

Does Mandatory Adoption of International Financial Reporting Standards in the European Union Reduce the Cost of Equity Capital?

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ABSTRACT: This study examines whether the mandatory adoption of International Financial Reporting Standards (IFRS) in the European Union (EU) in 2005 reduces the cost of equity capital. Using a sample of 6,456 firm-year observations of 1,084 EU firms during the 1995 to 2006 period, I find evidence that, on average, the IFRS mandate significantly reduces the cost of equity for mandatory adopters by 47 basis points. I also find that this reduction is present only in countries with strong legal enforcement, and that increased disclosure and enhanced information comparability are two mechanisms behind the cost of equity reduction. Taken together, these findings suggest that while mandatory IFRS adoption significantly lowers firms' cost of equity, the effects depend on the strength of the countries' legal enforcement.

Keywords: *International Accounting Standards (IAS); International Financial Reporting Standards (IFRS); cost of equity capital.*

Data Availability: *Data are publicly available from sources identified in the article.*

I. INTRODUCTION

There has been recent momentum for country-level adoption of International Financial Reporting Standards (IFRS). The European Union (EU), for instance, has mandated that all EU-listed companies adopt IFRS beginning in 2005.¹ The proponents of

¹ For ease of exposition, I use "IFRS" to refer to both the International Accounting Standards (IAS) issued by the International Accounting Standards Committee (IASC) and the International Financial Reporting Standards (IFRS) issued by IASC's successor, the International Accounting Standards Board (IASB).

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mandatory IFRS adoption assert that IFRS will “reduce the cost of capital and open new opportunities for diversification and improved investment returns” (Tweedie 2006). However, while prior research finds some evidence that voluntary IFRS adoption reduces the cost of equity capital (e.g., Leuz and Verrecchia 2000; Barth et al. 2008), little empirical evidence supports this assertion for mandatory IFRS adoption and, hence, the economic consequences of mandatory adoption remain largely unclear (e.g., Daske et al. 2007, 2008). The purpose of this study is to fill this gap by exploring the cost of equity effects of *mandatory* IFRS adoption in the EU.

There are at least two reasons why mandatory IFRS adoption is expected to reduce the cost of equity capital. First, prior research finds that IFRS requires greater financial disclosure than most local accounting standards (e.g., Ashbaugh and Pincus 2001) and that increased disclosure reduces the cost of equity capital (e.g., Botosan 1997; Easley and O’Hara 2004; Lambert et al. 2007). Second, prior literature argues that one set of uniform accounting standards is likely to improve information comparability across firms, which in turn is expected to reduce the cost of equity capital (e.g., Armstrong et al. 2010).

Skeptics of mandatory adoption, however, note that while prior research provides some evidence that *voluntary* IFRS adoption reduces the cost of equity capital (e.g., Leuz and Verrecchia 2000; Barth et al. 2008), these findings are not necessarily generalizable to *mandatory* IFRS adopters (Ball et al. 2003; Sunder 2007). Unlike voluntary adopters who self-select to follow IFRS after weighing the related benefits and costs, mandatory adopters are forced to switch to IFRS by a “one size fits all” regulation.² The effectiveness of this regulation is likely to depend on the underlying economic and political institutions influencing the incentives of the managers and auditors responsible for financial statement preparation (e.g., Ball et al. 2003). Thus, whether mandatory IFRS adoption reduces the cost of equity capital for mandatory adopters is an empirical question.

I test whether mandatory IFRS adoption affects the cost of equity capital using a sample of 6,456 observations representing 1,084 distinct firms in 18 EU countries during the period from 1995 to 2006. I focus my investigation on Europe for several reasons. First, relative to other countries that mandate IFRS, regulatory homogeneity across EU countries reduces the likelihood that cost of equity effects are subject to unspecified cross-country differences. Second, the relatively strong legal systems and enforcement regime in the EU provide a powerful setting to detect the effects of IFRS adoption. Third, IFRS adoption is regarded as an important milestone toward achieving a common EU market (Tweedie 2006) and, hence, understanding its economic consequences has implications for financial reporting convergence and capital market integration.

I begin the analysis by regressing the cost of equity on an indicator variable for the type of adopter (mandatory versus voluntary), an indicator variable for the time period (pre-versus post-mandatory adoption period), the interaction between these two indicators, and a set of control variables. Consistent with prior research, I measure the cost of equity using the average estimates from the implied cost of capital models proposed by Claus and Thomas (2001), Gebhardt et al. (2001), Gode and Mohanram (2003), and Easton (2004). Mandatory adopters are defined as firms that do not adopt IFRS until 2005, when it becomes mandatory to do so, and voluntary adopters are firms that adopt IFRS before 2005. Similarly, the pre-mandatory period is 1995 to 2004, while the post-mandatory period is

² Like many other accounting standards, the application of IFRS involves considerable judgment and provides firms with substantial discretion. As prior research suggests, however, IFRS tends to reduce the amount of reporting discretion relative to many local accounting standards, and thus improves the standards’ comparability across countries (e.g., Ding et al. 2007).

2005 to 2006. The control variables include whether the firm is cross-listed in the U.S., the country-specific inflation rate, firm size, return variability, financial leverage, as well as industry and country fixed effects. This difference-in-differences design, which analyzes the population of both mandatory and voluntary adopters over the full period from 1995 to 2006, compares the change in the cost of equity for mandatory adopters before and after the mandatory switch relative to the corresponding change in the cost of equity for voluntary adopters.

The findings in the above analysis indicate that mandatory adopters experience a significant reduction in the cost of equity of 47 basis points after the mandatory introduction of IFRS in 2005, and that voluntary adopters (that adopted IFRS prior to 2005) experience no significant change in the cost of equity after 2005. Further, while voluntary adopters have a significantly lower cost of equity compared to mandatory adopters prior to 2005, this difference becomes insignificant after the mandatory adoption in 2005. I also find similar results after excluding the transition period around the mandatory adoption (i.e., the last year before and the first year of mandatory adoption). Taken together, these findings are consistent with the mandatory IFRS adoption significantly lowering firms' cost of equity capital.

Next, I examine whether legal enforcement plays a significant role in the effects of mandating IFRS on the cost of equity. Specifically, I repeat the multivariate analysis described above after including the interaction of a country-level measure of the strength of legal enforcement (La Porta et al. 1998) with the type of adopter (mandatory versus voluntary) and the time period (pre- versus post-mandatory adoption). The results of this test indicate that the reduction in the cost of equity for mandatory adopters is significant only in countries with strong legal enforcement mechanisms, suggesting that the quality of legal enforcement is an important determinant of the cost of equity effects of IFRS adoption.

In a third set of tests, I analyze whether *increased disclosure* and/or *enhanced comparability* help explain the cost of equity effects of IFRS adoption. Specifically, I repeat the multivariate analysis in the second test described above after including interactions between measures of increased disclosure (i.e., the number of additional disclosures required by IFRS relative to local standards) and enhanced comparability (i.e., the number of inconsistencies between IFRS and local standards) with the type of adopter and the time period. Results suggest that increased disclosure and enhanced comparability are two mechanisms behind the cost of equity effects of mandatory IFRS adoption. While the effects of these two mechanisms on voluntary adopters appear to have economic significance, they are not statistically significant, possibly reflecting little statistical power due to the small sample size of voluntary adopters.

Finally, I perform sensitivity tests and find the results are robust to: (1) using bid-ask spread as an alternative dependent variable; (2) excluding observations from countries with no voluntary adopters; and (3) controlling for potential self-selection bias.

This study contributes to the literature in several ways. First, it provides insights into the economic consequences of mandatory IFRS adoption. Despite the mandatory adoption of IFRS by over 8,000 EU firms, there is limited evidence on its capital market effects (e.g., Daske 2006; Daske et al. 2008). This study improves our understanding of the implications of mandatory IFRS adoption by providing evidence on its cost of equity benefits. This evidence, however, should be interpreted with caution, as this study does not explicitly consider the costs of mandating IFRS and, hence, it only speaks to the gross rather than net benefits of mandating IFRS.

Second, this study contributes to the limited empirical research on the economic consequences of disclosure regulation. Despite the extensive and diverse disclosure regulations

that exist around the world, there is surprisingly little evidence on the costs and benefits of disclosure regulation.³ This study finds evidence on the cost of equity effects of mandatory IFRS adoption, and thus sheds new light on the economic consequences of regulating financial reporting and corporate disclosure.

Third, the findings of this study highlight the importance of institutional arrangements in shaping the outcomes of financial reporting convergence. One of the ultimate goals of mandating IFRS across the EU is to develop a financial reporting infrastructure for a common European capital market (Tweedie 2006). Prior studies indicate that high-quality accounting standards alone do not necessarily result in high-quality financial reporting (e.g., Ball et al. 2003). Consistent with this view, I find that the cost of equity is reduced only among countries with strong legal enforcement. This result underlines the substantial variation in outcome convergence across jurisdictions and the significance of institutional environments in achieving financial reporting convergence.

Finally, the findings of this study contribute to an ongoing debate as to whether the quality of accounting information affects firms' cost of equity capital (e.g., Barth et al. 2007). To the extent that IFRS represents a set of high-quality accounting standards, this study provides evidence consistent with high-quality financial reporting lowering the cost of equity capital.

This study is closely related to a recent study by Daske et al. (2008), who examine a variety of economic implications of mandating IFRS adoption (e.g., liquidity, cost of capital, and Tobin's q) across 26 countries. Unlike this study, they document a decrease in cost of equity for mandatory adopters only when accounting for the possibility that the effects occur before the official adoption date, and they find a larger decrease in cost of equity for *voluntary* adopters at the time of *mandatory* adoption. In contrast, using a focused EU sample, additional data in the post-adoption period, a difference-in-differences research design, and tests to account for a transition effect, I find consistent evidence that the IFRS mandate is associated with a significant reduction in the cost of equity capital for mandatory adopters, but find no significant effect for voluntary adopters at the time of mandatory adoption. More importantly, my study extends Daske et al. (2008) by showing that increased disclosure and enhanced comparability are two of the possible mechanisms behind the cost of equity effects.

Section II discusses the motivation. Section III presents the research design. Section IV describes the sample selection process and descriptive statistics. Section V reports the empirical results. Section VI discusses additional analyses. Section VII reports sensitivity checks and Section VIII concludes the study.

II. MOTIVATION

As perhaps one of the most significant financial reporting reforms in recent years, mandatory IFRS adoption in the EU has given rise to substantial controversy. On one hand, skeptics of mandatory IFRS adoption argue that given the importance of institutional arrangements on the effectiveness of new accounting rules (e.g., Ball et al. 2003; Burgstahler

³ Healy and Palepu (2001) note in their survey that empirical research on disclosure regulation is rare, and that most of these studies focus on early U.S. disclosure regulation in the 1930s such as the Securities Act of 1933 and the Securities Exchange Act of 1934 (e.g., Stigler 1964; Benston 1969, 1973; Jarrell 1981; Chow 1983). More recently, several studies examine the impact of the 1964 Securities Act Amendments, the 1999 Eligibility Rule for the OTC Bulletin Board, the 1992 revision of executive compensation disclosure rules, or the regulations concerning municipal debt issues (e.g., Lo 2003; Bushee and Leuz 2005; Greenstone et al. 2006; Baber and Gore 2008). In addition, a growing number of studies have investigated the impact of two recent changes in U.S. disclosure regulation, i.e., Regulation Fair Disclosure and the Sarbanes-Oxley Act, but the empirical findings of these studies are often mixed (see, for example, Leuz and Wysocki [2008] for a review).

et al. 2006), and the substantial variation in institutional arrangements across EU countries, the potential benefits of mandatory IFRS adoption are likely to vary depending on whether the new rules are effectively enforced. Consistent with this argument, standard-setters recognize that a sound financial reporting infrastructure must be built on “an enforcement or oversight mechanism that ensures that the principles as laid out by the accounting and auditing standards are followed” (Tweedie and Seidenstein 2005, 590). In addition, some observers question whether a uniform set of standards adequately accommodates the economic and political differences across countries (e.g., Sunder 2007). Thus, given the existing institutional variation across EU member states, it is unclear *ex ante* whether mandatory IFRS adoption would unambiguously reduce firms’ cost of equity in all financial reporting environments.

On the other hand, prior research suggests that, given proper implementation and enforcement, mandatory IFRS adoption can reduce the cost of equity capital through at least two mechanisms. The first mechanism is increased financial disclosure. IFRS typically requires greater disclosure than local accounting standards (Ashbaugh and Pincus 2001).⁴ The information asymmetry literature suggests that greater disclosure mitigates the adverse selection problem and enhances liquidity, thereby reducing the cost of equity through lower transaction costs and/or stronger demand for a firm’s securities (e.g., Amihud and Mendelson 1986; Diamond and Verrecchia 1991; Easley and O’Hara 2004). Moreover, the estimation risk literature predicts that firms with greater information disclosure have lower forward-looking betas, which lead to a lower cost of equity (e.g., Barry and Brown 1985; Lambert et al. 2007). These theoretical predictions find support in several empirical studies, including Botosan (1997), who shows that greater disclosure is associated with a lower cost of equity capital for firms with relatively low analyst following, and Francis et al. (2005), who report that firms with an expanded disclosure policy enjoy a lower cost of capital.

The second mechanism through which mandatory IFRS adoption could reduce the cost of equity is enhanced information comparability. A uniform set of accounting standards can result in enhanced comparability of financial information across firms, especially for firms located in different countries. Enhanced information comparability can reduce the costs associated with investors using information and, in turn, reduce information asymmetry and/or estimation risk, leading to a lower cost of equity. Barth et al. (1999) develop a similar argument by showing that international accounting harmonization is likely to reduce the expertise acquisition costs incurred when foreign investors interpret financial statements prepared under domestic accounting standards. Furthermore, the enhanced comparability effects of IFRS convergence can also bring about positive information externalities: because the value of one firm is correlated with that of another firm, the information disclosed by firms in one country becomes more comparable and, hence, more useful in valuing firms in another country if both countries adopt IFRS, thus reducing estimation risk and the cost of equity capital (Dye 1990). Such externalities are magnified as the number of countries converging to IFRS increases. These effects of improved comparability are consistent with Covrig et al. (2007), who find that average foreign mutual fund ownership is higher among voluntary IFRS adopters as they provide more information or information in a more familiar form to foreign investors.

⁴ Indeed, criticism on deficient disclosure policies is a frequently cited motive for firms voluntarily adopting IFRS (e.g., Burt and Harnischfeger 2000). For instance, under the German accounting standards (HGB), there are no specific rules requiring disclosure of a primary statement of changes in equity (IAS 1.7), current cost of inventory when LIFO is used (IAS 2.36), fair values of financial assets and liabilities (IAS 32.77), fair values of investment properties (IAS 40.69), related-party transactions other than certain disclosures (IAS 24.22), discontinuing operations (IAS 35), or earnings per share (IAS 33) (Nobes 2001).

Prior studies focus primarily on the economic consequences of voluntary IFRS adoption, providing some evidence that voluntary adoption reduces the cost of equity capital (e.g., Leuz and Verrecchia 2000; Barth et al. 2008). There is little empirical evidence, however, on the cost of equity effects of mandatory IFRS adoption. While providing useful insights, the findings on voluntary IFRS adoption are not necessarily generalizable to the case of mandatory IFRS adoption. This is because voluntary adopters self-select to follow IFRS after considering the related costs and benefits, with the cost of capital effects being only one of them,⁵ whereas mandatory adopters in the EU switch to IFRS because this switch is required by regulation. The effectiveness of this regulation in achieving benefits such as a reduction in the cost of equity is likely to depend on the extent to which the institutional environment (e.g., the quality of legal enforcement) influences preparers' actual reporting incentives (e.g., Ball et al. 2003). Therefore, it is unclear *ex ante* how mandatory IFRS adoption impacts firms' cost of equity capital and this remains an empirical question.

III. RESEARCH DESIGN

I explore the impact of mandatory IFRS adoption on the cost of equity using a difference-in-differences design. Specifically, I regress the cost of equity capital on an indicator variable for the type of adopter (mandatory versus voluntary adopter), an indicator variable for the time period (pre- versus post-mandatory adoption period), the interaction between these two indicators, and a set of control variables. This research design allows me to investigate the change in the cost of equity in the pre- versus post-mandatory adoption period for mandatory adopters relative to the change for voluntary adopters over the same time period. Using voluntary adopters as a control group helps to isolate the effect of IFRS adoption by differencing out possible confounding factors that change around the adoption. Furthermore, comparing the changes in the cost of equity before and after the adoption helps to mitigate potential self-selection bias related to heterogeneous characteristics across mandatory and voluntary adopters if the unobserved differences between the two groups are time-invariant.⁶

⁵ There are additional factors and frictions that prevent more companies from voluntarily switching to IFRS even when it lowers the cost of capital. For example, a survey of 1,000 European companies conducted by JMH Financial Services reports that the average compliance cost for switching to IFRS is estimated to be around £360,000 across U.K. companies; this figure rises to £625,000 for companies with a market value between £1 billion and £2 billion. Besides these direct costs of switching to the new standards, managers are concerned about the revelation of proprietary information disclosed under IFRS. Greater disclosure required by IFRS compared to local standards could also make monitoring less costly, reducing the private benefits that controlling shareholders and managers could expropriate and, hence, reducing their incentives to adopt IFRS. Thus, companies may not voluntarily adopt IFRS because the associated costs could outweigh the benefits of reducing the cost of capital. Consistent with this rationale, prior research suggests that voluntary IFRS adopters are not a randomly selected group. Rather, voluntary adopters are larger, have greater financing needs, have shares that are traded in more than one equity market, and have better long-run market performance (e.g., Harris and Muller 1999; Leuz and Verrecchia 2000; Ashbaugh 2001; Leuz 2003). In a sensitivity test reported below, I also explicitly model the voluntary adoption decisions in a Heckman two-stage regression. I note that, however, a complete investigation of companies' voluntary adoption decisions is beyond the scope of this study.

⁶ Bertrand et al. (2004) point out that the difference-in-differences design may suffer from serial correlation problems. To explicitly assess whether serial correlations affect my inferences, I follow Bertrand et al. (2004) and average the pre-2005 and post-2005 data separately and then repeat the difference-in-differences analysis at the averaged level. The results (not tabulated) in Table 4 for the full sample period are qualitatively unchanged. Further, the results after excluding the transition period are consistent except that the interaction term is not significant ($t = -1.37$). This might be explained by the low power of the test, which uses only one year of the post-mandatory adoption period after excluding 2004 and 2005. Consistent with this conjecture, the regression analysis after excluding only 2004 finds that the interaction term is significant ($t = -1.73$). Therefore, my results remain generally robust after controlling for the serial correlation problem.

As in prior research, I use the *ex ante* cost of equity implied in current stock prices and analysts' forecasts of future earnings. This implied cost of equity measure is more suitable in this research setting compared to the alternatives.⁷ I use a measure that relies on four estimation models: the industry ROE model in Gebhardt et al. (2001), the economy-wide growth model in Claus and Thomas (2001), the unrestricted abnormal earnings growth model in Gode and Mohanram (2003), and the restricted abnormal earnings growth model in Easton (2004).⁸ Each of these models represents a different form of the dividend discount valuation model, varying in the use of analysts' forecasts and the assumptions of short-term and long-term growth. Because there is substantial measurement error and potential bias in implied cost of capital estimates (Easton and Monahan 2005), I use the mean of these four measures as the proxy for the cost of equity capital (Hail and Leuz 2006, 2009; Daske et al. 2007, 2008).^{9,10}

My primary independent variables consist of three indicators. The first indicator variable captures whether the firm is a mandatory IFRS adopter, and is coded 1 when the firm does not adopt IFRS until it becomes mandatory in 2005, and 0 otherwise. A firm is classified as a mandatory adopter if the data item "astd" (accounting standards) in Compustat Global does not equal "DI" prior to 2005.¹¹ A second indicator variable captures whether the firm-year observation falls in the post-mandatory adoption period, and is coded

⁷ One alternative cost of equity measure is realized return. I do not use this measure because standard approaches to obtain unbiased estimates of expected returns often require a long time-series of past return data (Stulz 1999). Moreover, IFRS adoption is a major corporate event that makes it difficult to obtain equilibrium estimates of expected returns. Another cost of capital estimate relies on international asset-pricing models (e.g., Bhattacharya et al. 2003). I do not use this estimate because it is less reliable in an international setting as the necessary assumptions of a similar degree of market segmentation and similar exposure to the global market portfolio are hard to maintain (Hail and Leuz 2008).

⁸ Two of the four estimation models make certain assumptions about the growth in abnormal earnings beyond explicit forecast horizons (i.e., Claus and Thomas 2001; Gode and Mohanram 2003). But growth expectations might be different between mandatory and voluntary adopters, as well as before and after the mandatory switch, which can bias the cost of equity estimates and mechanically produce the desired results (Hail and Leuz 2006, 2008). Thus, I include as additional explanatory variables analysts' long-run EPS growth estimates provided by I/B/E/S, analysts' one-year-ahead forecasted growth rates in EPS, and *ex post* realized growth rates, computed as the historic two-year geometric average of annual percentage growth in net sales (Hail and Leuz 2008). These sensitivity tests (not tabulated) find results consistent with those in Tables 4 and 6.

⁹ For example, analyst forecasting behaviors are likely to vary across countries, which might introduce biases to the implied cost of capital estimates. Besides including country indicator variables in the main analysis, I also control for analyst forecast accuracy and forecast bias in the regression analysis of Tables 4 and 6. The results (not tabulated) remain qualitatively unchanged.

¹⁰ Another concern is that the cost of equity effects may be a mechanical result of using forecasted earnings prepared according to different accounting standards. For instance, earnings under IFRS could be systematically smaller than earnings under local standards, which, *ceteris paribus*, would lead to a lower cost of equity after mandatory IFRS adoption. To empirically examine whether this is indeed the case in my sample, I compare earnings under IFRS versus under local standards for mandatory adopters. I find that while mean earnings is significantly smaller under IFRS (significant at $p < 0.01$), the median is not significantly different under the two standards. In addition, comparing analysts' one-year- and two-year-ahead EPS forecasts reveals that while the mean values of forecasted earnings are smaller under IFRS (significant at $p < 0.01$), the median values are larger under IFRS (significant at $p < 0.01$). Thus, the evidence does not seem to suggest that earnings under IFRS are systematically smaller than under local standards.

¹¹ In Compustat Global, "DI" represents domestic standards generally in accordance with IASC. There are two other relevant codes related to IFRS adoption: "DA" (domestic standards generally in accordance with IASC and Organization for Economic Co-Operation and Development [OECD]) and "DT" (domestic standards in accordance with principles generally accepted in the United States and generally in accordance with IASC and OECD guidance). To check the robustness of the results, I redefine IFRS adoption using the codes DI, DA, and DT and repeat the analysis in Tables 4 and 6. The results (not tabulated) remain qualitatively similar. However, to be consistent with the code in the post-mandatory adoption period, this study's main inferences are drawn from the results based on the DI code.

1 when the firm-year falls in 2005 or later, and 0 otherwise.¹² A third indicator variable captures the interaction of the first two indicators. Using these indicator variables allows for a 2×2 analysis of the cost of capital effects of mandatory IFRS adoption for mandatory versus voluntary adopters across the pre- versus post-mandatory adoption periods.

The multivariate regression also includes several control variables expected to influence the cost of equity capital: (1) three forms of U.S. cross-listing (from JP Morgan ADR Analytics) to capture the impact of cross-listing on the cost of equity (Hail and Leuz 2009); an indicator of whether the firm has a private placement under Rule 144A (*PP*), an indicator of whether the firm trades its shares in the over-the-counter markets (*OTC*), and an indicator of whether a firm lists its shares on the NYSE, NASDAQ, or Amex (*EXCH*);¹³ (2) the expected future inflation rate estimated by the median of next year's monthly inflation rates (from Datastream and the World Bank; *INFLA*), to capture the cross-country variation in inflation rates because the implied cost of capital measures are expressed in local currency and in nominal terms (Hail and Leuz 2006, 2009);¹⁴ (3) variables controlling for firm financial and risk characteristics that are associated with cross-sectional variation of returns (Fama and French 1992, 1993): firm size (*SIZE*), measured as the natural logarithm of total assets in U.S. dollars at year-end, return variability (*RETVAR*), computed as the annual standard deviation of monthly stock returns at year-end, and financial leverage (*LEV*), estimated as the ratio of total liabilities over total assets at year-end;¹⁵ and (4) indicator variables to control for industry and country fixed effects (Fama and French 1997; Hail and Leuz 2006).

The formal regression model is as follows (firm and year subscripts are suppressed):

$$\begin{aligned}
 COC = & \alpha_0 + \alpha_1 * \text{Mandatory IFRS adopters} + \alpha_2 * \text{Post adoption period} \\
 & + \alpha_3 * \text{Mandatory IFRS adopters} * \text{Post adoption period} \\
 & + \alpha_4 * PP + \alpha_5 * OTC + \alpha_6 * EXCH + \alpha_7 * INFLA + \alpha_8 * SIZE \\
 & + \alpha_9 * RETVAR + \alpha_{10} * LEV + \alpha_m * DIndustry \\
 & + \alpha_n * DCountry + \varepsilon
 \end{aligned} \tag{1}$$

¹² There are two cases in which EU member states may exempt certain companies from mandatory IFRS adoption in 2005, but only until 2007: (1) companies that are listed both in the EU and on a non-EU exchange and that currently use U.S. GAAP as their primary accounting standards, and (2) companies that have only publicly traded debt securities (Deloitte 2005). Additionally, non-EU companies listed on EU exchanges can continue to use their national GAAP until 2007. The main analysis in this study is based on the sample after excluding firms in the three preceding cases.

¹³ The results in Tables 4 and 6 are robust to combining these three cross-listing indicators into one variable.

¹⁴ Controlling for the expected inflation rate assumes that this is the only source causing variation in nominal risk-free rates. However, real interest rates may vary over time and across countries, which would also affect the cost of equity capital. Following prior studies (e.g., Hail and Leuz 2006, 2008), I include as an additional control local nominal risk-free rates, computed as the country-year median of the monthly risk-free interest rates using yields of local treasury bills, central bank papers, or inter-bank loans provided by Datastream. I also use the risk premium computed by subtracting the expected inflation rates (or the nominal risk-free interest rates) from the raw implied cost of equity capital estimates as the dependent variable, instead of including the inflation rates (or the nominal risk-free interest rates) as separate control variables. These sensitivity tests (not tabulated) find results consistent with those in Tables 4 and 6.

¹⁵ Alternatively, I could use market beta to control for risk. However, the estimation of market beta in an international setting requires a global portfolio, whose validity depends on the degree of market integration. Moreover, studies have shown that future returns in emerging markets have no (or even a negative) relation with beta computed using the world market portfolio (e.g., Harvey 1995). Nevertheless, as a sensitivity test, I include market beta as an additional control and find that the results (not tabulated) in Tables 4 and 6 are robust to this specification. As an additional sensitivity test I use book-to-market as an alternative control for risk. The results (not tabulated) in Tables 4 and 6 are also robust to this specification.

where:

- COC* = the mean of the four implied cost of equity estimates based on Claus and Thomas (2001), Gebhardt et al. (2001), Gode and Mohanram (2003), and Easton (2004);
- Mandatory IFRS adopters* = indicator variable equal to 1 if a firm does not adopt IFRS until 2005, and 0 otherwise;
- Post adoption period* = indicator variable equal to 1 if a firm-year observation falls in 2005 or later, and 0 otherwise;
- Mandatory IFRS adopters*
 * *Post adoption period* = the interaction term between the two indicator variables above;
- PP* = indicator variable equal to 1 if a firm has a private placement under Rule 144A according to JP Morgan ADR Analytics;
- OTC* = indicator variable equal to 1 if a firm trades its shares in the U.S. over-the-counter markets according to JP Morgan ADR Analytics;
- EXCH* = indicator variable equal to 1 if a firm trades its shares on the NYSE, NASDAQ, or Amex according to JP Morgan ADR Analytics;
- INFLA* = yearly median of country-specific, one-year-ahead monthly inflation rates;
- SIZE* = natural logarithm of total assets in U.S.\$ millions at year-end;
- RETVAR* = return variability computed as the annual standard deviation of monthly stock returns at year-end;
- LEV* = financial leverage computed as total liabilities divided by total assets at year-end;
- DIndustry* = indicator variables for a firm's industry membership based on the industry classification in Campbell (1996); and
- DCountry* = indicator variables for countries.

IV. SAMPLE SELECTION AND DESCRIPTIVE STATISTICS

Sample Selection

I obtain the sample used to estimate the above regression from the Compustat Global database, generating 6,456 firm-year observations (including 1,781 IFRS firm-year observations) from 18 EU countries from 1995 to 2006.¹⁶ As analysts may have difficulty forecasting earnings around the adoption, I exclude the transition period (i.e., the last year before and the first year of mandatory IFRS adoption), and obtain a secondary sample of 2,846 firm-year observations (including 665 IFRS firm-year observations) from 18 EU

¹⁶ In unreported sensitivity tests, I exclude the following observations and find results consistent with those in Tables 4 and 6: (1) firms in financial services and utilities industries (SIC codes 4900–4999 and 6000–6999); (2) observations listed in Germany's New Market; (3) observations using U.S. GAAP; and (4) IFRS adopters in Austria after 2001 and in Greece after 2002 as firms in these countries were required to adopt IFRS before 2005.

countries.¹⁷ The investigation period begins in 1995 because this is when the IAS Comparability/Improvement Project was completed by the International Accounting Standards Committee (IASC) and endorsed by the International Organization of Securities Commissions (IOSCO).¹⁸ To be included in the sample, each firm must have data available for both the pre- and post-mandatory adoption periods.

To estimate the cost of equity measures, I obtain analyst forecasts and price information from I/B/E/S. I obtain other estimation inputs, including the dividend payout ratio and book value of equity, from Compustat Global. These price and forecast data are in local currencies and are taken seven months after the fiscal year-end to ensure the financial data are publicly available and priced at the time of estimation (Hail and Leuz 2006).¹⁹ To be included in the sample, I require each firm-year observation to have current stock price data and analyst mean consensus earnings forecasts for at least two periods ahead. All earnings forecasts are restricted to be positive, and the long-term earnings growth rate forecasts are used if the three-year- through five-year-ahead earnings forecasts are missing. The dividend payout ratio is computed using the historic three-year average for each firm, and is replaced by the country-year median payout ratio when missing or out of the range of 0 to 1 (Hail and Leuz 2006). I further require that all four individual measures of cost of equity be available in order to calculate the average cost of equity measure. Cost of equity estimates below 0 and above 1 are omitted.

The financial statement variables, including accounting standards, come from Compustat Global.²⁰ I require each observation to have necessary data for computing the control variables specified in Section III. Finally, to mitigate the influence of outliers, I winsorize all firm-level continuous variables at the top and bottom 1 percent of their distributions, with the exception of firm size (log of total assets).

Table 1 provides the sample distribution and country-level descriptive statistics for the test variables used in the full sample. Columns two and four in Panel A show that the number of observations varies widely across the sample countries. For instance, in the pre-mandatory adoption period (1995–2004), the U.K. has the largest number of observations (1,713), while Hungary has the lowest (3). The third column also reports large cross-country variation in the proportion of firm-year observations that voluntarily use IFRS during the pre-mandatory adoption period. This variation is consistent with country-level disclosure regulations imposing different costs on IFRS adoption and thus introducing different incentives for firms to adopt IFRS (Covrig et al. 2007). Finally, column five shows that all listed firms in the EU use IFRS once it becomes mandatory in 2005.

¹⁷ Another concern is that market participants may anticipate the effects of mandatory IFRS adoption before 2005, which would affect the estimation of implied cost of capital. However, such anticipation should make it harder to detect any cost of capital effects after 2005, and therefore should bias against finding the results in Table 4.

¹⁸ IFRS has undergone numerous changes and revisions since the 1970s. By the end of 1998, the IASC completed the Core Standards Project. As a result, the quality of the standards and the resulting financial reporting and disclosures may have improved along with these revisions (Holthausen 2003). To explore whether the results are sensitive to the standards revisions, I restrict the pre-mandatory adoption sample period to 1999–2004 and repeat the multivariate regression analysis in Table 4. This sensitivity analysis finds qualitatively similar results.

¹⁹ Hail and Leuz (2006) use the data as of month +7 as well as month +10 after the fiscal year-end. However, the specification of month +10 greatly limits the number of qualified observations, especially for the post-mandatory adoption period, as analyst forecast data in I/B/E/S are only available through September 2007 at the time I conducted the analysis.

²⁰ Prior studies suggest that Compustat contains many data errors in coding accounting standards (Covrig et al. 2007). I therefore manually check the following cases based on the corresponding annual reports and/or company websites: (1) companies that are shown to adopt IFRS and later switch back to local standards; and (2) companies with a fiscal year-end in the months of January to May as well as December but that still use local standards (“DS”) in 2005. In total, I identify and correct 34 firm-year observations that are mistakenly classified.

TABLE 1
Sample Distribution and Country-Level Descriptive Statistics

Panel A: Sample Distribution

	Pre-Mandatory Adoption Period 1995–2004		Post-Mandatory Adoption Period 2005–2006	
	n	Percent Using IFRS	n	Percent Using IFRS
Austria	63	35%	14	100%
Belgium	167	5%	49	100%
Czech Republic	5	80%	1	100%
Denmark	164	11%	60	100%
Finland	242	11%	109	100%
France	653	2%	226	100%
Germany	457	25%	159	100%
Greece	78	8%	35	100%
Hungary	3	0%	1	100%
Ireland	101	0%	30	100%
Italy	302	0%	143	100%
Luxembourg	7	0%	2	100%
The Netherlands	326	0%	94	100%
Poland	16	0%	7	100%
Portugal	44	0%	15	100%
Spain	240	0%	78	100%
Sweden	303	0%	106	100%
United Kingdom	1,713	0%	443	100%
Total	4,884	4%	1,572	100%

Panel B: Country-Level Descriptive Statistics

	<u>COC</u>	<u>INFLA</u>	<u>TA</u>	<u>MKT</u>	<u>RETVAR</u>	<u>LEV</u>
Austria	0.101	1.70%	3,888	2,307	0.085	0.626
Belgium	0.112	1.82%	28,775	2,921	0.081	0.599
Czech Republic	0.105	2.16%	16,523	3,185	0.084	0.922
Denmark	0.114	2.09%	11,590	1,865	0.089	0.587
Finland	0.125	1.44%	1,759	1,042	0.098	0.515
France	0.108	1.52%	35,299	6,506	0.104	0.635
Germany	0.111	1.51%	42,554	6,132	0.108	0.641
Greece	0.116	3.49%	11,480	3,221	0.103	0.694
Hungary	0.115	5.49%	462	617	0.145	0.160
Ireland	0.115	3.30%	27,511	3,879	0.079	0.726
Italy	0.102	2.35%	37,062	5,562	0.083	0.711
Luxembourg	0.154	2.29%	4,468	2,124	0.156	0.590
The Netherlands	0.123	2.19%	42,003	5,410	0.094	0.612
Poland	0.123	2.96%	8,677	2,423	0.113	0.746
Portugal	0.111	2.89%	15,728	3,803	0.067	0.811
Spain	0.100	2.97%	35,753	9,662	0.073	0.702
Sweden	0.113	1.22%	15,985	3,093	0.108	0.582
United Kingdom	0.106	1.68%	23,698	5,405	0.092	0.608

(continued on next page)

TABLE 1 (continued)

	<u>COC</u>	<u>INFLA</u>	<u>TA</u>	<u>MKT</u>	<u>RETVAR</u>	<u>LEV</u>
Mean	0.110	1.89%	27,304	5,114	0.094	0.626
Median	0.104	1.82%	1,018	783	0.080	0.630
Std. Dev.	0.035	0.80%	124,277	14,355	0.053	0.194

Table 1 reports the sample distribution and country-level descriptive statistics. The full sample comprises 6,456 firm-year observations representing 1,084 distinct firms from 18 EU countries during the period from 1995 to 2006. Panel A reports the number of firm-year observations and the proportion of IFRS users by country. Panel B reports the descriptive statistics on key variables by country.

Variable Definitions:

COC = the mean of four implied cost of equity estimates based on Claus and Thomas (2001), Gebhardt et al. (2001), Gode and Mohanram (2003), and Easton (2004);

INFLA = the yearly median of country-specific, one-year-ahead monthly inflation rates;

TA = the firm's total assets in millions of U.S. dollars at year-end;

MKT = the firm's market value of equity in millions of U.S. dollars at year-end;

RETVAR = the return variability computed as the annual standard deviation of monthly stock returns at year-end; and

LEV = financial leverage computed as total liabilities divided by total assets at year-end.

Descriptive Statistics

Panel B of Table 1 reports the descriptive statistics by country for the test variables used in the full sample. This panel shows that the country average of the cost of equity capital measure ranges from a low of 0.100 in Spain to a high of 0.154 in Luxembourg, with a median of 0.104 and a standard deviation of 0.035. The magnitude of these estimates is generally consistent with prior cross-country studies such as Hail and Leuz (2006, 2009). In addition, Panel B indicates that total assets and the market value of equity are highly skewed, with mean values of \$27.3 billion and \$5.1 billion and median values of \$1.0 billion and \$783 million, respectively. I therefore use the log transformations for these two variables in my analysis.

Table 2 compares the descriptive statistics between pre- and post-mandatory adoption periods and between voluntary and mandatory IFRS adopters for the firm-level variables over the full sample period. The average cost of equity measure is 0.103 in the post-adoption period, which is significantly smaller than the mean value of 0.112 in the pre-adoption period (two-tailed $p < 0.01$). Examining other firm-level variables reveals that after the mandatory adoption, firm size is significantly larger, and returns are less volatile (two-tailed $p < 0.01$). It is therefore important to control for these changes in the multivariate analysis. Table 2 also indicates that, relative to mandatory IFRS adopters, voluntary adopters have lower cost of equity capital, are more frequently cross-listed in the U.S. (in the forms of private placements and OTC trading), are larger in size, have more volatile stocks returns, and have higher financial leverage (all with two-tailed $p < 0.05$ or better). These results are generally consistent with prior studies on voluntary IFRS adoption (e.g., Covrig et al. 2007).

Table 3 reports the Pearson correlation coefficients for the test variables of the full sample. I find a significantly negative correlation between the cost of equity capital and IFRS adoption (two-tailed $p < 0.01$). Consistent with Hail and Leuz (2009), I find that the cost of equity capital is negatively correlated with U.S. cross-listings in the forms of OTC trading and exchange listings (both with two-tailed $p < 0.01$), but not with private placements under Rule 144A. In addition, the cost of equity capital is negatively correlated with firm size and positively correlated with the inflation rate, stock return variability, as well as financial leverage (all with two-tailed $p < 0.05$ or better).

TABLE 2
Firm-Level Descriptive Statistics

		<u>Pre-Adoption</u>	<u>Post-Adoption</u>	<u>Diff.</u>	<u>t-test or Wilcoxon Test</u>	<u>Voluntary Adopters</u>	<u>Mandatory Adopters</u>	<u>Diff.</u>	<u>t-test or Wilcoxon Test</u>
	n	4,884	1,572			570	5,886		
<i>COC</i>	Mean	0.112	0.103	-0.009	***	0.107	0.110	0.003	**
	Median	0.106	0.098	-0.008	***	0.101	0.104	0.003	**
<i>PP</i>	Mean	0.010	0.009	-0.001		0.030	0.007	-0.023	***
	Median	0.000	0.000	0.000		0.000	0.000	0.000	***
<i>OTC</i>	Mean	0.074	0.074	0.000		0.172	0.064	-0.108	***
	Median	0.000	0.000	0.000		0.000	0.000	0.000	***
<i>EXCH</i>	Mean	0.079	0.090	0.011		0.077	0.082	0.005	
	Median	0.000	0.000	0.000		0.000	0.000	0.000	
<i>SIZE</i>	Mean	7.207	7.399	0.192	***	7.849	7.196	-0.653	***
	Median	6.890	7.084	0.194	***	7.542	6.860	-0.682	***
<i>RETVAR</i>	Mean	0.102	0.071	-0.031	***	0.098	0.094	-0.004	
	Median	0.087	0.065	-0.022	***	0.085	0.080	-0.005	**
<i>LEV</i>	Mean	0.625	0.627	0.002		0.647	0.624	-0.023	***
	Median	0.626	0.640	0.014		0.652	0.627	-0.023	***

*, **, *** Denotes significance at the 0.10, 0.05, and 0.01 levels, respectively, all two-tailed.

Table 2 reports the firm-level descriptive statistics for key variables across the pre- and post-adoption periods and by voluntary and mandatory adopters. The full sample comprises 6,456 firm-year observations representing 1,084 distinct firms from 18 EU countries during the period from 1995 to 2006. The t-test tests the null hypothesis that the mean difference on key variables is zero. The Wilcoxon test is a nonparametric method testing the null hypothesis that the median difference on key variables is zero.

Variable Definitions:

PP = an indicator variable equal to 1 if a firm has a private placement under Rule 144A according to JP Morgan ADR Analytics;

OTC = an indicator variable equal to 1 if a firm trades its shares in the U.S. over-the-counter markets according to JP Morgan ADR Analytics;

EXCH = an indicator variable equal to 1 if a firm trades its shares on the NYSE, NASDAQ, or Amex according to JP Morgan ADR Analytics; and

SIZE = the natural logarithm of total assets in millions of U.S. dollars at year-end.

All other variables are defined as in Table 1.

TABLE 3
Pearson Correlation Matrix
(two-tailed p-values in italics)

	<i>IFRS Adoption</i>	<i>COC</i>	<i>PP</i>	<i>OTC</i>	<i>EXCH</i>	<i>INFLA</i>	<i>SIZE</i>	<i>RETVAR</i>
<i>COC</i>	-0.103 <i>< 0.001</i>							
<i>PP</i>	0.033 <i>0.008</i>	0.015 <i>0.217</i>						
<i>OTC</i>	0.046 <i>< 0.001</i>	-0.058 <i>< 0.001</i>	0.095 <i>< 0.001</i>					
<i>EXCH</i>	0.019 <i>0.119</i>	-0.041 <i>< 0.001</i>	-0.029 <i>0.019</i>	-0.084 <i>< 0.001</i>				
<i>INFLA</i>	0.143 <i>< 0.001</i>	0.031 <i>0.012</i>	0.028 <i>0.025</i>	-0.004 <i>0.727</i>	0.040 <i>0.002</i>			
<i>SIZE</i>	0.075 <i>< 0.001</i>	-0.174 <i>< 0.001</i>	0.102 <i>< 0.001</i>	0.248 <i>< 0.001</i>	0.337 <i>< 0.001</i>	0.118 <i>< 0.001</i>		
<i>RETVAR</i>	-0.231 <i>< 0.001</i>	0.308 <i>< 0.001</i>	-0.022 <i>0.084</i>	-0.067 <i>< 0.001</i>	0.001 <i>0.936</i>	-0.099 <i>< 0.001</i>	-0.240 <i>< 0.001</i>	
<i>LEV</i>	0.021 <i>0.087</i>	0.105 <i>< 0.001</i>	0.085 <i>< 0.001</i>	0.114 <i>< 0.001</i>	0.097 <i>< 0.001</i>	0.131 <i>< 0.001</i>	0.576 <i>< 0.001</i>	-0.070 <i>< 0.001</i>

Table 3 presents the Pearson correlation coefficients among the test variables based on the full sample of 6,456 observations representing 1,084 distinct firms from 18 EU countries during the period from 1995 to 2006. p-values (in italics) are two-tailed.

Variable Definition:

IFRS Adoption = an indicator variable equal to 1 if a firm uses IFRS during the year either voluntarily or mandatorily.

All other variables are defined as in Tables 1 and 2.

V. RESULTS

Table 4 presents the results of the multivariate regression analysis. Panel A reports the coefficients, firm and year cluster-adjusted t-statistics, and two-tailed p-values of the regression model for the full sample period (1995 to 2006) as well as those for the sample after excluding the transition period (i.e., 2004 and 2005; Petersen 2009; Gow et al. 2010). To examine the relation between the cost of equity capital and mandatory IFRS adoption, however, I must first combine some of the coefficients in Panel A and test the significance of the aggregated coefficients. Therefore, for ease of exposition, Panel B reports the reconstructed coefficients and the significance levels in a 2×2 analysis for the full sample period. The columns in Panel B partition the sample by the pre- and post-mandatory IFRS adoption periods, and the rows partition the sample by mandatory and voluntary IFRS adopters. The individual cells as well as the row differences and column differences are constructed using the coefficients from Panel A.²¹

Comparing the two columns in Panel B of Table 4 shows that mandatory adopters experience a significant reduction in the cost of equity capital after the mandatory adoption

²¹ For example, the cell for mandatory adopters in the pre-mandatory adoption period in Panel B (0.0924) equals the sum of the intercept (0.0841) and the coefficient on the indicator variable for mandatory adopters in Panel A (0.0083). Similarly, the cell for mandatory adopters in the post-mandatory adoption period in Panel B (0.0877) equals the sum of the intercept (0.0841), the coefficient on the indicator for mandatory adopters (0.0083), the coefficient on the indicator for post-mandatory adoption period (0.0016), and the coefficient on the interaction term (-0.0063) in Panel A.

TABLE 4
Primary Analysis on the Cost of Equity Effects of Mandatory IFRS Adoption

Panel A: Pooled Regressions

	Full Period (1995–2006)			Excluding Transition Period (1995–2003, 2006)		
	Coeff.	t-statistic	Two-Tailed p-value	Coeff.	t-statistic	Two-Tailed p-value
Intercept	0.0841	7.06	0.000	0.0864	4.57	0.001
Mandatory adopters (1)	0.0083	2.62	0.024	0.0114	2.97	0.016
Post adoption period (2)	0.0016	0.34	0.741	–0.0023	–0.50	0.628
Mandatory adopters * Post adoption period (3)	–0.0063	–2.66	0.022	–0.0063	–2.70	0.025
<i>PP</i>	0.0100	3.66	0.004	0.0151	4.77	0.001
<i>OTC</i>	0.0005	0.19	0.851	–0.0005	–0.14	0.888
<i>EXCH</i>	0.0024	0.82	0.429	0.0041	1.28	0.232
<i>INFLA</i>	0.4010	2.58	0.026	0.5966	3.26	0.010
<i>SIZE</i>	–0.0038	–7.21	0.000	–0.0044	–5.78	0.000
<i>RETVAR</i>	0.1687	8.09	0.000	0.1525	6.84	0.000
<i>LEV</i>	0.0552	11.26	0.000	0.0575	9.68	0.000
Industry controls	Included			Included		
Country controls	Included			Included		
Test: (2) + (3) = 0			<.0001			<.0001
Test: (1) + (3) = 0			0.525			0.184
n	6,456			2,846		
Adj. R ²	0.22			0.26		

(continued on next page)

TABLE 4 (continued)

Panel B: Two-by-Two Analysis of Mandatory versus Voluntary Adopters, by Period, Using the Coefficients in Panel A

	<u>Pre-Mandatory Adoption (1995–2004)</u>	<u>Post-Mandatory Adoption (2005–2006)</u>	<u>Diff.</u>
Mandatory adopters	0.0924 n = 4,437	0.0877 n = 1,449	–0.0047***
Voluntary adopters	0.0841 n = 447	0.0857 n = 123	0.0016
Diff.	0.0083**	0.0020	–0.0063**

Panel C: Two-by-Two Analysis of Mandatory versus Voluntary Adopters, by Period, after Excluding the Transition Period (2004 and 2005), Using the Coefficients in Panel A

	<u>Pre-Mandatory Adoption (1995–2003)</u>	<u>Post-Mandatory Adoption (2006)</u>	<u>Diff.</u>
Mandatory adopters	0.0978 n = 2,003	0.0892 n = 497	–0.0086***
Voluntary adopters	0.0864 n = 290	0.0841 n = 56	–0.0023
Diff.	0.0114**	0.0051	–0.0063**

*, **, *** Denotes significance at the 0.10, 0.05, and 0.01 levels, respectively, all two-tailed.

Table 4 reports the results of the primary analysis. Panel A reports the pooled regression coefficients, firm, and year cluster-adjusted t-statistics, and two-tailed p-values for the full period sample of 6,456 firm-year observations from 1995 to 2006, as well as for the sample of 2,846 firm-year observations from 1995 to 2003 and 2006 after excluding the transition period. Panel B reports the 2 × 2 analysis of mandatory adopters versus voluntary adopters by period for the full sample, constructed using the coefficients in Panel A. Panel C reports the 2 × 2 analysis of mandatory adopters versus voluntary adopters by period for the sample after excluding the transition period, constructed using the coefficients in Panel A.

Variable Definitions:

Mandatory IFRS Adopters = an indicator variable equal to 1 if a firm does not adopt IFRS until 2005, and 0 otherwise;

Post Adoption Period = an indicator variable equal to 1 if a firm-year observation falls in or after 2005, and 0 otherwise;

Mandatory IFRS Adopters * Post Adoption Period = the interaction term between the two indicator variables above;

Industry controls = indicator variables indicating a firm’s industry membership based on the industry classification in Campbell (1996); and

Country controls = indicator variables for countries.

All other variables are defined as in Tables 1 and 2.

(0.0877 versus 0.0924, two-tailed $p < 0.01$). For voluntary adopters, on the other hand, their cost of equity capital does not change significantly after the imposition of mandatory IFRS adoption in 2005 (0.0857 versus 0.0841). More importantly, the change in the cost of equity around the mandatory switch is significantly stronger for mandatory adopters than for voluntary adopters (-0.0047 versus 0.0016 , two-tailed $p = 0.022$). Consistent with these results, comparing the two rows in Panel B shows that mandatory adopters have a significantly higher cost of equity capital than voluntary adopters in the pre-mandatory adoption period (0.0924 versus 0.0841, two-tailed $p = 0.024$).²² Further, these cross-sectional differences between mandatory and voluntary adopters prior to 2005 become insignificant after the mandatory IFRS adoption (0.0877 versus 0.0857), consistent with the assertion that a uniform set of high-quality accounting standards improves financial reporting convergence across the EU member states (Tweedie 2006). Panel C reports similar results after excluding the transition period (i.e., 2004 and 2005).

In summary, the results in Table 4 suggest that mandatory IFRS adoption is associated with a significant reduction in the cost of equity capital only for mandatory adopters, and, as a result, the cost of equity difference between mandatory and voluntary adopters in the pre-mandatory adoption period becomes insignificant after 2005.²³

VI. ADDITIONAL ANALYSES

Investigating the Role of Legal Enforcement in Explaining the Effects of IFRS Adoption on the Cost of Equity Capital

Prior studies suggest that the outcome of implementing accounting standards is determined not only by the quality of the standards, but also by the country's institutional arrangements (Ball et al. 2003). In particular, firms in countries with weak enforcement mechanisms are more likely to abuse the discretion afforded by accounting rules and engage in earnings manipulation (Burgstahler et al. 2006). This pattern suggests that the benefits from mandatory IFRS adoption in terms of a reduction in the cost of equity are expected to be sensitive to whether the new rules are effectively enforced. To explore the role of legal enforcement in influencing the impact of mandating IFRS, I compare the results of my primary analysis across countries with strong versus weak enforcement mechanisms.

Following prior studies such as Leuz et al. (2003) and Burgstahler et al. (2006), I measure the quality of legal enforcement using the average score of the efficiency of the judicial system, rule of law, and corruption from La Porta et al. (1998).²⁴ This enforcement measure ranges from 0 to 10, with a higher value indicating a stronger enforcement environment. I transform this measure into a binary variable based on whether a country-specific value is above or below the sample country median, coding it as 1 for strong legal enforcement and 0 for weak legal enforcement. I then repeat the regression analysis in Table 4

²² These results are consistent with prior studies in that voluntary IFRS adoption reduces the cost of equity capital (e.g., Leuz and Verrecchia 2000; Barth et al. 2008).

²³ An alternative research design is to use a 2004 versus 2006 change regression. While this approach helps to mitigate the problem of regression residuals correlated across years, it suffers from several drawbacks when applied to the current research setting. Specifically, as the European Commission announced the initiative for mandatory IFRS adoption as early as in 2000, the market may have anticipated the impact of adoption before 2004, which makes it harder to detect any cost of capital effect when comparing 2004 versus 2006. Consistent with this conjecture, Daske et al. (2008) document a decrease in cost of equity for mandatory adopters only when accounting for the anticipation effects. In addition, as cost of capital estimates are intrinsically noisy, a short event window may increase the difficulty of obtaining more reliable measures of the dependent variable. Consistent with these arguments, I find an insignificant difference between mandatory and voluntary adopters in the change in the cost of equity in 2004 versus 2006 ($t = 0.49$).

²⁴ The results are qualitatively similar if I use a more recent proxy for legal and enforcement environment, i.e., the rule of law variable in 2005 from Kaufmann et al. (2007).

after including the interaction of this binary variable with the IFRS adopter indicator and the adoption period indicator. I use the resulting regression coefficient estimates on the indicator variables to construct 2×2 tables partitioned in the strong versus weak enforcement settings.

Tables 5 and 6 summarize the results of this additional analysis. Table 5 reports the descriptive statistics on the legal enforcement variable. It shows that the sample countries vary significantly in terms of their strength of legal enforcement. For example, Denmark, Finland, The Netherlands, and Sweden have the highest possible scores (10), while Greece

TABLE 5
Country-Level Conditioning Variables

Country	Enforcement	Additional Disclosure Required by IFRS Relative to Local Standards	Number of Inconsistencies between Local Standards and IFRS
Austria	9.36	8	20
Belgium	9.44	7	15
Czech Republic	—	6	14
Denmark	10	5	13
Finland	10	8	19
France	8.68	6	19
Germany	9.05	7	20
Greece	6.82	9	20
Hungary	—	8	17
Ireland	8.36	0	15
Italy	7.07	6	19
Luxembourg	—	8	16
The Netherlands	10	2	5
Poland	—	5	18
Portugal	7.19	7	12
Spain	7.14	9	22
Sweden	10	4	11
United Kingdom	9.22	0	15
Mean	8.74	6	16
Median	9.14	7	17
Std. Dev.	1.21	3	4

Table 5 reports descriptive statistics for the country-level conditioning variables.

Variable Definitions:

Enforcement = the average of efficiency of judicial system, rule of law, and corruption (La Porta et al. 1998; Leuz et al. 2003);

Additional disclosure required by

IFRS relative to local standards = the number of additional disclosures required by IFRS when compared to local accounting standards, constructed from Nobes (2001). This variable captures the increase in disclosure due to mandatory IFRS adoption; and

The number of inconsistencies

between local standards and IFRS = the number of inconsistencies between local standards and IFRS, constructed from Nobes (2001). This measure captures the increase in comparability due to mandatory IFRS adoption.

TABLE 6
Additional Analysis

Panel A: Pooled Regressions

	Model 1			Model 2			Model 3		
	Legal Enforcement			Conditional Variable: Increased Disclosure			Conditional Variable: Increased Comparability		
	Coeff.	t-statistic	Two-Tailed p-value	Coeff.	t-statistic	Two-Tailed p-value	Coeff.	t-statistic	Two-Tailed p-value
Voluntary adopters	0.0794	8.04	< .0001	0.0766	5.57	< .0001	0.0839	6.06	< .0001
Mandatory adopters	0.0887	9.87	< .0001	0.0828	10.63	< .0001	0.0909	10.35	< .0001
Voluntary adopters * Post adoption period	0.0058	2.06	0.040	0.0095	1.04	0.298	0.0047	0.56	0.576
Mandatory adopters * Post adoption period	0.0015	1.03	0.302	0.0033	1.81	0.071	-0.0077	-1.72	0.086
Voluntary adopters * Strong legal enforcement	0.0102	1.24	0.215	0.0176	1.21	0.227	0.0101	1.07	0.283
Mandatory adopters * Strong legal enforcement	0.0074	1.38	0.168	0.0143	4.05	< .0001	0.0063	1.25	0.211
Voluntary adopters * Post adoption period * Strong legal enforcement	-0.0133	-2.70	0.007	-0.0237	-2.26	0.024	-0.0131	-1.99	0.046
Mandatory adopters * Post adoption period * Strong legal enforcement	-0.0106	-5.64	< .0001	-0.0112	-5.06	< .0001	-0.0003	-0.06	0.953
Voluntary adopters * Conditional variable				0.0021	0.16	0.874	-0.0101	-0.97	0.331
Mandatory adopters * Conditional variable				0.0068	1.27	0.203	-0.0079	-1.56	0.119
Voluntary adopters * Post adoption period * Conditional variable				-0.0040	-0.42	0.672	0.0010	0.13	0.899
Mandatory adopters * Post adoption period * Conditional variable				-0.0050	-1.72	0.086	0.0101	2.11	0.035

(continued on next page)

TABLE 6 (continued)

	Model 1 Legal Enforcement			Model 2 Conditional Variable: Increased Disclosure			Model 3 Conditional Variable: Increased Comparability		
	Coeff.	t-statistic	Two-Tailed p-value	Coeff.	t-statistic	Two-Tailed p-value	Coeff.	t-statistic	Two-Tailed p-value
Voluntary adopters * Strong legal enforcement * Conditional variable				-0.0119	-0.66	0.511			
Mandatory adopters * Strong legal enforcement * Conditional variable				-0.0120	-1.38	0.168	0.0042	0.51	0.610
Voluntary adopters * Post adoption period * Strong legal enforcement * Conditional variable				0.0127	1.06	0.288			
Mandatory adopters * Post adoption period * Strong legal enforcement * Conditional variable				-0.0031	-0.66	0.507	-0.0223	-3.53	0.000
Other control variables, industry and country controls	Included			Included			Included		
n	6,414			6,414			6,414		
Adj. R ²	0.93			0.93			0.93		

(continued on next page)

TABLE 6 (continued)

Panel B: Two-By-Two Analysis on the Role of Legal Enforcement in Explaining the Cost of Equity Effects of Mandatory IFRS Adoption Using the Coefficients in Panel A

	Weak Enforcement			Strong Enforcement		
	Pre-Mandatory Adoption (1995–2004)	Post-Mandatory Adoption (2005–2006)	Diff.	Pre-Mandatory Adoption (1995–2004)	Post-Mandatory Adoption (2005–2006)	Diff.
Mandatory adopters	0.0887 n = 1,588	0.0902 n = 602	0.0015	0.0961 n = 2,823	0.0870 n = 837	–0.0091***
Voluntary adopters	0.0794 n = 287	0.0852 n = 84	0.0058**	0.0896 n = 155	0.0821 n = 38	–0.0075
Diff.	0.0093***	0.0050		0.0065**	0.0049	

Panel C: Two-By-Two Analysis on Increased Disclosure as a Mechanism Behind the Cost of Equity Effects of Mandatory IFRS Adoption Using the Coefficients in Panel A

	Small Increase in Disclosures Due to IFRS Adoption and Strong Enforcement			Large Increase in Disclosures Due to IFRS Adoption and Strong Enforcement		
	Pre-Mandatory Adoption (1995–2004)	Post-Mandatory Adoption (2005–2006)	Diff.	Pre-Mandatory Adoption (1995–2004)	Post-Mandatory Adoption (2005–2006)	Diff.
Mandatory adopters	0.0971 n = 2,462	0.0892 n = 694	0.0079***	0.0919 n = 361	0.0759 n = 143	–0.0160***
Voluntary adopters	0.0942 n = 44	0.0800 n = 9	0.0142	0.0844 n = 111	0.0789 n = 29	–0.0055
Diff.	0.0029	0.0092		0.0075**	–0.0030	
	Small Increase in Disclosures Due to IFRS Adoption and Weak Enforcement			Large Increase in Disclosures Due to IFRS Adoption and Weak Enforcement		
Mandatory adopters	0.0828 n = 1,031	0.0861 n = 392	0.0033*	0.0896 n = 557	0.0879 n = 210	–0.0017
Voluntary adopters	0.0766 n = 25	0.0861 n = 7	0.0095	0.0787 n = 262	0.0842 n = 77	0.0055
Diff.	0.0062	0.0000		0.0109***	0.0037	

(continued on next page)

TABLE 6 (continued)

Panel D: Two-By-Two Analysis on Increased Comparability as a Mechanism behind the Cost of Equity Effects of Mandatory IFRS Adoption Using the Coefficients in Panel A

	Small Increase in Comparability Due to IFRS Adoption and Strong Enforcement			Large Increase in Comparability Due to IFRS Adoption and Strong Enforcement		
	Pre-Mandatory Adoption (1995–2004)	Post-Mandatory Adoption (2005–2006)	Diff.	Pre-Mandatory Adoption (1995–2004)	Post-Mandatory Adoption (2005–2006)	Diff.
Mandatory adopters	0.0972 n = 2,607	0.0892 n = 736	-0.0080***	0.0935 n = 216	0.0733 n = 101	-0.0202***
Voluntary adopters	0.0940 n = 66	0.0856 n = 16	-0.0084	0.0839 n = 89	0.0765 n = 22	-0.0074
Diff.	0.0032	0.0036		0.0096**	-0.0032	
	Small Increase in Comparability Due to IFRS Adoption and Weak Enforcement			Large Increase in Comparability Due to IFRS Adoption and Weak Enforcement		
Mandatory adopters	0.0909 n = 145	0.0832 n = 45	-0.0077*	0.0830 n = 1,443	0.0854 n = 557	0.0024
Voluntary adopters	n = 0	n = 0		0.0738 n = 287	0.0795 n = 84	0.0057
Diff.				0.0092***	0.0059	

*, **, *** Denotes significance at the 0.10, 0.05, and 0.01 level, respectively, all two-tailed.

All variables are defined as in Tables 1 through Table 5.

Table 6 reports the results for the additional analysis. Panel A reports the pooled regression coefficients, firm cluster-adjusted t-statistics, and two-tailed p-values. Panel B reports the 2 × 2 analysis on legal enforcement. Panel C reports the 2 × 2 analysis on legal enforcement and the increase in disclosures due to mandatory IFRS adoption. Panel D reports the 2 × 2 analysis on legal enforcement and the increase in comparability due to mandatory IFRS adoption. Panels B through D are constructed using the coefficients in Panel A. The continuous conditioning variables are transformed into binary variables based on the sample country median values.

has the lowest (6.82). Model 1 in Panel A of Table 6 reports the coefficients, firm cluster-adjusted t-statistics, and two-tailed p-values of the regression analysis for the full sample period.^{25,26} To better understand the role of legal enforcement, I combine some of the coefficients in Panel A into 2×2 tables and test the significance of the aggregated coefficients.²⁷ The results in Panel B of Table 6 show that mandatory adopters in strong enforcement environments experience a reduction in the cost of equity capital of 91 basis points after IFRS becomes mandatory in 2005 (two-tailed $p < 0.01$), while mandatory adopters in poor enforcement environments experience no significant change in the cost of equity capital after 2005. Voluntary adopters, by contrast, experience either no significant change or an increase in their cost of equity after 2005. Thus, the results in Panel B of Table 6 indicate that the cost of equity benefits of IFRS adoption are present only for mandatory adopters in strong enforcement environments, consistent with the quality of legal enforcement being an important factor for effective accounting changes.

Investigating the Mechanisms through which Mandatory IFRS Adoption Affects the Cost of Equity Capital

Proponents of IFRS argue that a common financial language, when applied properly, can reduce firms' cost of equity through two non-mutually exclusive mechanisms: improved financial disclosure and enhanced comparability of financial information (Tweedie 2006). This section tests whether these two mechanisms do indeed appear to be responsible for the reduction in the cost of equity found in Table 4.

I measure the extent to which IFRS adoption increases financial disclosure using the number of additional disclosures required by IFRS (Nobes 2001), with a larger number indicating a greater increase in disclosure.²⁸ For example, the measure of increased financial disclosure for Austria has a value of 8, because IFRS requires eight additional financial disclosures that are not mandatory under the Austrian accounting standards, e.g., disclosures of a cash flow statement and earnings per share. I measure the extent to which IFRS adoption enhances information comparability using the number of inconsistencies between

²⁵ Implementing the two-way-clustering robust standard error procedure in Table 6 results in missing t-statistics and standard errors for several interaction terms involving voluntary adopters (e.g., Voluntary adopters * Post adoption period * Strong legal enforcement in Model 1). A possible reason is that there is not enough variation in these variables along either the firm or year dimension due to the small sample size of voluntary adopters, so that the resulting variance-covariance matrix is invalid (Cameron et al. 2006). To mitigate the concern that both cross-sectional and time-series dependence may bias the results, I perform the following sensitivity tests (not tabulated) and find qualitatively similar results: (1) partition the sample based on the country-level median values of legal enforcement, increased disclosure, or increased comparability and estimate Equation (1) separately for each partition with standard errors adjusted for both firm and year clusters; (2) repeat the analysis in Table 6 with standard errors adjusted for year clusters only; and (3) restrict the sample to mandatory adopters only and repeat the analysis in Table 6 with standard errors adjusted for both firm and year clusters.

²⁶ The results in Table 6 remain qualitatively unchanged when excluding the transition period, i.e., 2004 and 2005.

²⁷ For example, the cell for mandatory adopters in the post-mandatory adoption period and in countries with strong enforcement in Panel B of Table 6 (0.0870) equals the coefficient on the indicator variable for mandatory adopters (0.0887), the coefficient on the indicator for mandatory adopters in the post-adoption period (0.0015), the coefficient on the indicator for mandatory adopters in countries with strong enforcement (0.0074), and the coefficient on the indicator for mandatory adopters in the post-adoption period and in countries with strong enforcement (-0.0106) in Model 1 of Panel A.

²⁸ I also use an alternative measure for increased disclosure, i.e., the number of analysts following multiplied by firm size in the year before mandatory adoption (Covrig et al. 2007), with a larger number indicating a smaller increase in disclosure due to mandatory IFRS adoption. The inferences in Table 6 remain qualitatively unchanged using this alternative measure.

local GAAP and IFRS (Nobes 2001), with a larger number of inconsistencies indicating a greater increase in information comparability.²⁹ For example, the measure of enhanced comparability for Austria has a value of 20, because there are 20 major inconsistencies between the Austrian rules and IFRS. One example of these inconsistencies is that inventories are valued at the lowest of cost, net realizable value, and replacement cost under the Austrian rules, but are valued at the lowest of cost and realizable value under IFRS. As a result, financial information regarding inventory values is not directly comparable between the Austrian standards and IFRS.

I create binary variables capturing the measures of increased disclosure and enhanced comparability based on whether a country-specific value is above or below the sample country median. I then repeat the multivariate regression analysis above after including the interaction of the disclosure and comparability binary variables with the IFRS adopter indicator and the adoption period indicator. Using the resulting estimated regression coefficients, I reconstruct 2×2 tables and compare the change in the cost of equity in countries with a large versus small increase in disclosure and comparability, conditioned on the strength of the enforcement environment.

Tables 5 and 6 summarize the results of these additional analyses. Table 5 reports the descriptive statistics on the disclosure and comparability variables, and shows that the sample countries vary significantly in terms of increased disclosure and enhanced comparability from mandatory IFRS adoption. For example, Ireland and the U.K. have the smallest number of additional disclosures required by IFRS (0), while Greece and Spain have the largest (9). Also, The Netherlands has the smallest number of inconsistencies between local GAAP and IFRS (5), while Spain has the largest (22).

Based on the regression analysis in Model 2 of Panel A, Panel C of Table 6 presents the 2×2 tables for the full sample partitioned on the increase in disclosure due to IFRS adoption and the strength of the legal enforcement environment.³⁰ Consistent with the results in the prior section, mandatory adopters experience a reduction in the cost of equity after 2005 only in strong enforcement environments (two-tailed $p < 0.01$). In particular, in countries with strong legal enforcement, the reduction in the cost of equity is significantly greater among mandatory adopters in countries with a large increase in disclosures than in countries with a small increase in disclosures (-0.0160 versus -0.0079 , two-tailed $p = 0.022$). This result is consistent with increased disclosure being one of the possible mechanisms behind the cost of equity effect of IFRS adoption. In addition, mandatory adopters in countries with weak enforcement mechanisms and a small increase in disclosures from mandatory IFRS adoption actually experience an increase in their cost of equity (0.0033 , two-tailed $p = 0.071$), consistent with more discretion afforded under IFRS having a detrimental effect to shareholders when the standards are not properly enforced.

²⁹ To capture the extent to which IFRS allow for less reporting flexibility relative to local standards, I also use an alternative measure for information comparability, i.e., the absence index from Ding et al. (2007), measured as the number of specific rules that are covered by IFRS but are missing in local standards. A higher value of absence index indicates a greater increase in information comparability due to IFRS adoption. The inferences in Table 6 remain qualitatively unchanged with this alternative measure.

³⁰ For example, the cell for mandatory adopters in the post-mandatory adoption period and in countries with a small increase in disclosure due to IFRS adoption as well as in strong enforcement countries in Panel C of Table 6 (0.0892) equals the coefficient on the indicator for mandatory adopters (0.0828), the coefficient on the indicator for mandatory adopters in the post-adoption period (0.0033), the coefficient on the indicator for mandatory adopters in countries with strong enforcement (0.0143), and the coefficient on the indicator for mandatory adopters in the post-adoption period and in countries with strong enforcement (-0.0112) in Model 2 of Panel A. Panel D of Table 6 is organized in a similar fashion.

Mandatory adopters in countries with weak enforcement mechanisms and a large increase in disclosures from mandatory IFRS adoption experience no significant change in their cost of equity after 2005. Finally, for voluntary adopters, there is no statistically significant change in their cost of equity in either of these partitions.³¹

Based on the regression analysis in Model 3 of Panel A, Panel D of Table 6 presents the 2×2 tables for the full sample partitioned on the increase in comparability due to IFRS adoption and the strength of the legal enforcement environment. The results indicate that in countries with strong legal enforcement, the reduction in the cost of equity is significantly greater among mandatory adopters in countries with a large increase in comparability than in countries with a small increase in comparability (-0.0202 versus -0.0080 , two-tailed $p < 0.01$). This finding is consistent with increased comparability being one of the possible mechanisms behind the cost of equity effect of IFRS adoption. In addition, mandatory adopters in countries with weak enforcement mechanisms and a small increase in comparability experience a significant *decrease* in their cost of equity after 2005 (-0.0077 , two-tailed $p = 0.086$), which is contrary to my conjecture. This result, however, might be explained by the relatively small sample size in this partition ($n = 190$). Finally, there is no statistically significant change for voluntary adopters in their cost of equity in either of these partitions.

In summary, the findings in Panels C and D of Table 6 provide evidence consistent with both increased disclosure and enhanced comparability influencing the cost of equity effects of mandatory IFRS adoption. The results in these panels also reinforce the importance of strong legal enforcement in achieving the cost of equity benefits of mandating IFRS.

VII. SENSITIVITY ANALYSES

Using Bid-Ask Spread as an Alternative Dependent Variable

Prior research suggests that the implied cost of capital is subject to measurement error problems and potential bias (e.g., Easton and Monahan 2005; Hail and Leuz 2006). Information asymmetry measures, on the other hand, do not rely on accounting-based valuation models or analyst forecasts, and thus are likely to be a cleaner measure of the effects of mandatory IFRS adoption. Following Leuz and Verrecchia (2000) and Daske et al. (2008), I repeat the analysis in Sections V and VI by regressing a proxy for the information asymmetry component of cost of capital, namely, the natural logarithm of bid-ask spread, on the mandatory adopters indicator, the post-adoption period indicator, the interaction between the two indicators, the three cross-listing variables, the natural logarithm of market value, return variability, and share turnover, along with industry and country fixed effects. The results (not tabulated) remain qualitatively unchanged from those reported in Tables 4

³¹ Compared with mandatory adopters, the number of voluntary adopters in the sample is much smaller (570 voluntary firm-year observations versus 5,886 mandatory firm-year observations). As a result, two-way partitions based on enforcement and increased disclosure (or improved comparability) may result in cells with extremely small numbers of observations, which might explain why the results on voluntary adopters in Table 6 appear to have economic significance but are not statistically significant. Thus, readers should take caution in interpreting the results for voluntary adopters in Table 6.

and 6,³² with the only exception being that the interaction term (*Mandatory adopters * Post adoption period*) in the analog to Table 4 is not significant using the full sample period ($t = -1.47$) (but it becomes significant after deleting the transition period; $t = -1.79$). Overall, this sensitivity analysis provides some corroborating evidence on the cost of equity benefits of mandatory IFRS adoption.

Excluding Observations from Countries with No Voluntary Adopters

The country-level sample distribution in Panel A of Table 1 indicates that ten countries have no voluntary IFRS adopters during the pre-mandatory adoption period (1995 to 2004). To ensure that the cost of equity effects of mandatory IFRS adoption are not driven by countries without any voluntary adopters, I exclude observations in these ten countries and repeat the multivariate regression analyses in Sections V and VI. The results (not tabulated) remain qualitatively unchanged from those reported in Table 4.³³ Thus, the primary conclusion in Table 4 is robust to excluding observations from sample countries with no voluntary IFRS adopters.

Controlling for Potential Self-Selection Bias

As suggested in prior research, firms that voluntarily adopt IFRS do not represent a randomly selected sample (Leuz and Verrecchia 2000). As a result, the documented differences in the cost of equity between mandatory and voluntary adopters could, in part, reflect heterogeneity between the two groups. To mitigate concerns of related self-selection bias, I implement the Heckman (1979) two-stage regression procedure. Following prior research such as Harris and Muller (1999) and Leuz and Verrecchia (2000), in the first stage I model the decisions of voluntary adopters to follow IFRS by estimating a probit model in which the dependent variable is an indicator variable with a value of 1 for voluntary adopters and 0 for mandatory adopters, and the independent variables are the factors influencing firms' voluntary IFRS adoption decisions: firm size (log of market value of equity), whether the firm is cross-listed in the U.S., financing needs (earnings growth), proprietary costs (abnormal profits, i.e., industry-adjusted ROA), the country's legal origin (indicator variables for English, French, German, Scandinavian, and Socialist legal origins, as in La Porta et al. [1999]), as well as industry and year fixed effects. In the second stage, I include the inverse Mills Ratio from the first stage as an additional explanatory variable, and repeat the analysis in Table 4. I find that the results (not tabulated) remain qualitatively unchanged. I note, however, that attempts to control for self-selection bias using the instrumental variable approach are problematic (Larcker and Rusticus 2008) and, hence, I rely on the difference-in-differences design in my primary analysis to mitigate this bias.

³² Based on two-tailed $p < 0.10$ as a cutoff for a significant coefficient, I define "the results in Tables 4 and 6 remain qualitatively unchanged" to mean that (1) mandatory adopters experience a significant reduction in cost of equity relative to voluntary adopters after 2005 in Table 4, (2) mandatory adopters experience a significant reduction in the cost of equity after mandatory IAS adoption only in countries with a strong enforcement environment in Panel B of Table 6, (3) mandatory adopters in strong enforcement countries experience a significantly larger reduction in the cost of equity after mandatory IFRS adoption if they have a larger increase in disclosure due to mandatory IFRS adoption in Panel C of Table 6, and (4) mandatory adopters in strong enforcement countries experience a significantly larger reduction in the cost of equity after mandatory IFRS adoption if they have a larger increase in comparability due to mandatory IFRS adoption in Panel D of Table 6.

³³ I am not able to perform the additional analysis in Table 6 because excluding ten countries without voluntary adopters results in a reduced sample that is too small for the 2×2 analyses.

VIII. CONCLUSION

This study explores the cost of equity effects of mandatory IFRS adoption in the EU. I find that, on average, mandatory adopters experience a significant reduction in the cost of equity of 47 basis points after the mandatory introduction of IFRS in 2005. Voluntary adopters, in contrast, do not experience any significant change in the cost of equity after the mandatory introduction of IFRS in 2005. Additional analysis finds that mandating IFRS has a significant cost of equity impact only in countries with strong enforcement mechanisms, consistent with the quality of legal enforcement being an important factor for effective accounting changes. I further identify two channels through which mandatory IFRS adoption reduces the cost of equity: increased disclosure and enhanced comparability.

This study is subject to several caveats. First, prior research suggests that it is difficult to empirically measure the cost of equity capital, and various proxies have different advantages and drawbacks (e.g., Easton and Monahan 2005). For this reason, although the implied cost of equity is arguably more suitable in a cross-country setting (Hail and Leuz 2009), and the results of this study are robust to numerous sensitivity checks, the findings should be interpreted with caution. Second, compared to the longer time period of voluntary adoption, the mandatory adoption period examined in this study is limited to two years, i.e., 2005 and 2006, due to data availability. Thus, the results may not fully capture the long-run cost of equity consequences of mandatory IFRS adoption and, hence, should be interpreted as preliminary. Third, as EU countries have been making continuous efforts to strengthen their legal and enforcement systems and all mandatory adopters switch to IFRS at the same point in time, the finding of a reduced cost of equity might be a joint outcome of IFRS adoption and concurrent events such as recent institutional improvements. However, to the extent that institutional improvements are not systematically different across strong and weak enforcement environments, the institutional change is less likely to account for the main results of this study.³⁴ Finally, as noted above, IFRS adoption is a costly event, and there are other benefits as well as indirect costs associated with adoption. The focus of this study is on one particular effect of adoption, i.e., the effect on the cost of equity capital, and thus I do not address the comprehensive economic consequences or net benefit of IFRS adoption. Such an analysis remains an interesting avenue for future research.

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³⁴ To illustrate, I compare the rule of law index in 2006 versus 1996 (Kaufmann et al. 2007) for strong and weak enforcement environments, and find that the index remains statistically unchanged in both environments, consistent with the notion that countries' institutional environments tend to change slowly over time (Burgstahler et al. 2006).

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