The Effects of IFRS Adoption in the European Union on Banks' Cost of Equity: Some Evidence from an Event Study

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Abstract

The effects of disclosure level on the cost of equity are a matter of considerable interest and importance to the financial reporting community. Economic theory indeed claims that commitment to increased level of disclosure reduces the cost of capital component that arises from information asymmetries. Accordingly, this paper investigates the effects of IFRS adoption in Europe on the cost of equity for the bank industry. In doing so, it performs an event study, which isolates the effects of accounting changes on the cost of capital from institutional and enforcement mechanisms. This study shows that IFRS adoption has exerted, on average, a positive effect on the cost of capital for the bank industry at least in the very short run. Firms adopting IFRS seem to have experienced a lower cost of equity in the period immediately subsequent the release of financial reporting according to the new accounting standard set.

Keywords: IFRS, European Union, Bank Industry, Cost of Equity

1. Motivation for research

The relationship between changes in accounting standards and market behaviour is of direct interest to accounting policy makers for evaluating the usefulness of the changes required in financial reporting, comparing the costs and benefits of the new regulation and making informed tradeoffs between value-added disclosures and the costs associated with their production and dissemination.

One of the explicit purposes of European regulation 1606/2002 adopting IFRS[1] in the European Union is to "*contribute to the efficient and cost-effective functioning of the capital market"*. The effects of the IFRS implementation on financial markets are directly related to the cost of capital. Accordingly, the aim of this research is to test the effects of IFRS adoption on banks' cost of equity.

One of the major links between economic theory and contemporary accounting thought is the idea that a firm's greater disclosure leads to a reduction of the cost of capital since it reduces the specific component of the cost of capital that arises from information asymmetries. According to this perspective, information asymmetries create costs by introducing adverse selection into transaction between buyers and sellers of firm shares. In order to overcome the reluctance of potential investors to hold firm shares, firms must issue capital at a discount, which results in fewer proceeds to the firm and, hence, a higher cost of capital (Copeland and Galai 1983, Kyle 1985, Glosten and Milgrom 1985). A commitment to increased level of disclosure reduces the possibility of information asymmetries arising either between the firm and its shareholders or among potential buyers and sellers of firm shares and reduces the discount at which the firm shares are sold, thus lowering the cost of issuing capital (Diamond and Verrecchia 1991, Baiman and Verrecchia 1996). European regulation's goal to contribute to market efficiency clearly grounds on this perspective.

[1]For simplicity's sake, the term IFRS is used to refer to both the International Accounting Standards (IAS) and to the International Financial Reporting Standards (IFRS). IFRS are issued by the International Accounting Standard boards (IASB), whereas IAS was issued by the International Accounting Standard Committee (IASC) until 2000.

Empirical evidence of the effect of disclosure on cost of capital has however provided mixed result. Increased disclosure, for instance, may not necessarily lead to a reduction of the cost of capital because a fuller disclosure may, on the contrary, lead investors to reduce their expectations regarding future returns or to increase their assessment of risk. As a result, cost of capital may be higher than it would have been, had more information not been provided. The purpose of this paper is to give empirical contribution to this research area. In order to do this, it will use an event study.

2. Literary review

As mentioned above, the mandatory IFRS adoption in the European Union is expected to reduce the cost of capital by increasing financial disclosure. 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 (Amihud and Mendelson 1986, Diamond and Verrecchia 1991, Easley and O'Hara 2004). Moreover, firms with greater information disclosure tend to have lower forward-looking betas, which lead to a lower cost of equity (Barry and Brown 1985, Lambert *et al*. 2007). As a result, enhanced disclosure is supposed to decrease a firm's cost of capital in absolute term.

Empirical research on the relation between financial reporting under IFRS and the cost of capital has largely been based on the IFRS voluntary adoption (e.g. Leuz and Verrecchia 2000, Cuijpers and Buijink 2005, Daske 2006, Kim and Shi 2010, Kim, Tsui and Yi 2011). The distinction between commitment and voluntary disclosure is quite relevant as the former is independent of the content of the information, whereas the latter is a decision taken by the firm. As a result, although findings on the voluntary IFRS adoption provide useful insights, they cannot be generalized in the case of mandatory adoption. 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. Instead, mandatory adopters in the European Union had to switch to IFRS because this was required by Regulation 1606/2002.

Li (2010) explores the cost of equity effects of the mandatory IFRS adoption in the EU by deriving the cost of equity from the models by Claus and Thomas (2001), Gerbhardt *et al*. (2001), Gode and Mohanram (2003) and Easton (2004), finding that in 2005, on average, mandatory adopters experienced a significant reduction in the cost of equity of 47 basis points. Additional analysis suggests, however, 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. While mandatory adoption significantly lowers the firms' cost of equity on average, the effects depend however on the strength of the countries' legal enforcement. Furthermore, Li provides further insight into whether the effects on cost of equity are due to increased disclosure and/or enhanced comparability. She uses the number of additional disclosures required by IFRS relative to local standards as a measure of increased disclosure and the number of inconsistencies between IFRS and local standards as a measure of enhanced comparability and finds evidence consistent with both increased disclosure and enhanced comparability influencing the cost of equity effects of the mandatory IFRS adoption.

Similarly, Daske *et al.* (2008) examine the effect of the mandatory IFRS adoption on market liquidity, cost of capital and Tobin's. They analyse the effects of adopting IFRS in 26 countries, both in Europe and worldwide, and document an increase in market liquidity around the time of the IFRS adoption. They also find a decrease in firms' cost of equity and an increase in equity valuation, but only if prior effects to the adoption date are accounted for. Taken as a whole, their evidence suggests modest, but economically significant capital market benefits around the IFRS mandatory adoption. However, such market benefits occur only in countries where firms have incentives to be transparent and where legal enforcement is strong, suggesting once more that enforcement regime and firms' reporting incentives play a major role in achieving capital market benefits from the IFRS adoption. Capital market effects of IFRS adoption are also found to be larger for firms in countries with lower quality domestic standards and that differ more from IFRS. This result is in line with Armstrong *et al*. (2010) who find that the positive reaction to IFRS adoption is larger for firms with lower levels of information quality prior to IFRS implementation and higher pre-adoption information asymmetry.

Landsman *et al*. (2012) focus on countries adopting IFRS not only in Europe, but worldwide and examine whether the information content of earnings announcements, measured by abnormal return volatility and abnormal trading volume, increase following the mandatory IFRS adoption, as well as the conditions and mechanisms through which increases occur.

Findings suggest that information content of earnings announcements increased in 16 countries that mandated IFRS relative to 11 that maintained domestic accounting standards, although the effect of the mandatory adoption depended on the strength of legal enforcement in the adopting country. Their findings also provide evidence that the IFRS adoption increased information content through reducing reporting lag, increasing analyst following and increasing foreign investment.

Finally, Florou and Kosi (2011) investigate the effects of the mandatory IFRS adoption on the cost of corporate debt. Using a global sample of public and private debt issues completed during 2000-2007, they find that mandatory IFRS adopters are more likely to issue public bonds than to borrow privately. Moreover, IFRS adopters pay lower bond yield spreads, whereas no significant effect on the cost of private loans is found. They document that the mandatory IFRS adopters are more likely to raise debt from a larger pool of capital at a lower cost. Furthermore, the mandatory IFRS adoption is beneficial primarily for bond investors, who rely more on financial statements and have much less monitoring and renegotiating privileges compared to private lenders. The positive consequences of IFRS for debt financing are however present only in countries with stricter rule enforcement, higher control of corruption and lower financial risk, thus providing once more evidence that mandatory financial reporting under IFRS has beneficial effects only when the country institutions are strong.
Viewed together, evidence on the effects of IFRS financial reporting on the cost of capital suggests overall beneficial effects from their mandatory adoption. Empirical research supports, in general, the notion that adopting IFRS increases market liquidity, decreases transaction costs for investors, lowers cost of capital, and facilitates international capital formation and flows. However, research has also shown that these effects differ according to the level of legal regulatory enforcement and firms' incentives. Adoption of IFRS is not the only factor which affects the cost of capital. Many studies have cited a range of other factors that might also outweigh any beneficial effects of the IFRS adoption (Ball, 2006; Soderstrom and Sun, 2007).

Different for prior research, this study aims at studying the effects of IFRS adoption isolated from institutional factors. For such a reason, it considers the very short period subsequent IFRS adoption in the European Union, which allows better identifying the effect of cost of equity due to IFRS adoption, independently of enforcement mechanisms.

3. Research hypothesis

As outlined previously, one of the scopes of European Regulator is to ensure a higher degree of transparency of financial statements for European listed companies. The first article of Regulation No. 1606/2002 states that it "*has as its objective the adoption and the use of international accounting standards (...) in order to ensure a high degree of transparency (...) and hence an efficient and cost-effective functioning of the capital market*". The choice of adopting IFRS must therefore be placed in this perspective. Accordingly, the research hypothesis tested in this research is formulated as follows:

HP. 1: "The adoption of IFRS leads to a reduction in the cost of equity".

Should any significant evidence in favour of this hypothesis be found, then the Regulator's purpose of fostering a cost-efficient functioning of the capital market for firms could be considered as accomplished, at least in the short time.

IFRS adoption can be supposed to improve capital market's transparency in two different ways. On the one hand, a system of fuller disclosure - such as the one provided by the IFRS in comparison to the IV and VII directives – is expected to bring private information into public domain and force the market to a stronger form of efficiency. Hence, an improvement of market efficiency in terms of universal access to information should occur and produce its effects on resource allocation and capital formation. On the other hand, the adoption of the IFRS in general and, more specifically, fair value accounting should lead to a higher value-relevance of accounting data. If, as stated by the IASB, "*financial statements are most commonly prepared in accordance with the accounting model based on recoverable historical costs and the nominal financial capital maintenance concept. However other models and concepts may be more appropriate in order to meet the objective of providing information that is useful for making economic decisions*", then the use of fair value is expected to increase the usefulness of accounting data and the transparency of financial statements. As a result, the adoption of fair value accounting should force the market to become more efficient in terms of its capability to reflect the real value of a firm. This was the case; there would be an improvement of the so called "fundamental efficiency" of the market.

Of course, our research hypothesis implies efficiency to be the condition in which the market works. Market efficiency is a central feature of capital markets and deals with the relation between security prices and information. It deals with how capital markets process information in general and financial reporting information specifically. As Fama (1970) stated, a securities market is efficient if security prices "fully" reflect all the information available.

4. Research methodology

4.1. Estimating the cost of equity

The cost of equity for a firm is the expected return that investors require in order to hold a stock characterized by a certain level of risk. Therefore, firm stock prices adjust in order to make the expected return coherent with the risk. Since the cost of equity capital is an *expected* rate of return, it cannot directly be observed on the market.
Three main different criteria can be used to estimate this variable. The first and simplest approach is based on the assumption that historical realized returns are good indicators of expected returns and, therefore, can be used as proxies for the cost of equity capital. However, prior research has shown difficulty in establishing a significant association between returns and market beta, which is the most widely, accepted measure of risk (Fama and French 1992).

Lakonishok (1993) has also provided evidence that, if average returns were used to proxy for the cost of equity capital, at least 70 years of data would be required in order to have a market beta which is a statistically significant risk factor. It is therefore unlikely that this approach would provide a powerful test of the hypothesis stated in this research. The second approach is based on the assumption that investors demand a higher expected return for taking additional systematic risk. Following the CAPM or an APT model, the cost of equity of a firm is estimated as a function of the systematic risk component of its stock, as measured by its sensitivity to the systematic risk factor, and of the market price of these risk factors. This approach can be useful for estimating what the theoretical cost of equity for a firm should be in a context of capital market equilibrium. However, it is not the right method to use if one wants to estimate what the true cost of equity for a firm actually is (Maccario, Sironi and Zazzara 2002). A third approach is that of extracting the cost of equity directly from stock prices. The assumption in this approach is that a public company's current stock embodies market's expectation of the rate of return required by investing in that stock.

Two different models are proposed in theory and used in practice in order to estimate the cost of equity implied in stock prices: the residual income model developed by Edwards and Bell (1961), Ohlson (1995) and Feltham and Ohlson (1995) and the Gordon model developed by Gordon and Shapiro (1956). In both models, the cost of equity is estimated by computing present value backward: since the present value (i.e. the current stock price) is known, calculations are reconfigured so as to extract the cost of equity capital. Obviously, the estimation of the cost of equity directly from stock market prices relies on the assumption that the market is efficient in the sense that prices fully reflect the actual value of the expected future returns and there are no market anomalies and mispricing.

Botosan and Plumlee (2000) assessed the validity of both the methodologies abovementioned for estimating the *ex ante* cost of equity. They examined four measures of expected cost of equity capital: one based on the residual income model, another on a finite horizon specification of the Gordon growth model, and the remaining two on a Gordon growth model with growth, respectively, in earning and in dividends. With Pearson's correlation coefficients, market beta resulted to be significantly correlated with all four measures. Therefore, all these measures were found to be good estimates for the cost of equity.

This research estimates the cost of equity by using the Gordon growth model approach with growth in earnings. This choice is coherent with previous studies that have shown that the residual income model works only under the condition that all gains and losses that affect forecasted book value flow through forecasted earnings - i.e. clean surplus accounting holds – and this is not the case of the IFRS or the IV and VII European Directives (Ohlson 1995, Botosan 1997). Furthermore, recent research has specifically verified that earning capitalization is the dominant valuation model when firms report under the International Accounting Standards (Ashbaugh and Olsson 2002). Following the standard constant growth Gordon model, the stock price of a firm can be expressed as:

$$(1) \qquad P_t = E(DPS_{t+1})/(K_e - g)$$

Where$E(DPS_{t+1})$is the expected dividend in the next year, *Ke* is the required rate of return on equity, and *g* is the expected long-term sustainable growth rate in dividends (Gordon and Shapiro 1956; Gordon and Gordon 1997; Harris and Marnston 1992 and 2001; Claus and Thomas 2001; Gebhardt et al. 2001; Fama and French 2002).
According to this formula, current stock price is equal to expected future dividends discounted to a present value at a rate that represents the cost of equity for that firm. Equation (1) is an application of the general "discounted cash flow" (DCF) model for evaluation because it considers the value of a firm as a function of three variables: the ability to generate cash flows, the expected growth rate of these cash flows and the uncertainty associated with these cash flows. The expected dividend per share is often obtained by multiplying the expected earnings per share by the firm's payout ratio.

Therefore, equation (1) can be written as:

$$(2) \qquad P_t = [E(EPS_{t+1})(1-b)]/(K_e - g)$$

and

$$(3) \qquad K_e = \{[E(EPS_{t+1})(1-b)]/P_t\} + g$$

Where*b* is the retention rate, i.e. the fraction of earnings that get reinvested in the company. If dividends are derived from earnings, *g* is no longer the expected growth in dividends but the expected rate of change in net income per share. Equation (3) shows that, all else being equal, a firm with a higher expected price/earnings ratio would have a lower cost of equity.Under the "fundamental growth" hypothesis, where *g* is supposed to be equal to *b*ROE*,and the return on reinvested earnings *b*ROE* equal to the required return of equity capital, *Ke*, equation (3) becomes:

$$(4) \qquad K_e = E(EPS_{t+1})/P_t$$

Under certain assumptions, the E(EPS)/P ratio is a good *proxy* for the *ex ante* return required on stocks. A relatively large number of studies have estimated the cost of equity by using the E(EPS)/P ratio. Many of them have focused on cross-country differences in the cost of capital (Ando and Auerbach 1988 and 1990, Kester and Luehrman 1989 and 1992, Friend and Tokutsu 1987, Sironi and Saita 2002 for non-financial firms; Zimmer and McCauley 1991, Maccario, Sironi and Zazzara 2002 for cross-country differences in the cost of capital for banks). With specific regard to this research, if a firm's expected long-term growth rate and payout ratio did not change over the time period under investigation, i.e. two years only, the relevant part of equation (3) for the analysis would reduce to equation (4).

The above hypothesis about the expected long-term growth rate is not particularly strong if one considers that analysts often estimate it on the basis of a firm's earnings time series (Damodaran 2001). Adding the last data relative to the year before the IFRS implementation to this time series should not significantly change the expected long-term growth rate *g* used for forecasting in the next year, especially if the time series is quite long and the last data added does not differ significantly from the previous ones. A fixed dividend policy is an assumption that may not hold in practice but, as with all models, it permits parsimonious representation of the complex real world.

Joos and Lang (1994), for instance, assumed that the expected long-term growth rate was the same for all French, German and U.K. companies included in their research and that the pay-out ratio for each sample firm was constant over the time period under consideration. The approach followed in this research is that of using the $E(EPS_{t+1})/P_t$ ratio as a proxy for the cost of equity and then checking for possible differences due to other factors than the IFRS implementation in the regression discussed hereafter.

4.2. The multivariate regression

In order to isolate the effect of the IFRS adoption on the cost of equity, a cross-sectional and multivariate regression is run. The use of the multivariate regression illustrated hereafter permits to check for differences in banks' specific variables and to isolate the effect of the IFRS implementation on the expected return required by investors. In this way, cross-sectional relations between the implied cost of equity and various firm characteristics are verified simultaneously.
The following pooled cross-sectional regression for the pre- and post-IFRS period is performed in order to test the research hypothesis:

$$(1) \qquad Ke_{it} = \alpha_o + \beta_1 Risk\text{-}free_t + \beta_2 Growth_{it} + \beta_3 Pay\text{-}out_{it} + \beta_4 Lev_{it} + \beta_5 Lev*IFRS_{it} + \beta_6 Size_{it} + \varepsilon$$

Where Ke_{it} is the $E(EPS_{t+1})/P_t$ ratio used as a proxy for the cost of equity of firm *i* relative to report *t*, $Risk\text{-}free_t$ is the risk-free rate, $Growth_{it}$ is the expected growth rate in earnings, $Pay\text{-}out_{it}$ is the expected pay-out ratio, Lev_{it} is the book leverage, $Lev*IFRS_{it}$ identifies the differential effect of reporting book leverage under the IFRS, *Size* is the natural logarithm of market capitalization.

As in Joss and Lang (1994) and Maccario, Sironi and Zazzara (2002), the market beta is not included in the above regression. The market beta is a measure of the systematic risk which is used in the CAPM as an appropriate modifier of the general equity premium in order to estimate the firm's specific risk premium. A cross-sectional analysis of the cost of equity must take into consideration differences in the firm-specific level of risk. However, the approach followed here is that of considering the main factors which affect firms' specific level of risk separately. In this perspective, differences in risk assessment due to different financial leverages are caught by the *Lev* variable, differences due to different size are captured by an appropriate variable, possible differences in the cost of equity due to different accounting systems are measured by the *IFRS*Lev* variable. Such a choice is also based on previous evidence showing that the CAPM is not the only method used for estimating the cost of equity (Gitman and Vandenberg 2000, Bruner et al. 2001). Moreover, including the beta could create a multicollinearity problem in the regression since the manyvariables included in the regression are themselves a cause of the market beta variation.

4.2.1. Variables definition

The dependent variable

The cost of equity. For each observation, the following *proxy* for the cost of equity is computed:

$$K_e = E(EPS_{t+1})/P_t$$

Where $E(EPS_{t+1})$ is the expected earnings per share in the next year and P_t is the stock price. The cost of equity has been estimated by considering the analysts' earnings forecasts for the following year. Data on analysts' forecasts have been obtained from I/B/E/S. In this research, $E(EPS_{t+1})$ is the median of the expected earnings per share provided by analysts at the end of the month in which the deadline for the financial report is set. The cost of equity has been estimated by considering the analysts' earnings forecasts for the following year. Data on analysts' forecasts have been obtained from I/B/E/S.

The stock price is an average stock price computed as a simple average of prices in the 15 days before and one month after the deadline for the quarterly report. During this period prices are expected to react to the new information encompassed in the reports. The length of the window assumed for price reaction to new information is of course discretionary. However, the choice of the length of the window used in event studies is always discretionary and involves a trade-off: windows that are too wide increase the noise-to-signal ratio and thereby decrease the power of the experiment, whereas windows that are too narrow might exclude part of the reaction to the event of interest (Bartov, Goldberg and Kim 2002). The time period assumed for the price reaction to the new information in the report also includes 15 days prior to its disclosure since previous evidence has shown that some information can be anticipated to the market (Rees and Elger 1997). Therefore, considering the time period immediately prior to each report issuing should include part of price reaction to anticipated information.

Data on individual stock prices have been obtained from DataStream, which contains daily information on historical stock market prices from all the major stock exchanges.

The independent variables

*Lev*IFRS* is the independent variable used to verify the research hypothesis stated in this research with the multivariate regression. However, in order to avoid erroneously attributing changes in the cost of capital to accounting rules when similar differences have been caused by different factors, the main factors which may affect the cost of equity have been included as control variables in the cross-sectional analysis.

Risk-free rate

One important factor which is usually taken into account by investors in order to define the level of the cost of equity is the return available as of the valuation date on a security that the market generally regards as free of the risk of default. In this research, the 10 years German bond yield has been used as a risk-free rate. Data were obtained by Datastream. Since the risk-free interest rate is positively related to the cost of equity, a positive coefficient is expected to be found.

Expected growth rate in earnings

If the expected growth rate changes over the time period under analysis, then differences in the E(EPS)/P ratio can be attributable to such a change rather than to other factors such as the IFRS implementation. As a consequence, the expected growth rate is considered as independent variable in the multivariate regression and a negative association is expected. In fact, all else being equal, a higher expected growth rate implies a lower E(EPS)/P ratio. The expected rate of growth in earnings can be estimated in three alternative ways (Maccario, Sironi and Zazzara 2002). One of these derives expected growth in earnings from equity analysts' forecasts. Since the cost of equity is, in this research, computed by using analysts' forecasts on earnings, the expected growth rate is coherently derived from analysts' forecasts. In this way, the cost of equity is directly related to those who make the market and prices stocks. The I/B/E/S database provides data relative to the long-term expected growth rate only for few sample firms. Conversely, data relative to expected earnings are available on I/B/E/S for most of them. Hence, coherently to analysts' practice, the growth rate included in regression (1) is a medium-term earnings growth rate computed as the average growth in expected earnings for the following three/four years.

Pay-out ratio

For any kind of firm, the payout ratio is the ratio between dividends and earnings. Many studies on the cost of equity, as well as many financial analysts, assume a fixed dividend policy (Ando and Auerbach 1988 and 1990, Kester and Luehrman 1989 and 1992, Friend and Tokutsu 1987, Sironi and Saita 2002). Such an assumption may not hold in practice, but, as with all models, it permits parsimonious representation of the complex real world.
For financial services firms, including banks, this ratio has historically been more stable and higher than for any other industry (Maccario, Sironi and Zazzara 2002). Damodaran (2001) detects some possible explanations for this trend. Firstly, financial firms need less investments in physical capital than other firms. This allows them to provide higher cash flows to their shareholders. Secondly, banks have a reputation on the market as high dividend payers. Therefore, investors with a higher propensity to earn annual cash flows tend to buy banks' shares. As a consequence, it is difficult for banking firms to change their dividend policy (Maccario, Sironi and Zazzara 2002). Since the cost of equity is estimated by using the standard constant growth Gordon model, it results to be a positive function of the pay-out ratio. Consequently, a positive coefficient for the pay-out ratio variable is expected to be found by performing the multivariate regression (1). Data on pay-out ratios are derived from the I/B/E/S database.

Leverage

In theory, a firm's cost of equity should be an increasing function of the amount of debt in its capital structure (Modigliani and Miller 1958). Using an extensive data set of historical returns, Fama and French (1992) documented a weak positive relation between leverage – computed as the ratio of debts to total assets - and *ex post* mean stock returns. The relation between leverage and *ex ante* cost of equity was examined by Gebhardt, Lee and Swaminathan (2001), who found that both market leverage and book leverage - the latter being computed as the ratio of long-term debts to book value of equity - exhibit a significant positive correlation with the implied cost of capital.

The only studies on banks' cost of equity (Zimmer and McCauley 1991 and Maccario, Sironi, Zazzara 2002) used the Tier 1 as a proxy for financial risk. In particular, Zimmer and McCauley (1991) assumed an identical Tier 1 ratio for all banks from different countries. However, since the costs of debt and equity for a firm depend on its capital structure, separately estimating the cost of equity and its capital ratio represents a violation of Modigliani and Miller's famous proposition I. In fact a higher cost of Tier 1 (equity) capital for a bank could be explained by a lower Tier 1 ratio just as a higher cost of debt for a non financial firm could be explained by a higher leverage. Maccario, Sironi and Zazzara (2002) overcame this limit of the Zimmer and McCauley' s analysis by using the actual Tier 1 ratio as a proxy for financial leverage in their multivariate regression.

Differently from these studies, however, this research does not use the Tier 1 capital as a proxy for financial risk because its aim is not to test the effect of imposing uniform capital standards on banks across countries but to verify the effect of accounting changes on capital market. Hence, as in previous studies, the ratio Equity Book Value/ Total Assets – i.e. book leverage - is here used to study the relation between the firm's specific financial risk and its cost of equity and a negative sign is expected for the *Lev* variable.

*Lev*IFRS.* It has previously been mentioned that the introduction of the IFRS regulation and adoption of fair value accounting is expected to have a relevant impact on the first report issued according to the new standards. The introduction of the fair value accounting, for example, brings assets' values closer to their current values and makes book value converge to its economic value. All accounting adjustments related to the first adoption of the IFRS are debited or credited directly to equity and affect its book value significantly.

In order to isolate the effect on the cost of equity of the book leverage under the new accounting set, an interaction term of an accounting standard dummy variable *IFRS* and the *Lev* variable is introduced in the regression so as to reflect the differential effect of reporting and providing disclosure on the book leverage under IFRS, over non-IFRS requirements (Bartov, Goldberg and Kim 2002). IFRS is a dummy variable that equals one if the report is based on IFRS and zero otherwise. If the information on the book leverage under the IFRS contributes to reduce the cost of equity, a negative coefficient for the interaction term of the IFRS dummy and leverage should be found. A negative coefficient of the *Lev*IFRS* variable would prove that firms which had moved to the IFRS have gained a competitive advantage on the equity market in comparison to firms still adopting national accounting standards. Such evidence should be carefully taken into consideration both by non-consolidating companies which are allowed, but not obliged, to use the new standard set and by national Regulators which do not permit IFRS in annual accounts.

Size

Disclosure research has found that firms which are better connected with intermediaries, such as analysts and institutional investors, have a lower risk premium because easy availability of information reduces information asymmetries arising either between the firm and its shareholders or among potential buyers and sellers of firm shares. This, in turn, reduces the discount at which firm shares are sold, and hence lower the cost of capital (Diamond and Verrecchia 1991, Baiman and Verrecchia 1996, Botosan 1997). Because information is more easily available for larger firms than for smaller ones, firm size – i.e. market capitalization of equity – has often been used in research as a proxy for the availability of information and a negative association between size and the cost of equity has been detected (Berk 1995, Botosan 1997, Goode and Mohan ram 2003). Coherently to previous research, the natural logarithm of market capitalization has therefore been used as a proxy for the information environment and a negative association between size and the cost of equity was expected to be found.
Table 1 reports a summary of the description, measurement and expected sign of independent variables.

Table 1: Description, measurement and expected sign of independent variables

Variables	Description	Measurement	Expected Sign
Risk-free	Return on a default risk-free security	10 years German bond yield	+
Growth	Expected growth ratein earnings	Analysts' estimates	-
Pay-out	Expected pay-out ratio	Analysts' estimates (Expected dividend per share/Expected earnings per share)	+
Leverage	Financial leverage	Equity Book Value/Total Assets	-
Leverage* IFRS	Differential effect ofthe leverage reported	Equity Book Value/ Total Assets multiplied by IFRS dummy	-
IFRS	Dummy variable identifying reporting under IFRS	Dummy = 1 when financial report is prepared in accordance to the IFRS	-
Size	Size effect on the cost of equity	Natural logarithm of market value	-

5. Sample and data

Given the wide IFRS adoption both with regard to geographic extension (all the European Union) and industries involved (all manufacturing and non-manufacturing firms), many criteria could be used for selecting a sample. This study considers only one industry in order to limit the number of independent variables included in the regression, thus focusing on the bank industry for three reasons specifically. First of all, the bank industry is characterized by a low diversification of firms' activities. This fact can significantly contribute to reduce difficulties in isolating the effect of the IFRS adoption on the cost of equity. Secondly, the bank industry includes many firms, thus the sample selected is quite large in comparison with other industries. Lastly, banks have been at the centre of a lively debate over the advisability for them of adopting the IFRS and the fair value accounting in particular. Actually, the main opposition to the adoption of the IAS 32 and 39 came from banks, which were afraid of an increase in volatility in their financial report results and of the consequences in terms of capital requirements provided by the Basel Accord. Consequently, focusing on the bank industry permits to test the effects of the IFRS implementation with specific regard to a sector for which, so far, related benefits have been long questioned. In order to avoid problems connected to different currencies, only banks from the European Monetary Union have been selected.

This research considers consolidated accounts, for which the IFRS are mandatory in all the European Union. In fact, a commitment requires that information be disclose regardless of its content. In addition, the choice of using consolidated accounts is supported by previous research which has shown that consolidated data are more value-relevant than unconsolidated ones (Alford, Jones, Leftwich and Zmijewski 1993 and Harris, Lang and Moeller 1994).

The time period included in this analysis covers two years, one before and one after the IFRS implementation (hereafter pre-IFRS period and post-IFRS period, respectively). The pre-IFRS period goes from the issue of the first quarterly report 2004 up to the third quarterly report 2004, whereas the post-IFRS period goes from the issue of the first quarterly report 2005 prepared in accordance with the new standards or with a reconciliation form to the IFRS - when available - up to the third quarterly report 2005. The yearly report 2004 is not included because, even though it was still issued according to domestic accounting standards, at the time of its approval by the board (i.e. March 2005), firms started releasing news on the effects of the IFRS adoption on their accounts. As a consequence, the distinction between IFRS and non-IFRS effects on the cost of equity is not so clear cut. Moreover, it has been checked that none of the sample firms released any relevant news on the effects of the IFRS adoption on their accounts at the time of the quarterly reported included in the pre-IFRS period. The post-IFRS period under consideration is not very long. However, given the high impact that the IFRS implementation is expected to have on the first report issued according to such standards, some evidence on the effect of the IFRS adoption on the cost of equity - if any - should already be found in the first year after such a big change.

The introduction of fair value accounting, for example, brings assets' values closer to their current values and makes book value converge to its economic value. All the accounting adjustments related to the first adoption of the IFRS are debited or credited directly to equity and, therefore, affect its book value significantly. Consequently, if financial reports are value relevant, then first reports issued in accordance to the new standard set should already affect market prices in the period immediately after the IFRS implementation.

The length of the pre-IFRS period has been defined according to the length of the post-IFRS period. This choice is due to the willingness to compare two sets of matched data. Differently from most of the research in this field, this study tests value-relevance differences between the European Directives' accounting system and the IFRS set with regard to the same sample. This circumstance should ease attribute differences found in the cost of equity between the two periods to the IFRS implementation. For each sample firm, any observation relative to a certain quarterly report in the pre-IFRS period has a corresponding observation relative to the same quarterly report in the post-IFRS period. In such a way, measurements in the cost of equity refer to the same sample, before and after the IFRS implementation.

To identify potential sample firms, the BankScope database has been used. This search yielded a final sample of 35 firms. Banks that had not prepared consolidated accounts, or that had already used the IFRS in the pre-IFRS period, or that had been cross-listed on the E.U. and U.S. stock-exchanges in the pre-IFRS period were excluded during the sample selection process. With regard to the cross-listed firms, it must be mentioned that, according to the SEC regulation, firms listed on the U.S.

Market are required to present in their Form F- 20 the most significant adjustments to consolidated net income and shareholders' equity which would be applied if U.S. GAAP had been applied to their consolidated financial statements. Even though IFRS and U.S. GAAP differ in some aspects, it has previously been outlined how the IFRS approach to financial reporting is much closer to the U.S. regulation than to the European IV and VII directives.

In the U.S. GAAP accrual prevails over prudence and fair value is the basic criterion for financial reporting. Given that previous research found evidence of the value relevance of Form 20-F (Amir, Harris and Venuti 1993 and Harris and Muller 1999), for cross-listed firms the market effect of accounting rules close to the IFRS could already be present during the pre-IFRS period. In the end, excluding also firms for which data necessary to this research were not available, the final sample resulted in 35 firms from 7 different countries. The countries covered by this research are: Finland, France, Greece, Ireland, Italy, Spain and Portugal. 1 bank is from Finland, 4 banks from France, 3 banks from Greece, 1 from Ireland, 18 from Italy, 7 from Spain and 1 from Portugal.

Considering the observations for which all the data used in the regression were available, the observations included in this study resulted in 142, 71 relative to the pre-IFRS and 71 relative to the post-IFRS period. Table 2 reports the number of banks per country included in the sample.

Table 2: List of banks included in the sample

ALPHA BANK	GREECE
ANTONVENETA	ITALY
BANKINTER	SPAIN
CAPITALIA	ITALY
CARIGE	ITALY
CREDIT AGRICOLE	FRANCE
CREDIT INDUSTRIEL ET COMMERCIAL – CIC	FRANCE
B. COMERCIAL PORTUGUESE	PORTUGAL
B. DE SABADELL	SPAIN
B. DEVALENCIA	SPAIN
C. EMILIANO	SPAIN
B. ESPANOL DE CREDITO	SPAIN
EMPORIKI BANK OF GREECE	GREECE
FIDEURAM	ITALY
B. GUIPUZCOANO	SPAIN
IFIS	ITALY
INTESA	ITALY
IRISH LIFE & PERMANENT	IRELAND
B. LOMBARDA E PIEMONTESE	ITALY
MONTE DEI PASCHI DI SIENA	ITALY
B. NAZIONALE DEL LAVORO	ITALY
NATEXIS BANQUES POPULAIRES	FRANCE
OKO BANK	FINLAND
B. PASTOR	SPAIN
PIREUS BANK	GREECE
B. POPOLARE DELL'EMILIA ROMAGNA	ITALY
B. POPOLARE DI INTRA	ITALY
B. POPOLARE ITALIANA	ITALY
B. POPOLARE DI MILANO	ITALY
B. POPOLARI UNITE	ITALY
B.POPOLARE DI VERONA E NOVARA	ITALY
B. POPULAR ESPANOL	SPAIN
C. RISPARMIO DI FIRENZE	ITALY
SOCIETE GENERALE	FRANCE
UNICREDITO ITALIANO	ITALY

Accounting variables used in the regressions have been obtained from BankScope or, when missing, from banks' websites. Data on individual stocks prices have been obtained from Datastream, a database containing daily information on historical stock market prices from all major stock exchanges. Data relative to expected earnings and expected dividend have been obtained from I/B/E/S or, when missing, from banks' websites.

6. Results

6.1. Descriptive statistics

Table 3 displays descriptive statistics pertaining to the cost of equityand the independent variables included in the regression.

Table 3: Descriptive statistics

	Ke	Risk-free	Growth	Pay-out	Lev	Lev*IFRS	Size	No. of Obs.
MEDIA								
Pre-IFRS	.0809	.0395	.2209	.4501	.0697	.000	8.257	71
Post-IFRS	.0748	.0328	.1659	.4861	.0604	.0604	8.567	71
T-statistic p-value (two tailed test)	0.0016	0,000	0.028	0.001	0.000	0.000	0.000	
FIRST QUARTILE								
Pre-IFRS	.0719	.0373	.1419	.3529	.0556	.000	7.556	71
Post-IFRS	.0647	,0318	.1180	.4308	.0526	.0526	7.996	71
MEDIAN								
Pre-IFRS	.0842	.0398	.1726	.4375	.0660	.000	8.503	71
Post-IFRS	.0759	.0327	.1417	.4747	.0594	.0594	8.761	71
Wilcoxon Z p-value (two-tailed test)	0.003	0.000	0.002	0.000	0.000	0.000	0.000	
THIRD QUARTILE								
Pre-IFRS	.0951	.0398	.2536	.5122	.0797	.000	8.715	71
Post-IFRS	.0878	.0342	.1998	.5291	.0680	.0680	9.058	71
STANDARD DEVIATION								
Pre-IFRS	.0191	.0022	.2049	.1273	.0243	.000	1.073	71
Post-IFRS	.0165	.0011	.1022	.1151	.0160	.0160	1.035	71
F-statistic p-value (two-tailed test)	0.224	0.000	0.000	0.698	0.007		0.9384	
MINIMUM								
Pre-IFRS	.024	.037	.00	.20	.033	0	5.220	71
Post-IFRS	.032	.032	.00	.23	.026	.026	5.689	71
MAXIMUM								
Pre-IFRS	.11	.044	.64	1	.178	0.178	10.402	71
Post-IFRS	.12	.034	.65	.86	.099	.099	10.728	71

The results reported in Table 3 indicate that there are differences between the pre- and post-IFRS period with regard to the mean and median of the cost of equity. Specifically, in the post-IFRS period the cost of equity is – on average - 7.5% lower than that in the pre-IFRS period, while the median is 9.9% lower than that in the pre-IFRS period. Among variables which are expected to be positively related to the cost of equity, the *Risk-free* has decreased over the time period under consideration. As a consequence, the observed reduction in the cost of equity could be the result of the decrease in the risk-free rate. Conversely, in the post-IFRS period the *Pay-out* variable exceeds, on average, that in the pre-IFRS period. Therefore, such a change should have exerted an increasing effect on the cost of equity over the time period covered by this study.

Descriptive statistics also reveal that the *Lev* and *Growth* variables, which are supposed to be negatively related to the E(EPS)/P ratio used as a *proxy* for the cost of equity, have decreased in media and median over the period under consideration. As a consequence, their reduction should have exerted an increasing effect on the cost of equity. Finally, Table 3 displays differences between the pre- and post-IFRS period with regard to the standard deviation of the cost of equity. In the post-IAS period the standard deviation of K_e is 13.6% lower than that in the pre-IFRS period.

However, Table 3 also displays that during the post-IFRS period standard deviation has also decreased for important variables which affect the cost of equity. A cross-country comparison of the cost of equity means (not reported) shows a standard deviation of 0.0127 in the pre-IFRS period and 0.0120 in the post-IFRS period. This result shows that cross-country variability has also decreased by 5.51% in the post-IFRS period.

6.2. Univariate analysis

As it results from Table 3, the cost of equity has reduced in media and median. In order to verify the research hypothesis - i.e. whether the IFRS implementation reduces firms' cost of equity - the mean and the median of K_e has beencomputed for the sample firms with regard to the pre- and post-IFRS period separately. Coherently to the research hypothesis, in the pre- IFRS period K_e is 7.5% higher in media and 9.9% higher in median than after the IFRS adoption. Differences in media have been tested statistically with a T-test, whereas differences in median have been tested with a Wilcoxon test. The T-test rejects the null hypothesis of no differences in media at a 0.0016 level (two-tail test). The Wilcoxon Rank-Sum test also rejects the null hypothesis of no differences in median at a 0.003 level (two-tail test). Hence, differences in media and median between the cost of equity in the pre- and post- IFRS period are statistically supported.

Statistical tests have also been performed with regard to the standard deviation. The relative sample standard deviation - i.e. the ratio between the standard deviation of K_e in the post- IFRS period and that in the pre- IFRS period (as computed in Table 3) - is equal to 0.0864. This means that differences across firms' cost of equity have decreased in the post- IFRS period by 13.6%. However, such a reduction in standard deviation is not statistically supported. In fact, the variance ratio test for K_e leads to accept the null hypothesis of equality in the cost of equity variances at the conventional levels used in economic research (0.01 0.05, 0.1 levels for the size of the first kind of error). A variance ratio test (not reported) has also been performed for the standard deviation relative to the cross-country comparison of the cost of equity means. The relative sample standard deviation - i.e. the ratio between the standard deviation of K_e in the post- IFRS period and that in the pre- IFRS period - is equal to 0.9450. This means that differences across firms' cost of equity have decreased in the post- IFRS period by 5.5%. However, such a reduction in standard deviation is not statistically supported. In fact, the variance ratio test for K_e leads to accept the null hypothesis of equality in the cost of equity variances at the conventional levels used in economic research (0.01 0.05, 0.1 levels for the size of the first kind of error).

6.3. Multivariate regression

The univariate analysis provides evidence that the reduction in the cost of equity for firms which switched to the IFRS in 2005 is statistically significant. The very low p-values associated to the T- and Wilcoxon tests indicate that the probability that the observed differences in media and median are due to sample selection is extremely low.

However, the univariate analysis is based on *ceteris paribus* assumptions that may not hold in practice. The cost of equity estimated by the DCF method is a total cost of equity that takes into account different factors. Hence, multivariate regressions have also been performed in order to isolate the effect of the IFRS implementation on the cost of equity.

With regard to the research hypothesis, the observed reduction in the cost of equity could have been caused by factors other than the IFRS implementation. In order to isolate the effect of the IFRS adoption on the cost of equity, the cross-sectional and pooled multivariate regression described in par. 4.2. is performed.

Table 4 provides Pearson's correlation coefficients among K_e, *Risk-freeGrowth, Pay-out*, *Lev*, *Lev*IFRS*and *Size*, which has finally been included in the model. The correlation between K_e and *Lev*IFRS*is -0.278 and significant at the 0.01 level using a two-tail test. Before controlling for other variables, this result is consistent with the claim that the cost of equity has decreased after the IFRS adoption. The correlation coefficient between K_e and*Lev* is also negative – as expected – and strongly significant at a 0.01 level, whereas the correlation coefficient between K_e and *Pay-out* is significant at a 0.01 level but opposite in sign to what expected. This finding could, however, be consistent with the hypothesis that the higher the dividend paid by a firm is, the higher the marketability of its stock is, the lower its liquidity risk and the *ex ante* return required by investors to hold such a firm's stock are.

Table 4: Pearson's correlation coefficients

		Ke	Pay-out	Growth	Lev	Risk-free	Lev*IFRS	Size
Ke	Pearson's correlation	1						
	(2 tailed)							
	N	142						
Pay-out	Pearson's correlation	-.366**	1					
	(2 tailed)	.000						
	N	142	142					
Growth	Pearson's correlation	-.157	-.154	1				
	(2 tailed)	.062	.068					
	N	142	142	142				
Lev	Pearson's correlation	-.453**	.356**	.147	1			
	(2 tailed)	.000	.000	.081				
	N	142	142	142	142			
Risk-free	Pearson's correlation	.152	-.119	.159	.168*	1		
	(2 tailed)	.071	.159	.058	.046			
	N	142	142	142	142	142		
Lev*IFRS	Pearson's correlation	-.278**	.242**	-.143	-.021	-.829**	1	
Dummy	(2 tailed)	.001	.004	.091	.806	.000		
	N	142	142	142	142	142	142	
Size	Person's correlation	.044	-.243**	-.123	-.202**	-.112	.072	1
	(2 tailed)	.603	.004	.146	.016	.183	.392	
	N	142	142	142	142	142	142	142
IFRS	Person's correlation	-.168*	-.148*	-.178	-.223**	-.891**	.937**	.127
Dummy	(2 tailed)	.046	.079	.034	.008	.000	.000	.132
	N	142	142	142	142	142	142	142

** Correlation is significant at 0,01 level (two tailed)

* Correlation is significant at 0,05 level (two tailed)

The correlation coefficients between K_e and *Growth* and between $K_e$and *Risk-free* show the expected sign and statistical significance at a 0.05 level using a one-tail test, whereas the correlation between K_e and *Size* shows a positive but not statistically significant coefficient. All the above mentioned correlations show low coefficients. Conversely, correlation coefficient between *Risk-free* and *Lev*IFRS* is high. The correlation coefficient between *Risk-free* and *Lev*IFRS* shows a coefficient of -0.829. However, since the variance inflation factors displayed in Table 5 with regard to the regression discussed above are less than 5, all the variables considered in such a model have been tested together (Marquandt 1980).

Table 5: Collinearity statistics

Model: $K_e = \alpha_o + \beta_1 Risk\text{-}free_t + \beta_2 Growth_{it} + \beta_3 Pay\text{-}out_{it} + \beta_4 Lev_{it} + \beta_5 Size_{it} + \beta_6 Lev*IFRS_{it} + \varepsilon$

Variable	VIF	Tolerance
Risk-free	3.53	0.2835
Growth	1.12	0.8905
Pay-out	1.37	0.7296
Lev	1.25	0.7976
Lev*IFRS	3.51	0.2851
Size	1.13	0.8828
Mean VIF	1.99	

Results in Table 6 confirm that switching from domestic GAAP to the IFRS has provided a lower cost of capital. Results in column (A) refer to a regression which only includes the control variables, i.e. variables which previous research has found to affect the cost of equity. Results in column (B) refer to the complete model as defined by regression (1) in paragraph 4.2., which includes all the control variables and the *Lev*IFRS* variable. Standard errors in the regressions are robust to heteroskedasticity.

Table 6: Multivariate least squares regression results (White, 1980)

Models:

Column (A): $K_e = \alpha_o + \beta_1 Risk\text{-}free_t + \beta_2 Growth_{it} + \beta_3 Pay\text{-}out_{it} + \beta_4 Lev_{it} + \beta_5 Size_{it} + \varepsilon$
Column (B): $K_e = \alpha_o + \beta_1 Risk\text{-}free_t + \beta_2 Growth_{it} + \beta_3 Pay\text{-}out_{it} + \beta_4 Lev_{it} + \beta_5 Size_{it} + \beta_6 Lev*IFRS_{it} + \varepsilon$

Regressor	**(A)**	**(B)**
Intercept	0.0893 (0.000)	0.1233 (0.000)
Risk-free	1.0240 (0.0045)	0.09133 (0.443)
Growth	-0.02047 (0.000)	-0.0193 (0.001)
Pay-out	-0.0376 (0.015)	-0.0330 (0.004)
Lev	-0.3466 (0.000)	-0.3315 (0.000)
Size	-0.0019 (0.079)	-0.0018 (0.092)
Lev*IFRS	-------- --------	-0.1310 (0.039)
Adjusted R^2 **F-statistic**	0.3001 10.98	0.3113 12.44
Prob (F-statistic)	(0.0000)	(0.0000)

*P-valueis in parentheses (one-tail test)

Both the regressions seem satisfactory in terms of goodness of fit, especially when compared to similar studies. However, it is apparent from the adjusted R^2 that substantial variation in the cost of equity estimates is left unexplained by the variables included in the regression. This could reflect noise in the cost of equity estimates, noise in the risk measures and/or missing risk factors. Both the regression results have also been checked for the presence of influential points using Cook's D statistic. No influential points have been detected.

Table 6 shows that, among the control variables, *Growth* and *Lev* have a negative and strongly significant coefficient in both the regressions, whereas *Size* shows a positive coefficient, which is significant at a 0.10 level, using a one tail test. The *Pay-out* always exhibits a significant but – contrary to expectation - negative coefficient. This finding could, however, be consistent with the hypothesis that the higher the dividend paid by a firm is, the higher the marketability of its stock is, the lower its liquidity risk and the *ex ante* return required by investors to hold such a firm's stock are. The *Risk-free* shows the expected sign in both the regressions, but it is not significant in column (B). Same results (not reported) were obtained by using the Euro-zone interest rates, instead of the 10 year German bond yield, as a proxy for the *Risk-free* interest rate. The *Lev*IFRS* coefficient is negative (0.1398) and significant at a 0.05 level using a one-tail test in regression (B). This result is coherent with the hypothesis that switching from domestic GAAP to the IFRS has provided a lower cost of capital.

Residual diagnostic did not reveal any outliers. Moreover, residual-versus-fitted plot as well as residual-versus-predictor plot did not suggest model misspecification or omitted variables. Table 7 also displays results relative to two different regressions performed with regard to the pre- IFRS and post-IFRS period separately and including the variables which previous research has shown to affect the cost of equity.

Panel A displays regression results relative to the pre-IFRS period, while Panel B displays regression results relative to the post-IFRS period. The statistical tests are one-tailed since the alternative hypotheses relative to the regression coefficients are specified in sign. Standard errors are robust to heteroskedasticity. Also in this case, both the regressions seem satisfactory in terms of goodness of fit, especially when compared to similar studies[2]. However, it is apparent from the adjusted R^2 reported in Table 7 that substantial variation in the cost of equity estimates is left unexplained by the variables included in the regression. Once more, this could reflect noise in the cost of equity estimates, noise in the risk measures and/or missing risk factors. Regression results have also been checked for the presence of influential points using Cook's D statistic. No influential points were detected.

In both the regressions the *Risk-free* variable is not significant. In Panel B it is also opposite in sign to what expected. In both the regressions, the *Growth* variable shows the expected sign and is strongly significant, whereas the *Pay-out* is not significant and shows an opposite sign to what expected. This finding could be consistent with the hypothesis that the higher the dividend paid by a firm is, the higher the marketability of its stock is, the lower its liquidity risk and the *ex ante* return required by investors to hold such a firm's stock are. The *Size* variable shows a negative and strongly significant coefficient in Panel A, whereas it is positive and significant at a 10% level in Panel B. The coefficient of the *Lev* variable is negative and strongly significant in both the regressions. As expected, the coefficient of the $Lev_{(post\text{-}IFRS)}$ variable is bigger than the coefficient of the $Lev_{(pre\text{-}IFRS)}$ variable. Since the *Lev* variable computed under the IFRS included the effect of firms' commitment to an increased level of disclosure, it was supposed to contribute to reduce information asymmetry and – all else being equal – to lower the cost of equity. Hence, the comparison of the two coefficients of the *Lev* variable indicates that the leverage representation according to the IFRS has resulted in a lower cost of equity.

Table 7: Multivariate least square regression results (White, 1980)

Models*:*

$$Ke_{it\ (pre\text{-}IFRS)} = \alpha_{o\ (pre\text{-}IFRS)} + \beta_1 Riskfree_{t\ (pre\text{-}IFRS)} + \beta_2 Growth_{it\ (pre\text{-}IFRS)} + \beta_3 Pay\text{-}out_{it\ (pre\text{-}IFRS)} + \beta_4 Lev_{it\ (pre\text{-}IFRS)} + \beta_5 Size_{it\ (pre\text{-}IFRS)} + \varepsilon$$

$$Ke_{it} = a_{o\ (post\text{-}IFRS)} + b_1 Riskfree_{t\ (post\text{-}IFRS)} + b_2 Growth_{it\ (post\text{-}IFRS)} + b_3 Pay\text{-}out_{it(post\text{-}IFRS)} + b_4 Lev_{it\ (post\text{-}IFRS)} + b_5 Size_{it\ (post\text{-}IFRS)} + \varepsilon$$

	Panel A: Pre-IFRS period	Panel B: Post-IFRS period
Regressor	Coefficient	Coefficient
Intercept	0.1323 (0.000)	0.1223 (0.006)
Risk-free	0.2460 (0.370)	-0.5097 (0.359)
Growth	-0.0204 (0.000)	-0.0379 (0.0045)
Pay-out	-0.0536 (0.0175)	-0.0013 (0.475)
Size	-0.0049 (0.002)	0.0024 (0.079)
Lev	-0.3140 (0.004)	-0.4925 (0.000)
Adj. R2	0.3438	0.3077
F-statistic	8.33	7.22
P (F- statistic)	0.0000	0.0000

P-values are in parentheses (one-tail test)

7. Summary and Conclusions

In this research, the effects of the IFRS adoption in Europe on the capital market have been investigated by focusing on the cost of equity for the bank industry. Since the main purpose of the European Regulation 1606/2002 is to foster an efficient and cost-effective functioning of the capital market, the hypothesis developed in this study directly relates accounting changes to the cost of equity. The hypothesis tested in this research aimed at verifying whether the adoption of the IFRS has led to a reduction in the cost of equity.

[2] For example, the adjusted R^2 of the regression of the cost of equity on market beta and disclosure index performed by Botosan (1997) is 0.247; the adjusted R^2 of the regression of the banks' cost of equity on various micro factors performed by Maccario, Sironi and Zazzara (2002) is 0.53.
Value-relevance studies usually show low R^2s. For instance, the adjusted R^2s of the regressions of returns on earning and book value performed by Joos and Lang (1994), in their research on the effect of EU accounting harmonisation, varies from 0.10 to 0.37 accordingly to the year and country taken into consideration; the adjusted R^2s of the regressions performed by Bartov, Goldberg and Kim (2002) in their comparative study among German-GAAP, US GAAP and IFRS varies between 0,06 to 0,189 accordingly to the sample, the accounting variables and other factors under analysis.

Results of both univariate and multivariate analyses validate this hypothesis, providing empirical support to the claim that switching from the European Directives' system to the IFRS set has resulted in a lower cost of equity. These findings have both theoretical and practical implications.

From a theoretical point of view, they provide contribution to the economic thought that a commitment to increased level of disclosure reduces the cost of capital component that arises from information asymmetries. From a practical point of view, these findings provide evidence that the Regulator's purpose of fostering a cost-efficient functioning of the capital market for firms could be considered as accomplished in the period immediately subsequent IFRS adoption. This implies that accounting *per se* has the potential to affect firms' cost of capital. Therefore, evidence on this point is of direct interest to accounting policy makers for declaring the usefulness of the changes required in financial reporting, comparing the costs and benefits of the new regulation and making informed tradeoffs between value-added disclosures and the costs associated with their production and dissemination. Of course, as prior research has pointed out, enforcement matters, but this relates to specific political and institutional factors that are out of the scope of this paper.

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