable for both the treatment and control firms. This prohibits me from estimating the effect of translations on comparability on my full sample of treatment and control firms.

However, since my accounting quality estimates for control firms are not a function of the matched treatment firms, I also estimate a pooled difference-in-differences multivariate model using all treatment and control firms.

$$(AQ_{i,t}) = \beta_0 + \beta_1 Treat_{i,t} + \beta_2 Post_{i,t} + \beta_3 Post_{i,t} \times Treat_{i,t} + \beta_4 LingDist_{i,t} + \beta_5 Treat_{i,t} \times Post_{i,t} \times LingDist_{i,t} + \sum_1^k \beta_k Controls + \gamma Ind\_FE_{i,t} + \varepsilon_{i,t} \quad (6)$$

I control for country- and firm-specific features that may influence the relation between translations and comparability. Behavioral accounting research suggests that culture plays a role in how practitioners interpret translated accounting standards (Baskerville and Evans 2011; Davison and Chrisman 1994; Doupnik and Richter 2003; Evans et al. 2010; Evans et al. 2015; Seo 2016). Since culture and language are intertwined (Kay and Kempton 1984; Penn 1972), I control for cultural differences (Culture) to disentangle any influence culture has on comparability. I include a control for inclusion in the EU (EU), because prior studies find that the benefits of adoption, including increases in accounting quality and comparability are primarily found in the EU (Christensen et al. 2013). Moreover, I control for the English fluency rates, measured as the percentage of non-English speakers per country (Fluency), and the difference between each country's local GAAP and IFRS (GAAPdiff) estimated by Bae et al. (2008) as their measure gaapdiff1. Countries with more English speakers or who's local GAAP is more like IFRS may not have to make as many changes to achieve IFRS adoption, reducing the need for translations. I also control for yearly gross domestic product (GDP) and the strength of each country's regulatory and governance mechanisms (Gov). Since comparability is a function of how accounting information maps into price, I control for how developed each country's market is (MktDev) which influences price efficiency (Demirgüç-Kunt and Levine 1996; Zeff 2007). My last country-specific control

identifies former colonies of the United Kingdom (UKcol), because they had direct access to the English language during their colonial rule. Finally, firm-specific controls cover characteristics that affect comparability and accounting quality, including cash flows (CFO), cash flow volatility (CFOVol), operating cycle (Cycle), asset growth (DPPE), sales, leverage (LEV), profitability (ROA), sales volatility (SALEVol), and firm size (Size). I include industry fixed effects (Demerjian et al. 2012; Francis and Wang 2008).[17]

[17] I do not include country or firm fixed effects because language does not vary within these levels. I do not include year fixed effects because there are few observations in the early periods of my sample, and my matched design controls for time-invariant factors. With that said, I include year fixed effects as a robustness test (Tables 6a-6c) and my inferences remain unchanged.

CHAPTER 4

RESULTS

Comparability

I estimate comparability by assessing how well English and non-English firms estimate price, before and after translations are issued (equations 1 – 4), separately for the pre- and post-periods. In my univariate comparisons, a larger comparability estimate in each period represents lower comparability, and vice versa. Therefore, a negative difference between comparability estimates from the pre to post period (i.e., a larger pre-period comparability estimated coefficient than the post period comparability estimated coefficient) suggests higher comparability post-translation. In my multivariate comparisons, I multiply my comparability estimate by negative one, so positive coefficients represent increases in comparability, and vice versa. Since my comparability estimates are a function of both the treatment (non-English) and control (English) firms, the treatment effect is confounded within the dependent variable for both the treatment and control firms. Thus, I only estimate the treatment effect on my subsample of treatment (non-English) firms.

Comparability

In Table 3, I find evidence of an overall positive association between comparability and the issuance of translations (Post) [2.445 ($p < 0.01$)], consistent with H1. To understand this relation in greater detail, I next examine whether the distance between a country's language and English modifies the relation between translations and comparability. I find that comparability increases for both high- and low-linguistic-distance firms, but that the increase to comparability is

significantly smaller for high-linguistic-distance firms, as compared to low-linguistic-distance firms (LingDist × Post) [-0.979 ($p < 0.01$)]. Comparability significantly increases in both high- and low-linguistic-distance translations (Post + LingDist × Post) [1.859 ($p < 0.01$)] and (Post) [2.838 ($p < 0.01$)], respectively, consistent with H3a. This evidence suggests that the extra challenge of translating IFRS into high-linguistic-distance languages reduces the quality of the translations, leading to significantly lower increases in comparability.

Table 3 also provides information on other factors that could influence comparability. The relation between being a member of the European Union (EU) and comparability is significantly positive, suggesting that non-English-speaking EU firms are more comparable to English-speaking firms, than non-English speaking firms that are outside of the EU. As predicted, comparability is positively associated with firms residing in countries that are former colonies of the United Kingdom (UK_col), as well as firms residing in counties whose culture is closer to British culture (Culture). Conversely, firms residing in non-English speaking countries that have dialects have significantly lower comparability than firms from non-English speaking countries where only that (Dialect). Similarly, firms with more volatile cash flows and sales are significantly less comparable (CFOVol) and (SaleVol), respectively. Finally, as expected, firms residing in countries whose local GAAP's are further from IFRS are associated with significantly lower comparability (GAAPdiff).

Accounting quality

I next explore how effective translations are at improving two measures of accounting quality (Barth et al. 2012): lower abnormal accruals (Table 4) and more timely loss recognition (Tables 5) (Basu 1997; Dechow et al. 1995; Francis et al. 2005). I predict that translations will increase accounting quality (H2).

Abnormal Accruals

I first focus on changes to abnormal accruals in Table 4 (i.e., the discretionary component of accruals) estimated using the methodology in Francis et al. (2005). Using my full sample of firms, I do not find evidence of a significant relation between translations and abnormal accruals. With that said, in my full sample, I find significant evidence that translations (Post × Treat) [0.021 ($p < 0.01$)] increase accounting quality (i.e., lower abnormal accruals), limiting an overall decrease in accounting quality (i.e., higher abnormal accruals) attributable to the passage of time (Post) [-0.024 ($p < 0.01$)] (Cohen et al. 2008). Taken together, these results are consistent with my prediction (H2) that translations improve accounting quality.

Upon splitting my sample into high/low median linguistic distance, the relation between translations and abnormal accruals becomes clearer. Contrary to my prediction (H2), I find consistent evidence of a significantly negative relation between translations into high-linguistic distance languages and abnormal accruals, (Post + Post × Treat + LingDist × Post × Treat) [-0.055 ($p < 0.01$)] and (Post + LingDist × Post) [-0.053 ($p < 0.01$)], in both my full sample and treatment-only subsample, respectively. Further, translations into high-linguistic distance languages are associated with significantly lower accounting quality (i.e., higher abnormal accruals) than translations into low-linguistic distance languages (LingDist × Post × Treat) [-0.072 ($p < 0.01$)] and (LingDist × Post) [-0.068 ($p < 0.01$)], respectively. Interestingly, consistent with my hypothesis (H2), I find that translations into low-linguistic-distance languages are significantly positively associated with accounting quality (i.e., higher abnormal accruals) (Post × Treat) [0.042 ($p < 0.01$)] and (Post) [0.015 ($p < 0.01$)], respectively. Taken together, in line with H3b, this evidence suggests that, translations into low-linguistic distance languages are significantly improve accounting quality (i.e., lower abnormal accruals), whereas translations into high-linguistic-distance languages have the opposite effect.

The effect of the control variables on accounting quality are as expected (untabulated for timely loss recognition). Firms in the EU (EU), who are in more-developed markets (MktDev), in countries with higher GDP's (GDP), and whose culture is closer to the British culture (Culture) are all associated with significantly higher accounting quality. Conversely, firm with more-volatile operating cash flows (CFOvol) and firms that are more-highly leveraged (LEV) are associated with significantly lower accounting quality.

Timely loss recognition

I then focus on changes to timely loss recognition in Table 5 estimated using the methodology in Basu (1997). Like abnormal accruals, I do not find an effect between translations and timely loss recognition. These results are inconsistent with my prediction (H2) that translations will improve accounting quality. Interestingly, also similar to my test of abnormal accruals, I find evidence that translations (Post × Treat) [0.937 ($p < 0.01$)] counteract a significant decrease in timeliness attributable to the passage of time (Post) [-0.983 ($p < 0.01$)] (André et al. 2015).

Also like my test of abnormal accruals, when I split my sample into high/low median linguistic distance, I find evidence of a significantly negative relation between translations into high-linguistic distance languages and more-timely loss recognition, (Post + Post × Treat + LingDist × Post × Treat) [-0.908 ($p < 0.01$)] and (Post + LingDist × Post) [-0.837 ($p < 0.01$)], in my full sample and treatment-only subsample respectively. Moreover, unlike my prediction (H2), translations into high-linguistic distance languages are associated with significantly less-timely loss recognition than translations into low-linguistic distance languages (LingDist × Post × Treat) [-1.346 ($p < 0.01$)] and (LingDist × Post) [-1.198 ($p < 0.01$)], respectively. Conversely, I find evidence that translations into low-linguistic-distance languages are positively associated with accounting quality (i.e., less-timely loss recognition) (Post × Treat) [1.419 ($p < 0.01$)] and (Post) [0.361 ($p < 0.01$)], respectively. In all, this evidence suggests that, translations into low-linguistic

distance languages are positively associated with more-timely loss recognition, while translations into high-linguistic-distance languages have the opposite effect, consistent with my prediction (H3b).

Overall, I find evidence that suggests that translations are effective at improving comparability ($p < 0.01$) as predicted (H1), but contrary to my predictions (H2) translations are not as effective at improving two measures of accounting quality, abnormal accruals and loss timeliness. When I spit my sample into high- and low-linguistic-distance-language translations, I find evidence that translations into high-linguistic-distance languages yield a significantly smaller increase in comparability than translations into low-linguistic-distance languages ($p < 0.01$), consistent with H3a. Similarly, consistent with H3b, there is consistent evidence that translations into high-linguistic-distance languages are associated with significantly lower accounting quality ($p < 0.01$), while translations into low-linguistic-distance languages are associated with significantly higher accounting quality ($p < 0.01$). In all specifications, translations into high-linguistic-distance languages are associated with significantly inferior comparability and accounting quality outcomes than translations into low-linguistic-distance languages, suggesting they may be lower quality.

Lower translation quality may allow greater flexibility in how IFRS is applied, leading to smaller increases in comparability and reductions in accounting quality. Nevertheless, high-linguistic-distance translations may still be net beneficial, as they are still associated with a significant increase comparability, albeit to a lower extent. Taken together, the overall increase in comparability associated with translations may be partially explained by concurrent increases in accounting quality for translations into low-linguistic-distance languages (Barth et al. 2012). Similarly, the significantly smaller increases in comparability associated with translations into high-linguistic-distance languages may be explained by concurrent significantly negative

association with both measures of accounting quality (higher abnormal accruals and less timely loss recognition). [18]

Robustness

I perform a variety of robustness tests. In my first set of tests, where I add year fixed effects to rule out the possibility that time trends explain my results, my inferences remain (tables 6A – 6C). Year fixed effects were not included in my primary analysis because the first (last) years in my sample are predominantly, if not all, observations from the pre- (post-) translation period.

I perform additional robustness tests including: (1) using alternative measures for linguistic distance [(Chiswick and Miller 2008; Hart-Gonzalez and Lindemann 1993)]; and country-level English fluency rates [based on census data to estimate the percent of a country's total population that is fluent in English (Crystal 2003; Crystal 2012)]; and an alternative estimate of the difference between each country's local GAAP and IFRS: [gaapdiff1 from Bae et al. (2008)]; (2) winsorization at five percent (Barth et al. 2012) instead of robust regression; (3) dropping one treatment country at a time; (4) dropping countries (Japan and Hungary) whose translations are first issued before 1997, when the IASB creates their translation due process framework; and (5) dropping countries (Japan and Slovenia) whose first translations are partial translations (i.e., not all effective standards are translated).

In my remaining set of robustness tests, all of my primary inferences remain except for my estimates of accounting quality using timely loss recognition. My results, (illustrated example in tables 7A – 7C), suggest that accounting quality (timely loss recognition) significantly decreases for both high- and low-linguistic-distance firms (Post + LingDist × Post) [-0.930 ($p < 0.01$)] and

[18] Through univariate analysis (untabulated), I assess the mean (t-test) and median (Wilcox rank sum test) difference from the pre- to post-translation period. I find translations as a whole are significantly associated with mean/median improvements in comparability, consistent with H1. Moreover, translations into both high- and low-linguistic-distance languages are associated with significant mean increases in comparability, but the magnitude of the change is significantly larger for low-linguistic-distance firms. Translations into high-linguistic-distance languages are associated with a significant mean/median decreases in accounting quality, while translations into low-linguistic-distance languages either increase accounting quality or have no effect.

(Post) [-0.366 ($p < 0.01$)] (with high-linguistic-distance firms facing significantly larger decreases in accounting quality that low-linguistic-distance firms (LingDist × Post) [-0.564 ($p < 0.10$)]). These results differ from my primary results that suggest accounting quality (timely loss recognition) significantly increases for low-linguistic-distance firms and significantly decreases for high-linguistic-distance firms. Despite these differences, in all specifications, the overall inference that translations into low-linguistic-distance languages are significantly more-effective than translations into high-linguistic-distance languages at improving accounting quality (more-timely loss recognition) persists. As this alternative inference is pervasive throughout my robustness specifications, I conclude that my evidence suggests that in some cases translations into low-linguistic-distance languages significantly increase accounting quality (e.g. abnormal accruals), while in other cases these translations may significantly decrease accounting quality (e.g. timeliness).

CHAPTER 5

CONCLUSION

Differences in language can create a real barrier to globalization (Anderson and Van Wincoop 2004), which can slow the adoption of IFRS (Guan et al. 2019). To overcome this barrier, the IASB publishes translations of IFRS, with the stated goal of increasing financial statement comparability (IFRS Foundation 2018). I assess whether the translations have met their intended goal. To ascertain the mechanisms by which translations influence comparability, I also explore the relation between translations and two measures of accounting quality (abnormal accruals and timely loss recognition) (Basu 1997; Dechow et al. 1995; Francis et al 2005).

Matching a sample of non-English-speaking firms that adopt IFRS before the IASB issues a translation in their language, to a sample of English-speaking firms that follow IFRS, I estimate differences in comparability and accounting quality, pre- and post- the issuance of translations. I control for country- and firm-specific characteristics such as differences in culture, fluency rates, market development, firm size, and profitability, among others. Using staggered issuance years for my treatment period (the first time the IASB publishes translations of IFRS in each distinct language) adds to the external validity of my study, reducing the possibility of alternative explanations. I address potential outlier issues by using roust regression (Leone 2017), while my primary results are robust to winsorization at five percent.

In cross-sectional analysis, I then explore whether linguistic distance influences the effectiveness of translations. Translating IFRS into a language that is dissimilar from English may make the translation process more challenging, potentially reducing translation quality. Lower

quality translations may negatively affect comparability and accounting quality. Alternatively, higher linguistic distance could signal a greater demand for translations, since it is harder for speakers of high-linguistic-distance languages to learn English (Chiswick and Miller 2008). This difficulty could lead to lower pre-translation comparability and accounting quality, as higher linguistic distance makes it harder for practitioners to understand non-translated IFRS. As a result, the starting place for comparability and accounting quality in high-linguistic-distance countries may be low, so the increased demand for translations may magnify the effects of translations.

I predict and find that translations are associated with significant increases in comparability. Furthermore, I find that translations into high-linguistic-distance languages are associated with significantly smaller increases in comparability, as compared to translations into low-linguistic-distance-languages. Even though the increase in comparability is smaller, translations into high-linguistic-distance languages are still net beneficial, because they are associated with significant improvements to comparability.

I then predict that translations improve accounting quality, measured as abnormal accruals (Francis et al. 2005) and timely loss recognition (Basu 1997). While I do not find an overall effect between translations and accounting quality, once I take into consideration a general trend of decreasing accounting quality over time in my two accounting quality measures, I do find a significant positive relation between translations and higher accounting quality. When I divide translations by median linguistic distance, I find that translations into high-linguistic-distance languages are consistently associated with significant decreases in both my accounting quality measures, while translations into low-linguistic-distance languages are associated with significant increase in one measure of accounting quality (abnormal accruals) and mixed results using an alternative measure (timely loss recognition); although any evidence of a decrease in timeliness is significantly smaller in low-linguistic-distance translations as compared to high-linguistic distance

translations . Taken together, this evidence suggests that increasing the linguistic distance may lower the quality of the translations.

Future research could undertake country-specific case studies to test whether firms/countries with higher language barriers have more alternative sources of guidance in the period before the IASB issues the first translation. Researchers could also explore the affect translations have on financial statement users, such as analysts and institutional investors. Alternative, studies could examine the relation among linguistic distance and the exposure draft/comment letter process. Finally, studies could explore the linguistic characteristics of the accounting standards and use these measures to predict things such as accounting discretion.

REFERENCES

Anderson, James E., and Eric Van Wincoop. 2004. Trade costs. *Journal of Economic Literature* 42, (3): 691-751.

André, Paul, Andrei Filip, and Luc Paugam. 2015. The effect of mandatory IFRS adoption on conditional conservatism in europe. Journal of Business Finance & Accounting 42, (3-4): 482-514.

Archer, Simon, and Stuart McLeay. 1991. Issues in transnational financial reporting: A linguistic analysis. *Journal of Multilingual & Multicultural Development* 12, (5): 347-61.

Ashbaugh, Hollis, and Morton Pincus. 2001. Domestic accounting standards, international accounting standards, and the predictability of earnings. *Journal of Accounting Research* 39, (3): 417-34.

Bae, Kee-Hong, Hongping Tan, and Michael Welker. 2008. International GAAP differences: The impact on foreign analysts. *The Accounting Review* 83, (3): 593-628.

Ball, Ray. 2016. IFRS–10 years later. *Accounting and Business Research* 46, (5): 545-71.

Ball, Ray, Ashok Robin, and Joanna Shuang Wu. 2003. Incentives versus standards: Properties of accounting income in four East Asian countries. *Journal of Accounting and Economics* 36, (1): 235-70.

Barth, Mary E., Wayne R. Landsman, Mark Lang, and Christopher Williams. 2012. Are IFRS-based and US GAAP-based accounting amounts comparable? *Journal of Accounting and Economics* 54, (1): 68-93.

Barth, Mary E., Wayne R. Landsman, and Mark H. Lang. 2008. International accounting standards and accounting quality. *Journal of Accounting Research* 46, (3): 467-98.

Baskerville, Rachel, and Lisa Evans. 2011. The darkening glass: Issues for translation of IFRS. The Institute of Chartered Accountants of Scotland.

Basu, Sudipta, and Gregory B. Waymire. 2006. Recordkeeping and human evolution. *Accounting Horizons* 20, (3): 201-29.

Bertomeu, Jeremy, Anne Beyer, and Daniel J. Taylor. 2016. From casual to causal inference in accounting research: The need for theoretical foundations. *Foundations and Trends in Accounting* 10, (2-4): 262-313.

Brochet, Francois, Alan D. Jagolinzer, and Edward J. Riedl. 2013. Mandatory IFRS adoption and financial statement comparability. Contemporary Accounting Research 30, (4): 1373-400.

Brochet, Francois, Patricia Naranjo, and Gwen Yu. 2016. The capital market consequences of language barriers in the conference calls of non-US firms. *The Accounting Review* 91, (4): 1023-49.

Cascino, Stefano, and Joachim Gassen. 2015. What drives the comparability effect of mandatory IFRS adoption? *Review of Accounting Studies* 20, (1): 242-82.

Central Intelligence Agency. 2017. The world factbook 2017: *Languages.* Washington D.C.

Chen, M. Keith. 2013. The effect of language on economic behavior: Evidence from savings rates, health behaviors, and retirement assets. *American Economic Review* 103, (2): 690-731.

Chiswick, Barry R., and Paul W. Miller. 2005. Linguistic distance: A quantitative measure of the distance between English and other languages. *Journal of Multilingual and Multicultural Development* 26, (1): 1-11.

Christensen, Hans B., Edward Lee, Martin Walker, and Cheng Zeng. 2015. Incentives or standards: What determines accounting quality changes around IFRS adoption? European Accounting Review 24, (1): 31-61.

Christensen, Hans B., Luzi Hail, and Christian Leuz. 2013. Mandatory IFRS reporting and changes in enforcement. *Journal of Accounting and Economics* 56, (2-3): 147-77.

Cohen, Daniel A., Aiyesha Dey, and Thomas Z. Lys. 2008. Real and accrual-based earnings management in the pre-and post-sarbanes-oxley periods. The Accounting Review 83, (3): 757-87.

Crystal, David. 2012. English as a global language. Cambridge university press.

———. 2003. English as a global language. Cambridge university press.

da Silva Flores, Eduardo. 2018. Interview about translating IFRS to Brazilian Portuguese. Phone, Athens, GA.

Dahlgren, Jörgen, and Sven-Arne Nilsson. 2012. Can translations achieve comparability? The case of translating IFRSs into Swedish. *Accounting in Europe* 9, (1): 39-59.

———. 2008. Mandatory IFRS reporting around the world: Early evidence on the economic consequences. Journal of Accounting Research 46, (5): 1085-142. Davidson, Ronald A., and Heidi Hadlich Chrisman. 1994. Translations of uncertainty expressions in Canadian accounting and auditing standards. *Journal of International Accounting, Auditing and Taxation* 3, (2): 187-203.

Davidson, Ronald A., and Heidi Hadlich Chrisman. 1994. Translations of uncertainty expressions in Canadian accounting and auditing standards. *Journal of International Accounting, Auditing and Taxation* 3, (2): 187-203.

De Franco, Gus, Sagar P. Kothari, and Rodrigo S. Verdi. 2011. The benefits of financial statement comparability. *Journal of Accounting Research* 49, (4): 895-931.

DeFond, Mark, Xuesong Hu, Mingyi Hung, and Siqi Li. 2011. The impact of mandatory IFRS adoption on foreign mutual fund ownership: The role of comparability. *Journal of Accounting and Economics* 51, (3): 240-58.

Demirgüç-Kunt, Asli, and Ross Levine. 1996. Stock market development and financial intermediaries: Stylized facts. The World Bank Economic Review 10, (2): 291-321.

De Saussure, Ferdinand. 1915. 1966. Course in General Linguistics.

Demerjian, Peter R., Baruch Lev, Melissa F. Lewis, and Sarah E. McVay. 2012. Managerial ability and earnings quality. *The Accounting Review* 88, (2): 463-98.

Doupnik, Timothy S., and Martin Richter. 2003. Interpretation of uncertainty expressions: A cross-national study. *Accounting, Organizations and Society* 28, (1): 15-35.

Doupnik, Timothy S., and George T. Tsakumis. 2004. A critical review of tests of Gray's theory of cultural relevance and suggestions for future research. *Journal of Accounting Literature* 23, 1.

Evans, Lisa. 2004. Language, translation and the problem of international accounting communication. *Accounting, Auditing & Accountability Journal* 17, (2): 210-48.

Evans, Lisa, Rachel Baskerville, and Katariina Nara. 2015. Colliding worlds: Issues relating to language translation in accounting and some lessons from other disciplines. *Abacus* 51, (1): 1-36.

Evans, Lisa, Rachel Baskerville, and Katariina Nara. 2010. The power of words and the power to interpret: An inter-professional perspective. Paper presented at 6th Workshop on European Financial Reporting, University of Stirling.

Fang, Vivian W., Mark Maffett, and Bohui Zhang. 2015. Foreign institutional ownership and the global convergence of financial reporting practices. *Journal of Accounting Research* 53, (3): 593-631.

Francis, Jennifer, Ryan LaFond, Per Olsson, and Katherine Schipper. 2005. The market pricing of accruals quality. *Journal of Accounting and Economics* 39, (2): 295-327.

Francis, Jere R., and Dechun Wang. 2008. The joint effect of investor protection and big 4 audits on earnings quality around the world. *Contemporary Accounting Research* 25, (1): 157-91.

Goretzki, Lukas, Erik Strauss, and Leona Wiegmann. 2018. Exploring the roles of vernacular accounting systems in the development of "enabling" global accounting and control systems. *Contemporary Accounting Research*.

Gray, Sidney J. 1988. Towards a theory of cultural influence on the development of accounting systems internationally. *Abacus* 24, (1): 1-15.

Guan, Jenny Xinjiao, Emily Shafron, Kangtao Ye, and Wenzi Zhuang. 2019. Is accounting the 'English' language of business? The role of language in IFRS adoption. Working Paper.

Hart-Gonzalez, Lucinda, and Stephanie Lindemann. 1993. Expected achievement in speaking proficiency, 1993. School of Language Studies, Foreign Service Institute, US Department of State, Mimeographed.

Hofstede, Geert. 2003. Culture's consequences: Comparing values, behaviors, institutions and organizations across nations. Sage Publications.

Holthoff, G., Hoos, F. and Weissenberger, B.E., 2015. Are we lost in translation? The impact of using translated IFRS on decision-making. *Accounting in Europe* 12(1), pp.107-125.

Huerta, Esperanza, Yanira Petrides, and Gary P. Braun. 2013. Translation of IFRS: Language as a barrier to comparability. *Research in Accounting Regulation* 25, (1): 1-12.

IFRS Foundation. IFRS translations: Available translations. 2016 [cited January 26, 2017]. Available from http://www.ifrs.org/Use-around-the-world/IFRS-translations/Pages/Available-translations.aspx.

———. 2013. Translation, adoption and copyright policy. Online: IFRS Foundation.

Isphording, Ingo Eduard, and Sebastian Otten. 2013. The costs of Babylon—linguistic distance in applied economics. *Review of International Economics* 21, (2): 354-69.

Jeanjean, Thomas, and Hervé Stolowy. 2008. Do accounting standards matter? an exploratory analysis of earnings management before and after IFRS adoption. *Journal of Accounting and Public Policy* 27, (6): 480-94.

Joshi, Amol M., and Nandini Lahiri. 2015. Language friction and partner selection in cross-border R&D alliance formation. *Journal of International Business Studies* 46, (2): 123-52.

Kaufmann, Dani, Aart Kraay, and Massimo Mastruzzi. 2009. Governance matters VIII: Aggregate and individual indicators, 1996-2008. World Bank Policy Research Paper 4978.

Kay, Paul, and Willett Kempton. 1984. What is the Sapir-Whorf hypothesis? *American Anthropologist* 86, (1): 65-79.

Knechel, W. Robert, Lasse Niemi, and Stefan Sundgren. 2008. Determinants of auditor choice: Evidence from a small client market. *International Journal of Auditing* 12, (1): 65-88.

Kogut, Bruce, and Harbir Singh. 1988. The effect of national culture on the choice of entry mode. *Journal of International Business Studies* 19, (3): 411-32.

Leone, Andrew, Miguel Minutti-Meza, and Charles Wasley. 2017. *Influential observations and inference in accounting research*.

Leuz, Christian. 2003. IAS versus US GAAP: Information asymmetry–based evidence from Germany's new market. *Journal of Accounting Research* 41, (3): 445-72.

Liao, Qing, Thorsten Sellhorn, and Hollis A. Skaife. 2012. The cross-country comparability of IFRS earnings and book values: Evidence from France and Germany. *Journal of International Accounting Research* 11, (1): 155-84.

Lin, Hsiao-Lun, Shu-Ling Yeh, and Ai-Ru Yen. 2018. Effects of translation on probability judgments: Evidence from the IFRS in Taiwan. *Journal of International Accounting Research* (10/01; 2018/10).

McGuinness, Clare. 2018. Discussions with IASB translation staff with respect to all editions of translations available at the IASB, as well as translation due process, Email.

Melitz, Jacques, and Farid Toubal. 2014. Native language, spoken language, translation and trade. *Journal of International Economics* 93, (2): 351-63.

Munday, Jeremy. 2016. Introducing translation studies. Fourth edition ed. New York: Routledge.

Neel, Michael J. 2012. International Financial Reporting Standards (IFRS) and the Institutional Environment: Their Joint Impact on Accounting Comparability.

Pacter, Paul. 2017. Discussion on the IASB's role in translating IFRS.

———. 2005. What exactly is convergence? *International Journal of Accounting, Auditing and Performance Evaluation* 2, (1-2): 67-83.

Penn, Julia M. 1972. Linguistic relativity versus innate ideas: The origins of the Sapir-Whorf hypothesis in German thought. Vol. 120. Walter de Gruyter.

Reitan, Kristina. IFRS foundation and World Bank deepen cooperation to support developing economies in their use of reporting standards. May 15, 2017 [cited June 25, 2018]. Available from http://www.worldbank.org/en/news/press-release/2017/05/15/ifrs-foundation-and-world-bank- deepen- cooperation- to- support- developing- economies- in- their- use- of- reporting-standards.

Reynolds, J. Kenneth, and Jere R. Francis. 2000. Does size matter? The influence of large clients on office-level auditor reporting decisions. *Journal of Accounting and Economics* 30, (3): 375-400.

Rosenbaum, Paul R., and Donald B. Rubin. 1985. Constructing a control group using multivariate matched sampling methods that incorporate the propensity score. *The American Statistician* 39, (1): 33-8.

Seo, Youngmi. 2016. Accounting judgments on terms of likelihood in IFRS: Korea and Australia.

Shafron, Emily. 2017. Informal case study on language barriers to IFRS, AAA Annual Conference 2017.

Soderstrom, Naomi S., and Kevin Jialin Sun. 2007. IFRS adoption and accounting quality: A review. *European Accounting Review* 16, (4): 675-702.

Tan, Hongping, Shiheng Wang, and Michael Welker. 2011. Analyst following and forecast accuracy after mandated IFRS adoptions. *Journal of Accounting Research* 49, (5): 1307-57.

Wang, Clare. 2014. Accounting standards harmonization and financial statement comparability: Evidence from transnational information transfer. *Journal of Accounting Research* 52, (4) (09): 955-92.

Wong, Peter. September 2004. Challenges and successes in implementing international standards: Achieving convergence to IFRSs and ISAs. Online: International Federation of Accountants.

Wood, David. 2011. Financial reporting: Beware of the language barrier. *The Journal of the Global Accounting Alliance*.

World Bank. World development indicators gross domestic product per capita. 2017 [cited April 12, 2017 April 2017]. Available from http://data.worldbank.org/indicator/NY. GDP.MKTP. CD.

———. Global indicators of regulatory governance. 2016 [cited May 24, 2018 2018]. Available from http://rulemaking.worldbank.org/.

Yip, Rita WY, and Danqing Young. 2012. Does mandatory IFRS adoption improve information comparability? *The Accounting Review* 87, (5): 1767-89.

Zeff, Stephen A. 2007. Some obstacles to global financial reporting comparability and convergence at a high level of quality. *The British Accounting Review* 39, (4): 290-302.

APPENDICIES

Appendix A: Variable Definitions

Variable	Description	Source
Comparability		
Comp	Estimate of financial statement comparability following methodology used in Barth et al. (2012); calculated in equations 1a/b through 4	Barth et al. (2012)
BVE	Book value of equity per share	Datastream
NI	Net income before extraordinary items per share	Datastream
Price	Stock price six months post fiscal-year end	Datastream
Cross-sectional		
LingDist	Linguistic distance measure; 0 (min) to 1 (max); Estimates based on an average of a group of binary indicators denoting whether a non-English language and English share 192 linguistic characteristics denoted in World Atlas of Language Structures Online (WALS) database.	Joshi and Lahiri (2015)
LingDist _CM	Linguistic distance measure; 1 (max) 0 (min); Estimates based on the level of progress English-speaking participants make in learning a new language. This metric is used as an alternative measure of fluency for robustness tests.	Chiswick and Miller (2008)
Accounting quality		
AbnAcrl	Discretionary accruals are calculated using the formula detailed in Francis et al. (2005). I multiply discretionary accruals by negative one so a higher value indicates fewer discretionary accruals and thus better accounting quality.	Datastream; Francis et al. (2005)
Timely	Timely loss recognition, measured as asymmetric timeliness, following Basu (1997). Higher values indicate better accounting quality.	Datastream; Basu (1997)
Controls		
CFO	(Cash flows from operations scaled by lagged total assets)/1,000,000	Datastream
CFOVol	Cash flow volatility: standard deviation of cash flow from operations over the past three years	Datastream
Culture	I compare the distance between a country's culture and the culture of the United Kingdom based on Hofstede's (2003) six culture	Kogut and Singh (1988)

dimensions (individualism, indulgence, long-term orientation, masculinity, power distance, and uncertainty avoidance).

Variable	Description	Source
Cycle	Operating cycle: Natural logarithm of the sum of sales turnover and days in inventory. Sales turnover is sales per day over accounts receivable. Days in inventory is the cost of goods sold per day over inventory.	Datastream
DPPE	Asset growth: growth rate of PP&E from previous year	Datastream
EU	Indicator whether a country is a member of the European Union as of May 2018, 0 otherwise.	World Bank
Fluency	Percentage of population that does not speak English based on 1 minus the percentage pass rate of 2016 TOEFL data. The TOEFL exam tests English fluency levels in prospective students who desire to seek higher education abroad.	TOEFL
GAAPdiff	The distance between a country's pre-IFRS local GAAP and IFRS (gaapdiff2 in Bae et al. 2008)	Bae et al. (2008)
GDP	Natural log of gross domestic product	World Bank
Gov	Governance score based on six dimensions: voice and accountability, political stability absence of violence, government effectiveness, regulatory quality, role of law, and control of corruption; 0 (min) to 1 (max)	World Bank
LEV	Leverage ratio: long-term liabilities scaled by total assets	Datastream
MktDev	An estimate of market development measured as the value of each country's market capitalization divided by its GDP	World Bank & FRED Economic Data
ROA	Return on assets: net income scaled by total assets	Datastream
SaleVol	Sales volatility: (standard deviation of sales over the past three years)/1,000,000	Datastream
Size	Natural log of total assets	Datastream

TABLES

Table 1A: Summary of the Language, Year, and Version of Each Translation Issued by the IASB

Language	1st Trans.	Product Translated	Translation Updates
Arabic	2001	Bound Volume (01-09); Red Book (10-15)	2002; 2003; 2004; 2005; 2006; 2007; 2008; 2009; 2010; 2011; 2012; 2013; 2014; 2015
Armenian	1995	Individual standards	-
Bulgarian	2001	Bound Volume	2005 (all); 2006 (updates)
Chinese, Simplified	2000	Bound Volume (00-08); Individual standards (11); Red Book (15)	2004; 2008; 2011; 2015
Croatian	2000	Bound Volume	2004
Czech	2000	Bound Volume	2003; 2005; 2006 (updates)
Danish	2002	Bound Volume	2005; 2007
Dutch	1976	Individual standards (75-76); Bound Volume (02-08)	2002; 2004; 2005; 2006; 2007; 2008
Finnish	2001	Bound Volume (01-04); CD (05-11); Blue Book (11-13)	2002; 2003; 2004; 2005; 2006; 2008; 2009; 2011; 2013
French	1999	Bound Volume	1999; 2000; 2004; 2005; 2006
Canadian	1990	Individual standards	-
Belgian	1990	Individual standards	-
Georgian	1998	LL (1998); Bound Volume (04-10); Red Book (14)	2000; 2004; 2007; 2009; 2010; 2014
German	1998	Bound Volume (98-05); Updates (06-10); Red Book (09-12)	2001; 2002; 2003; 2004; 2005; 2006; 2007; 2008; 2009; 2010; 2011; 2012
Greek	2005	Bound Volume	2006
Hebrew	2007	Bound Volume (07-10); Red Book (11)	2008; 2009; 2010; 2011
Hungarian	1994	Bound Volume	2003; 2004; 2006
Italian	2000	Bound Volume	2001; 2004; 2005; 2006; 2007; 2009

Language	1st Trans.	Product Translated	Translation Updates
Japanese	1994	Individual standards (94); Bound Volume (01-07); Red Book (09-17)	2001; 2004; 2007; 2009; 2010; 2011; 2012; 2013; 2014; 2016; 2017
Korean	2007	Bound Volume (07-10); Korean Int. Fin. Report. Stds. (11-26)	2008; 2009; 2010; 2011; 2012; 2013; 2014; 2016
Latvian	2000	Bound Volume	2004
Lithuanian	2000	Bound Volume	2007
Macedonian	2000	Bound Volume	2003; 2009
Moldovan	2007	Bound Volume	-
Montenegrin	2002	Bound Volume	-
Norwegian	1976	Individual standards	1977-1983 (unspecified years)
Polish	2001	Bound Volume (01 & 07); Red Book (11)	2007; 2011
Portuguese	2001	Bound Volume (01-05); Red Book (13-15)	2002; 2003; 2004; 2005; 2013; 2015
Brazilian	1997	Bound Volume (97-08); Red Book (09-17)	2001; 2008; 2009; 2010; 2011; 2012; 2013; 2014; 2015; 2016; 2017
Romanian	2001	Bound Volume (01-09); Updates (08) Red Book (11-13)	2002; 2005; 2006;2007; 2008; 2009; 2011; 2013; 2015
Russian	1998	Unspecified	1999; 2006; 2011; 2012
Serbian	2002	Bound Volume (02)	2004; 2005; 2007; 2009
Slovak	2000	Bound Volume (00-09); Updates (01)	2001; 2002; 2007; 2009
Slovenian	2001	Unspecified	
Spanish	2001	Bound Volume (01-08); Red Book (09-16)	2003; 2004; 2005; 2006; 2007; 2008; 2009; 2010; 2011; 2012; 2013; 2014; 2015
Turkish	1992	Unspecified (92); Bound Volume (07); Turkish Fin. Report. Stds. (15)	2007; 2015
Ukrainian	2000	Bound Volume (00-09); Fin. Instruments (06)	2001; 2004; 2005; 2006; 2009

Table 1A details the year and version of each language's first translations of IFRS as well as the years and versions of updates. This information comes from the staff at the IASB as of January 21, 2018. For purposes of this study, I assume the IASB issues translations in the same year as the

edition of the translated standards. This assumption aligns with my conversations with IASB translation staff (2018).

Table 1B: Descriptive Statistics - Non-English-Speaking Countries

Country	# Firms	Language	Yr 1st Trns	YR Adopt IFRS	Ling Dist	Culture	EU	Dialect	Fluency	GAAP diff	UK Col
Argentina	1	Spanish	2001	2012	0.342	1.758	0	1	0.83	26	0
Austria	72	German	1998	2005	0.309	1.051	1	1	0.99	34	0
Chile	2	Spanish	2001	2009	0.342	3.153	0	1	0.80	34	0
China	19	Mandarin	2000	-	0.467	3.211	0	1	0.79	26	0
Denmark	175	Danish	2002	2005	0.211	1.446	1	0	0.98	20	0
Germany	81	German	1998	2005	0.309	0.990	1	1	0.97	20	0
Greece	353	Greek	2005	2005	1.000	3.121	1	0	0.93	22	0
Hong Kong	22	Mandarin	2000	2005	0.467	2.586	0	1	0.87	32	1
Hungary	5	Hungarian	1994	2005	0.428	1.480	1	0	0.91	8	0
Israel	2	Hebrew	2001	2008	0.440	1.703†	0	0	0.92	0	0
Italy	219	Italian	2000	2005	0.259	1.199	1	0	0.90	12	0
Japan	12	Japanese	1994	-	0.590	2.721	0	0	0.71	24	0
Korea	94	Korean	2007	2011	0.507	4.029	0	0	0.82	20	0
Malaysia	364	Malay	2000	2012	0.406	3.108	0	1	0.90	40	1
Mexico	106	Spanish	2001	2012	0.342	2.969	0	1	0.86	24	0
Portugal	4	Portuguese	2002	2005	0.288	4.051	1	0	0.94	36	0
Russia	1	Russian	1998	2012	0.308	4.600	0	0	0.87	30	0
Slovenia	1	Slovenian	2001	2005	0.667	3.657	1	0	0.95	8	0
Spain	47	Spanish	2001	2005	0.342	1.907	1	1	0.89	2	0
Switzerland	21	French	1999	-	0.305	0.450	0	1	0.98	14	0
Total	**1,601**										

Table 1B details country-level descriptive statistics for the non-English firms in my sample. Culture estimates the difference between a country's culture and the British culture and is based on Hofstede's (2003) six cultural dimensions index. † Due to data limitations, Israel's cultural index scores are based on five of the six cultural dimensions. In robustness tests I exclude this country. Fluency details the average score of all applicants of the TOEFL exam on a country-by-country basis. Portuguese is indicated to not have a dialect because Brazilian Portuguese has its own translation issued by the IASB.

Table 1C: Descriptive Statistics - English-Speaking Countries

Country	# Firms	# Unique Firms	YR Adopt IFRS	Culture	EU	GAAP diff
Australia	3	2	2005	0.351	0	18
Canada	54	28	2011	0.237	0	6
Ireland	194	89	2005	0.331	1	14
New Zealand	2	1	2007	0.288	0	12
Singapore	9	3	2018	2.629	0	38
UK	1,321	469	2005	0.000	1	16
USA	18	7	-	0.238	0	8
Total	**1,601**	**599**				

Table 1C details country-level descriptive statistics for the English firms in my sample. Since control firms are matched with-replacement, I include metrics on both the total number of firms per each country (# Firms) as well as the total number of unique firms per each country (# Unique Firms). Since my treatment years are staggered, it is possible that the same control firm could be matched to more than one treatment year. Culture estimates the difference between a country's culture and the British culture and is based on Hofstede's (2003) six cultural dimensions index.

Table 2A: Descriptive Statistics - Full Sample Treatment and Control Firms

	Non-English-Speaking Treatment Firms				English-Speaking Control Firms				Compare
Variable	**N**	**Mean**	**SD**	**50th**	**N**	**Mean**	**SD**	**50th**	**Diff**
Comparability variables									
Comp	16,598	6.948	8.231	4.340	12,535	4.761	4.907	4.056	-2.187***
BVE	16,598	7.405	10.054	2.617	12,535	3.180	5.330	1.371	-4.226***
NI	16,598	0.502	0.938	0.115	12,535	0.273	0.581	0.135	-0.229***
Price	16,598	11.651	16.528	3.560	12,535	6.717	10.360	2.840	-4.935***
Accounting quality variables									
AbnAcrl	15,565	0.011	0.203	0.050	11,319	-0.018	0.255	0.035	-0.029***
Timely	16,379	2.598	8.989	1.000	12,111	2.911	9.253	1.469	0.313***
Cross-sectional and control variables									
Culture	16,598	2.313	0.919	2.969	12,535	0.065	0.198	0.000	-2.248***
GAAPdiff	16,598	23.424	9.708	22.000	12,535	15.405	2.450	16.000	-8.992***
Gov	16,598	5.627	0.396	5.600	12,535	5.810	0.479	6.000	0.183***
MktDev	16,598	68.209	47.708	52.814	12,535	113.581	34.054	119.006	45.372***
CFO	16,598	0.087	0.376	0.060	12,535	0.128	0.512	0.088	0.041***
CFOVol	16,598	0.246	0.528	0.032	12,535	0.286	0.550	0.039	0.040***
Cycle	16,598	-0.724	2.068	0.000	12,535	-0.652	1.881	0.000	0.072***
DPPE	16,598	0.243	1.197	0.049	12,535	0.324	1.456	0.068	0.081***
GDP	16,598	26.659	1.022	26.386	12,535	27.924	0.929	28.141	1.265***
LEV	16,598	0.291	0.283	0.202	12,535	0.281	0.285	0.197	-0.010***
ROA	16,598	0.019	0.070	0.021	12,535	0.013	0.104	0.034	-0.005***
SaleVol	16,598	0.034	0.080	0.001	12,535	0.037	0.080	0.004	0.004***
Size	16,598	6.720	4.819	7.970	12,535	8.326	4.036	9.210	1.606***

Table 2A compares non-English and English-speaking firm summary statistics, covering the period 1987-2014. I divide the variables into those used to test comparability, accounting quality, and cross-sectional analyses, spanning 1,601 non-English and English-speaking firms (16,598 and 12,535 firm-year observations, respectively). This sample is winsorized at the 5% level, consistent with prior international accounting research. Comparability variables are on a per share basis. Control firms are exact matched on year and industry, and closest size (total assets). *, **, and *** represent statistically significant differences at the 10%, 5% and 1% significance levels, respectively.

Table 2B: Descriptive Statistics - Treatment and Control Firms Match Year Data

	Non-English-Speaking Treatment Firms				English-Speaking Control Firms				Compare
Variable	**N**	**Mean**	**SD**	**50th**	**N**	**Mean**	**SD**	**50th**	**Diff**
Culture	1,601	2.372	0.911	3.108	1,601	0.067	0.225	0.000	-2.306***
GAAPdiff	1,601	24.445	10.261	22.000	1,601	15.453	2.651	16.000	-8.992***
Gov	1,601	5.614	0.389	5.600	1,601	5.822	0.466	6.000	0.208***
MktDev	1,601	72.718	37.676	58.568	1,601	128.412	29.314	132.562	55.694***
CFO	1,601	0.092	0.384	0.046	1,601	0.066	0.423	0.068	-0.027*
CFOVol	1,601	0.195	0.467	0.023	1,601	0.239	0.510	0.032	0.045***
Cycle	1,601	-0.630	1.942	0.000	1,601	-0.712	1.954	0.000	-0.082
DPPE	1,601	0.284	1.274	0.046	1,601	0.346	1.367	0.036	0.061
GDP	1,601	26.507	1.019	26.236	1,601	27.888	0.942	28.131	1.380***
LEV	1,601	0.273	0.275	0.191	1,601	0.284	0.282	0.207	0.011
ROA	1,601	0.019	0.070	0.020	1,601	0.011	0.099	0.028	-0.008**
SaleVol	1,601	0.024	0.067	0.001	1,601	0.032	0.070	0.005	0.008***
Size	1,601	6.507	4.705	7.562	1,601	8.292	4.000	9.320	1.785***

Table 2B compares summary statistics for the 1,601 non-English (treatment) and English-speaking (control) firms in the treatment year, when they were matched. This sample is winsorized at the 5% level, consistent with prior international accounting research, although my tests are performed using robust regression on a non-winsorized sample. Non-English firms are those that apply IFRS before the IASB issues the first translation of IFRS in their country's native language, and still apply IFRS post-translation. English speaking firms are firms headquartered in English speaking countries who apply IFRS during the same period as the non-English speaking firms. Control firms are exact matched on year and industry, and closest size (total assets). Treatment and control firms must have a minimum of one year pre- and post the first issuance of translations by the IASB. *, **, and *** represent statistically significant differences at the 10%, 5% and 1% significance levels, respectively.

Table 2C: Correlations - Country-Specific Control Variables

	Comp	AbnAccrl	Timely	LingDist	Culture	Fluency	GAAPdiff	Gov	MktDev
Comp	1	-0.01*	-0.02*	-0.02*	0.03*	0.06*	0.05*	0.10*	0.10*
AbnAccrl	0.03*	1	-0.02*	-0.03*	-0.04*	-0.04*	-0.03*	0.02*	0.05*
Timely	-0.01*	-0.02*	1	-0.04*	-0.03*	-0.05*	-0.02*	-0.02*	0.00
LingDist	0.03*	-0.02*	-0.05*	1	0.86*	0.57*	0.37*	0.07*	-0.24*
Culture	0.04*	-0.02*	-0.03*	0.95*	1	0.81*	0.62*	-0.12*	-0.13*
Fluency	0.05*	-0.03*	-0.03*	0.84*	0.83*	1	0.36*	-0.16*	-0.13*
GAAPdiff	0.07*	-0.01*	-0.04*	0.67*	0.62*	0.47*	1	-0.15*	0.22*
Gov	0.08*	0.04*	-0.05*	-0.09*	-0.24*	-0.26*	-0.02*	1	0.16*
MktDev	0.10*	0.04*	-0.01*	-0.35*	-0.38*	-0.34*	-0.01	0.17*	1

Table 2C provides Spearman (bottom left) and Pearson (top right) correlation estimates for the country-specific control variables used in this study. My sample spans the period 1987-2014 and consists of 1,601 matched non-English speaking and English-speaking firms. Non-English-speaking firms are those that apply IFRS before translations of IFRS in their country's native language are first issued by the IASB and continue to apply IFRS post-translation. English speaking firms are firms headquartered in English speaking countries who apply IFRS during the same time period as the treatment firms. Non-English- and English-speaking firms must have a minimum of one year pre- and post the first issuance of translations by the IASB. I adjust comparability and abnormal, so a positive number denotes higher accounting quality, and vice versa. * represents statistically significant differences at the 5% significance level.

Table 2D Correlations - Firm-Specific Control Variables

	Comp	Abn Accrl	Timely	CFO	CFOVol	Cycle	DPPE	GDP	Gov	LEV	ROA	Sale Vol	Size
Comp	1	-0.01*	-0.02*	0.01*	-0.13*	0.11*	-0.01	0.04*	0.10*	-0.18*	0.01	-0.16*	-0.19*
AbnAccrl	0.03*	1	-0.02*	0.49*	-0.006	0.01	0.13*	0.03*	0.02*	-0.12*	0.05*	-0.00	-0.06*
Timely	-0.01*	-0.02*	1	-0.01	0.04*	0.046*	0.01	-0.03*	-0.02*	0.04*	0.02*	0.00	-0.05*
CFO	-0.07*	0.85*	-0.03*	1	0.01	-0.02*	0.05*	-0.01	-0.03*	-0.04*	0.31*	0.01	0.05*
CFOVol	-0.10*	-0.00	0.000	0.08*	1	0.01	-0.01	0.13*	-0.03*	0.07*	0.05*	0.44*	0.37*
Cycle	0.06*	0.03*	0.04*	-0.06*	-0.06*	1	0.00	0.01	0.20*	0.08*	-0.01	-0.01	0.00
DPPE	-0.09*	0.37*	0.02*	0.38*	0.02*	-0.01	1	0.00	-0.01	-0.03*	-0.03*	-0.02*	-0.07*
GDP	0.04*	0.01*	-0.04*	0.00	0.22*	-0.02*	-0.02*	1	0.35*	0.08*	-0.06*	0.12*	0.16*
Gov	0.08*	0.04*	-0.05*	-0.01	-0.03*	0.19*	-0.02*	0.42*	1	-0.02*	-0.06*	-0.08*	-0.08*
LEV	-0.14*	-0.10*	0.06*	-0.13*	0.33*	0.06*	0.04*	0.11*	-0.07*	1	0.01*	0.08*	0.57*
ROA	-0.15*	0.14*	-0.03*	0.50*	0.11*	-0.07*	0.18*	-0.04*	-0.04*	-0.11*	1	0.04*	0.22*
SaleVol	-0.02*	-0.01	-0.05*	0.17*	0.50*	-0.17*	0.06*	0.22*	-0.09*	0.01*	0.20*	1	0.33*
Size	-0.19*	-0.04*	0.02*	0.05*	0.76*	0.01	0.11*	0.15*	-0.10*	0.59*	0.11*	0.38*	1

Table 2D provides Spearman (bottom left) and Pearson (top right) correlation estimates for firm-specific control variables used in this study. My sample spans the period 1987-2014 and consists of 1,601 matched non-English speaking and English-speaking firms. Non-English-speaking firms are those that apply IFRS before translations of IFRS in their country's native language are first issued by the IASB and continue to apply IFRS post-translation. English speaking firms are firms headquartered in English speaking countries who apply IFRS during the same time period as the treatment firms. Non-English- and English-speaking firms must have a minimum of one year pre- and post the first issuance of translations by the IASB. For regression purposes, I adjust comparability and abnormal, so a positive number denotes higher accounting quality, and vice versa. * represents statistically significant differences at the 5% significance level.

Table 3: Financial Statement Comparability

Positive coefficients signal an increase in each dependent variable

	Within Treatment (non-English) Firms	
Dep. Var: Comp	**Baseline**	**LingDist**
Constant	-3.798***	-6.998***
	(-4.73)	(-8.99)
Post	2.445***	2.838***
	(58.83)	(59.02)
LingDist	-1.025***	-0.443***
	(-9.87)	(-3.96)
LingDist × Post		-0.979***
		(-11.88)
Culture	0.818***	0.844***
	(12.91)	(13.77)
Dialect	-2.615***	-2.802***
	(-10.24)	(-11.34)
EU	1.524***	1.433***
	(14.48)	(14.06)
Fluency	12.122***	9.608***
	(12.51)	(10.25)
GAAPdiff	-0.019***	-0.012**
	(-3.94)	(-2.48)
Gov	-0.093**	-0.164***
	(-2.13)	(-3.89)
MktDev	-0.004***	-0.004***
	(-10.34)	(-9.36)
UKcol	3.706***	3.700***
	(13.58)	(14.02)
CFO	0.005	0.005
	(0.92)	(0.91)
CFOVol	-0.562***	-0.246***
	(-54.23)	(-24.51)
Cycle	0.014	0.010
	(1.31)	(0.94)
DPPE	-0.000	-0.000
	(-0.23)	(-0.35)
GDP	-0.135***	-0.008
	(-4.88)	(-0.28)
LEV	-0.009	0.017
	(-0.20)	(0.42)
ROA	-0.001	-0.002

	(-0.14)	(-0.29)

Table 3 Continued: Financial Statement Comparability

	Within Treatment (non-English) Firms	
Dep. Var: Comp	**Baseline**	**LingDist**
SaleVol	-0.092	-3.204***
	(-1.61)	(-58.00)
Size	-0.000	0.009*
	(-0.04)	(1.85)
Industry FE	Yes	Yes
Observations	16,597	16,597
R-squared	0.361	0.442
Post + LingDist×Post		1.859***
(p-value)		(0.000)

In Table 3, I test whether there is a difference in comparability (Comp) from the pre- to post-translations period, using a multivariate model to control for country- and firm-specific characteristics. Positive coefficients signal increases in the dependent variable. I multiply the dependent variable, Comp, by negative one, so positive coefficients signal an increase in comparability, and vice versa. I estimate comparability on a sub-sample of only my treatment firms [Within Treatment (non-English) Firms], spanning 1987 to 2014, following the methodology in Barth et al. (2012). I do not estimate on my full sample of treatment and control firms because the dependent variable, Comp, for control firms is confounded with the treatment effect since treatment-firm coefficients are used to estimate control firm comparability. Since all above-median linguistic distance firms are also treatment firms, the interaction between above median linguistic distance and the post period (LingDist × Post) is excluded from the full sample because it is equal to the interaction among above median linguistic distance, an indicator for the post period, and the indicator for being a treatment firm (LingDist × Post × Treat). The treatment year is the year in which the IASB issues the first translations in a non-English-speaking language. *, **, and *** represent statistically significant differences at the 10%, 5% and 1% significance levels, respectively.

Table 4: Abnormal Accruals

Positive coefficients signal an increase in each dependent variable

	Full Sample		Within Treatment (non-English) Firms	
Dep. Var: Comp	**Baseline**	**LingDist**	**Baseline**	**LingDist**
Constant	-0.014	-0.031	-0.099*	-0.127**
	(-0.30)	(-0.67)	(-1.88)	(-2.43)
Treat	-0.032***	-0.044***		
	(-4.19)	(-5.72)		
Post	-0.024***	-0.025***	-0.003	0.015***
	(-7.08)	(-7.23)	(-1.20)	(4.89)
Post × Treat	0.021***	0.042***		
	(4.77)	(8.61)		
LingDist	-0.042***	0.004	-0.040***	0.006
	(-6.26)	(0.52)	(-5.94)	(0.75)
LingDist × Post				-0.068***
				(-12.35)
LingDist × Post × Treat		-0.072***		
		(-11.48)		
Culture	0.024***	0.024***	0.021***	0.020***
	(5.88)	(5.80)	(5.15)	(5.00)
Dialect	-0.060***	-0.060***	-0.003	-0.003
	(-5.56)	(-5.57)	(-0.20)	(-0.17)
EU	0.013**	0.011**	0.031***	0.027***
	(2.52)	(2.13)	(4.51)	(3.96)
Fluency	-0.182***	-0.186***	0.014	-0.003
	(-3.31)	(-3.40)	(0.22)	(-0.04)
GAAPdiff	-0.000	-0.000	0.001**	0.001**
	(-0.95)	(-0.92)	(2.47)	(2.37)
Gov	-0.014***	-0.015***	-0.009***	-0.010***
	(-4.63)	(-5.15)	(-3.09)	(-3.59)
MktDev	0.000***	0.000***	0.000***	0.000***
	(11.73)	(11.97)	(11.58)	(11.71)
UKcol	-0.016*	-0.017**	-0.082***	-0.082***
	(-1.92)	(-2.10)	(-4.66)	(-4.71)
CFOVol	-0.002***	-0.002***	-0.001**	-0.001**
	(-3.46)	(-3.71)	(-2.03)	(-2.19)
Cycle	0.005***	0.005***	0.003***	0.003***
	(9.61)	(9.25)	(5.03)	(4.48)
DPPE	0.000***	0.000***	0.000***	0.000***
	(16.41)	(16.68)	(14.00)	(14.26)
GDP	0.005***	0.006***	0.004**	0.005***

	(2.78)	(3.39)	(2.08)	(2.72)

Table 4 Continued: Abnormal Accruals

	Full Sample		Within Treatment (non-English) Firms	
Dep. Var: Comp	**Baseline**	**LingDist**	**Baseline**	**LingDist**
LEV	-0.051***	-0.048***	-0.049***	-0.043***
	(-19.10)	(-18.04)	(-18.78)	(-16.61)
SaleVol	0.026***	0.024***	0.032***	0.030***
	(7.49)	(7.09)	(9.09)	(8.58)
Size	-0.003***	-0.004***	-0.003***	-0.004***
	(-12.39)	(-12.75)	(-11.11)	(-11.61)
Industry FE	Yes	Yes	Yes	Yes
Observations	26,883	26,883	15,564	15,564
R-squared	0.057	0.062	0.074	0.080
Post + Post × Treat	-0.003	0.017***		
(p-value)	(0.271)	(0.000)		
Post + Post × Treat + LingDist × Post × Treat		-0.055***		
(p-value)		(0.000)		
Post + LingDist × Post				-0.053***
(p-value)				(0.000)

In Table 4, I test whether there is a difference in accounting quality, as measured by abnormal accruals (AbnAcrl) from the pre- to post-translations period, using a multivariate model to control for country- and firm-specific characteristics. I multiply the dependent variable (AbnAcrl) by negative one, so positive coefficients signal a decrease in abnormal accruals, and vice versa. I estimate abnormal accruals on my full matched sample of 1,601 non-English- (treatment) and English-speaking (control) firms, spanning 1987 to 2014 [Full Sample], as well as a sub-sample of only my treatment firms [Within Treatment (non-English) Firms], following the methodology in Francis et al. (2005). To test whether linguistic distance affects this relation, I then estimate an interacted model using an indicator for above median linguistic distance (LingDist), as estimated by Joshi and Lahiri (2015). I do not include controls for cash flow of operations (CFO) and return on assets (ROA), as the dependent variable is a function of these variables. I use an F-test to evaluate whether translations into high-linguistic-distance languages significantly changes the relation between translations and comparability. Since all above-median linguistic distance firms are also treatment firms, the interaction between above median linguistic distance and the post period (LingDist × Post) is excluded from the full sample because it is equal to the interaction among above median linguistic distance, an indicator for the post period, and the indicator for being a treatment firm (LingDist × Post × Treat). The treatment year is the year in which the IASB issues the first translations in a non-English-speaking language. I address outliers using robust regression. *, **, and *** represent statistically significant differences at the 10%, 5% and 1% significance levels, respectively.

Table 5: Timely Loss Recognition

Positive coefficients signal an increase in each dependent variable

	Full Sample		Within Treatment (non-English) Firms	
Dep. Var: AbnAcc	**Baseline**	**LingDist**	**Baseline**	**LingDist**
Constant	5.108***	4.718***	1.229	0.541
	(4.23)	(3.92)	(0.85)	(0.37)
Treat	-1.261***	-1.568***		
	(-6.57)	(-8.10)		
Post	-0.983***	-0.981***	-0.067	0.361***
	(-11.31)	(-11.36)	(-0.91)	(4.17)
Post × Treat	0.937***	1.419***		
	(8.39)	(11.62)		
LingDist	-1.069***	-0.318	-1.978***	-1.293***
	(-6.24)	(-1.64)	(-10.84)	(-6.36)
LingDist × Post				-1.198***
				(-8.08)
LingDist × Post × Treat		-1.346***		
		(-8.63)		
Culture	0.308***	0.293***	0.778***	0.762***
	(2.96)	(2.83)	(6.99)	(6.88)
Dialect	0.295	0.325	-2.424***	-2.502***
	(1.07)	(1.19)	(-5.41)	(-5.61)
EU	0.067	0.019	1.168***	1.060***
	(0.50)	(0.14)	(6.28)	(5.72)
Fluency	-2.950**	-2.652*	-2.799	-3.033*
	(-2.12)	(-1.91)	(-1.64)	(-1.79)
GAAPdiff	-0.020***	-0.019***	-0.019**	-0.020**
	(-2.86)	(-2.72)	(-2.25)	(-2.34)
Gov	-0.199***	-0.214***	-0.308***	-0.323***
	(-2.69)	(-2.92)	(-4.03)	(-4.25)
MktDev	0.001	0.001	0.000	0.000
	(1.20)	(1.47)	(0.60)	(0.63)
UKcol	-0.773***	-0.807***	1.960***	2.065***
	(-3.74)	(-3.93)	(4.10)	(4.34)
Industry FE	Yes	Yes	Yes	Yes
Observations	28,490	28,490	16,379	16,379
R-squared	0.021	0.024	0.016	0.020
Post + Post × Treat	-0.046	0.438***		
(p-value)	(0.540)	(0.000)		
Post + Post × Treat + LingDist × Post × Treat		-0.908***		

(p-value)	(0.000)

Table 5 Continued: Timely Loss Recognition

Post + LingDist × Post	-0.837***
(p-value)	(0.000)

In Table 5, I test whether there is a difference in accounting quality, as measured by timely loss recognition (Timely) from the pre- to post-translations period, using a multivariate model to control for country- and firm-specific characteristics. I estimate timeliness on my full matched sample of 1,601 non-English- (treatment) and English-speaking (control) firms, spanning 1987 to 2014 [Full Sample], as well as a sub-sample of only my treatment firms [Within Treatment (non-English) Firms], following the methodology in Basu (1997). To test whether linguistic distance affects this relation, I then estimate an interacted model using an indicator for above median linguistic distance (LingDist), as estimated by Joshi and Lahiri (2015). I use an F-test to test whether translations into high linguistic distance languages significantly changes the relation between translations and comparability. Since all above-median linguistic distance firms are also treatment firms, the interaction between above median linguistic distance and the post period (LingDist × Post) is excluded from the full sample because it is equal to the interaction among above median linguistic distance, an indicator for the post period, and the indicator for being a treatment firm (LingDist × Post × Treat). The treatment year is the year in which the IASB issues the first translations in a non-English-speaking language. I address outliers using robust regression. *, **, and *** represent statistically significant differences at the 10%, 5% and 1% significance levels, respectively.

Table 6A: Robustness - Financial Statement Comparability with Year FE

Positive coefficients signal an increase in each dependent variable

	Within Treatment (non-English) Firms	
Dep. Var: Comp	**Baseline**	**LingDist**
Constant	-139.040***	-72.620***
	(-7.68)	(-4.20)
Post	2.166***	2.597***
	(27.60)	(32.50)
LingDist	-1.300***	-0.567***
	(-12.40)	(-5.08)
LingDist × Post		-0.968***
		(-11.80)
Yr & Industry FE	Yes	Yes
Observations	16,597	16,597
R-squared	0.377	0.383
Post + LingDist×Post		1.629***
(p-value)		(0.000)

In Table 6A, for robustness, I test whether there is a difference in comparability (Comp) from the pre- to post-translations period, using a multivariate model to control for country- and firm-specific characteristics, as well as year and industry fixed effects. Positive coefficients signal increases in the dependent variable. I multiply the dependent variable, Comp, by negative one, so positive coefficients signal an increase in comparability, and vice versa. I estimate comparability on a sub-sample of only my treatment firms [Within Treatment (non-English) Firms], spanning 1987 to 2014, following the methodology in Barth et al. (2012). I do not estimate on my full sample of treatment and control firms because the dependent variable, Comp, for control firms is confounded with the treatment effect since treatment-firm coefficients are used to estimate control firm comparability. Since all above-median linguistic distance firms are also treatment firms, the interaction between above median linguistic distance and the post period (LingDist × Post) is excluded from the full sample because it is equal to the interaction among above median linguistic distance, an indicator for the post period, and the indicator for being a treatment firm (LingDist × Post × Treat). The treatment year is the year in which the IASB issues the first translations in a non-English-speaking language. *, **, and *** represent statistically significant differences at the 10%, 5% and 1% significance levels, respectively.

Table 6B: Robustness - Abnormal Accruals with Year FE

Positive coefficients signal an increase in each dependent variable

	Full Sample		Within Treatment (non-English) Firms	
Dep. Var: Comp	**Baseline**	**LingDist**	**Baseline**	**LingDist**
Constant	2.403***	2.565***	4.183***	4.358***
	(2.95)	(3.16)	(3.67)	(3.85)
Treat	-0.035***	-0.047***		
	(-4.52)	(-6.08)		
Post	-0.014***	-0.014***	0.013**	0.032***
	(-3.07)	(-3.01)	(2.53)	(6.11)
Post × Treat	0.020***	0.040***		
	(4.51)	(8.37)		
LingDist	-0.042***	0.004	-0.039***	0.007
	(-6.21)	(0.57)	(-5.74)	(0.97)
LingDist × Post				-0.068***
				(-12.42)
LingDist × Post × Treat		-0.072***		
		(-11.54)		
Yr & Industry FE	Yes	Yes	Yes	Yes
Observations	26,883	26,883	15,564	15,564
R-squared	0.058	0.062	0.076	0.082
Post + Post × Treat	0.006	0.026***		
(p-value)	(0.189)	(0.000)		
Post + Post × Trt + LD × Post × Trt		-0.046***		
(p-value)		(0.000)		
Post + LingDist × Post				-0.036***
(p-value)				(0.000)

In Table 6B, for robustness, I test whether there is a difference in accounting quality, as measured by abnormal accruals (AbnAcrl) from the pre- to post-translations period, using a multivariate model to control for country- and firm-specific characteristics, as well as year and industry fixed effects. I multiply the dependent variable (AbnAcrl) by negative one, so positive coefficients signal a decrease in abnormal accruals, and vice versa. I estimate abnormal accruals on my full matched sample of 1,601 non-English- (treatment) and English-speaking (control) firms, spanning 1987 to 2014 [Full Sample], as well as a sub-sample of only my treatment firms [Within Treatment (non-English) Firms], following the methodology in Francis et al. (2005). The treatment year is the year in which the IASB issues the first translations in a non-English-speaking language. *, **, and *** represent statistically significant differences at the 10%, 5% and 1% significance levels, respectively.

Table 6C: Robustness - Timely Loss Recognition with Year FE

Positive coefficients signal an increase in each dependent variable

	Full Sample		Within Treatment (non-English) Firms	
Dep. Var: Comp	**Baseline**	**LingDist**	**Baseline**	**LingDist**
Constant	78.301***	79.289***	38.387	39.076
	(3.80)	(3.86)	(1.22)	(1.25)
Treat	-1.381***	-1.694***		
	(-7.06)	(-8.58)		
Post	-0.712***	-0.708***	0.067	0.502***
	(-6.11)	(-6.10)	(0.49)	(3.45)
Post × Treat	0.927***	1.412***		
	(8.30)	(11.55)		
LingDist	-1.050***	-0.297	-1.964***	-1.276***
	(-6.14)	(-1.53)	(-10.73)	(-6.27)
LingDist × Post				-1.200***
				(-8.09)
LingDist × Post × Treat		-1.350***		
		(-8.64)		
Yr & Industry FE	Yes	Yes	Yes	Yes
Observations	28,490	28,490	16,379	16,379
R-squared	0.021	0.024	0.016	0.020
Post + Post × Treat	0.215**	0.704***		
(p-value)	(0.043)	(0.000)		
Post + Post × Trt + LD × Post × Trt		-0.646***		
(p-value)		(0.000)		
Post + LingDist × Post				-0.698***
(p-value)				(0.000)

In Table 6C, for robustness, I test whether there is a difference in accounting quality, as measured by timely loss recognition (Timely) from the pre- to post-translations period, using a multivariate model to control for country- and firm-specific characteristics, as well as year and industry fixed effects. I estimate timeliness on my full matched sample of 1,601 non-English-(treatment) and English-speaking (control) firms, spanning 1987 to 2014 [Full Sample], as well as a sub-sample of only my treatment firms [Within Treatment (non-English) Firms], following the methodology in Basu (1997). The treatment year is the year in which the IASB issues the first translations in a non-English-speaking language. *, **, and *** represent statistically significant differences at the 10%, 5% and 1% significance levels, respectively.

Table 7A: Robustness - Dropping One Treatment Country at a Time
Financial Statement Comparability Excluding Greece

Positive coefficients signal an increase in each dependent variable

	Within Treatment (non-English) Firms	
Dep. Var: Comp	**Baseline**	**LingDist**
Constant	4.597***	4.264***
	(8.95)	(8.33)
Post	3.102***	3.127***
	(108.53)	(106.98)
LingDist	-0.822***	-0.472***
	(-8.49)	(-3.80)
LingDist × Post		-0.509***
		(-4.19)
Industry FE	Yes	Yes
Observations	25,233	25,233
R-squared	0.352	0.353
Post + LingDist × Post		2.618***
(p-value)		(0.000)

In Table 7A, for robustness, I estimate each of my tests excluding one country at a time. Here, for illustrative purposes, I exclude Greece when testing if there is a difference in comparability (Comp) from the pre- to post-translations period, using a multivariate model to control for country- and firm-specific characteristics, as well as industry fixed effects. The remaining robustness tests, excluding each treatment country one at a time, removing treatment firms whose translations are first published before 1997, using alternative proxies for linguistic distance, English fluency, and the distance between IFRS and local GAAP all yield similar inferences. Positive coefficients signal increases in the dependent variable. I multiply the dependent variable, Comp, by negative one, so positive coefficients signal an increase in comparability, and vice versa. I estimate comparability on a sub-sample of only my treatment firms [Within Treatment (non-English) Firms], spanning 1987 to 2014, following the methodology in Barth et al. (2012). I do not estimate on my full sample of treatment and control firms because the dependent variable, Comp, for control firms is confounded with the treatment effect since treatment-firm coefficients are used to estimate control firm comparability. Since all above-median linguistic distance firms are also treatment firms, the interaction between above median linguistic distance and the post period (LingDist × Post) is excluded from the full sample because it is equal to the interaction among above median linguistic distance, an indicator for the post period, and the indicator for being a treatment firm (LingDist × Post × Treat). The treatment year is the year in which the IASB issues the first translations in a non-English-speaking language. *, **, and *** represent statistically significant differences at the 10%, 5% and 1% significance levels, respectively.

Table 7B: Robustness - Dropping One Treatment Country at a Time
Abnormal Accruals Excluding Greece

Positive coefficients signal an increase in each dependent variable

	Full Sample		Within Treatment (non-English) Firms	
Dep. Var: Comp	**Baseline**	**LingDist**	**Baseline**	**LingDist**
Constant	0.010	0.005	0.039	0.037
	(0.21)	(0.11)	(0.89)	(0.84)
Treat	-0.036***	-0.040***		
	(-4.81)	(-5.21)		
Post	-0.024***	-0.024***	-0.003	-0.002
	(-7.12)	(-7.15)	(-1.28)	(-0.69)
Post × Treat	0.037***	0.041***		
	(7.91)	(8.59)		
LingDist	-0.058***	-0.021*	-0.052***	-0.030***
	(-6.89)	(-1.85)	(-6.43)	(-2.72)
LingDist × Post				-0.031***
				(-2.88)
LingDist × Post × Treat		-0.052***		
		(-4.65)		
Industry FE	Yes	Yes	Yes	Yes
Observations	23,276	23,276	23,276	23,276
R-squared	0.055	0.056	0.052	0.052
Post + Post × Treat	0.013***	0.017***		
(p-value)	(0.000)	(0.000)		
Post + Post × Trt + LD × Post × Trt		-0.035***		
(p-value)		(0.001)		
Post + LingDist × Post				-0.033***
(p-value)				(0.002)

In Table 7B, for robustness, I estimate each of my tests excluding one country at a time. Here, I exclude Greece when testing whether there is a difference in accounting quality, as measured by abnormal accruals (AbnAcrl) from the pre- to post-translations period. The remaining robustness tests, excluding each treatment country one at a time, removing treatment firms whose translations are first published before 1997, using alternative proxies for linguistic distance, English fluency, and the distance between IFRS and local GAAP all yield similar inferences. I multiply the dependent variable (AbnAcrl) by negative one, so positive coefficients signal a decrease in abnormal accruals, and vice versa. I estimate abnormal accruals on my full matched sample of 1,601 non-English- (treatment) and English-speaking (control) firms, spanning 1987 to 2014 [Full Sample], as well as a sub-sample of only my treatment firms [Within Treatment (non-English) Firms], following the methodology in Francis et al. (2005). The treatment year is the year in which the IASB issues the first translations in a non-English-speaking language. *, **, and *** represent statistically significant differences at the 10%, 5% and 1% significance levels, respectively.

Table 7C: Robustness - Dropping One Treatment Country at a Time
Timely Loss Recognition Excluding Greece

Positive coefficients signal an increase in each dependent variable

	Full Sample		Within Treatment (non-English) Firms	
Dep. Var: Timely	**Baseline**	**LingDist**	**Baseline**	**LingDist**
Constant	4.872***	4.733***	6.409***	6.345***
	(3.76)	(3.66)	(5.27)	(5.22)
Treat	-1.687***	-1.792***		
	(-8.18)	(-8.65)		
Post	-1.066***	-1.063***	-0.399***	-0.366***
	(-11.53)	(-11.51)	(-5.98)	(-5.36)
Post × Treat	1.303***	1.451***		
	(10.26)	(11.14)		
LingDist	-1.194***	-0.325	-0.961***	-0.598**
	(-5.19)	(-1.07)	(-4.26)	(-2.01)
LingDist × Post				-0.564*
				(-1.95)
LingDist × Post × Treat		-1.357***		
		(-4.56)		
Industry FE	Yes	Yes	Yes	Yes
Observations	24,614	24,614	24,614	24,614
R-squared	0.024	0.025	0.019	0.019
Post + Post×Treat	0.297***	0.388***		
(p-value)	(0.010)	(0.000)		
Post + Post × Treat + LingDist × Post × Treat		-0.969***		
(p-value)		(0.001)		
Post + LingDist × Post				-0.930***
(p-value)				(0.001)

In Table 7C, for robustness, I estimate each of my tests excluding one country at a time. Here, for illustrative purposes, I exclude Greece when testing whether there is a difference in accounting quality, as measured by timely loss recognition (Timely) from the pre- to post-translations period, using a multivariate model to control for country- and firm-specific characteristics, as well as industry fixed effects. The remaining robustness tests, excluding each treatment country one at a time, removing treatment firms whose translations are first published before 1997, using alternative proxies for linguistic distance, English fluency, and the distance between IFRS and local GAAP all yield similar inferences. I estimate timeliness on my full matched sample of 1,601 non-English- (treatment) and English-speaking (control) firms, spanning 1987 to 2014 [Full Sample], as well as a sub-sample of only my treatment firms [Within Treatment (non-English) Firms], following the methodology in Basu (1997). The treatment year is the year in which the IASB issues the first translations in a non-English-speaking language. *, **, and *** represent statistically significant differences at the 10%, 5% and 1% significance levels, respectively.