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The impact of IFRS adoption on the value relevance of book value and earnings

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ABSTRACT

In this study, we investigate the impact of IFRS adoption in Europe and Australia on the relevance of book value and earnings for equity valuation. Using a sample of 3488 firms that initially adopted International Financial Reporting Standards (IFRS) in 2005, we are able to compare the figures originally reported for the 2004 fiscal years to the IFRS figures that were provided in 2005 as the 2004 IFRS comparative figures. As part of the inquiry, we introduce a cross-product term, equal to the product of *EPS* and *BVPS*, into the traditional linear pricing models. The estimated coefficient on the cross-product term is statistically significant and negative, as theory suggests in the presence of important nonlinearities. Further, there is increased non-linearity in the data subsequent to IFRS adoption, with the increase being most pronounced for firms in Common Law countries. With non-linear effects controlled for, there is no observed change in price relevance for firms in either Code Law or Common Law countries, contradicting the results from the linear pricing models. The results also suggest that the distribution of measurement errors becomes more similar across Code Law and Common Law countries after the adoption of IFRS, removing one difference between these groups. Thus, IFRS enhances comparability, an inference that would not be possible had we confined the analysis only to linear pricing models.

1. Introduction

In this study, we investigate the impact of International Financial Reporting Standards (IFRS) adoption on the relevance of book value and earnings for equity valuation. The 2005 switchover to IFRS in Europe and Australia provides a natural quasi-experimental setting. The 2005 filings of European and Australian public companies contain restated 2004 GAAP numbers in accordance with IFRS which can be compared to the former country level GAAP numbers reported in the original 2004 filings. This allows the measurement of performance for the 2004 fiscal year using both the original local GAAP and the new IAS figures. Each firm serves as its own control and the time period studied is the same for both sets of figures.[1]

Hung and Subramanyam (2007) refer to this "same firm year" research design as a powerful one since it controls for cross sectional and time series differences in the sample firms. The problem of identifying the effects of changes in accounting standards per se has plagued the IFRS mandatory adoption literature because control groups are difficult to find for a country wide change – for an extensive discussion, see Daske et al. (2008) and Hail et al. (2009). This identification problem is impor-

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[1] For some firms, depending upon the firm's fiscal year-end and the effective date for the standard in the firm's home country, the switchover alternatively occurred in 2006.

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tant since, as Hail et al. point out, financial reporting quality depends not only on accounting standards but also on a firm's reporting incentives and its country's institutional framework. Our same firm year design holds incentives and institutional frameworks constant and turns one dial only, namely, standards. Thus, we solve the identification problem as we can isolate the capital market effects due to changes to IFRS accounting standards.

The value relevance of aggregate book value and earnings is a natural place to look for the impact of IFRS adoption on financial reporting quality given the paramount role of equity valuation in the IFRS conceptual framework. We view book value and earnings as summary descriptors of value and explore how value relevance changes subsequent to the adoption of IFRS. Our value relevance perspective is not the only one for examining the capital market benefits of IFRS adoption and concurrent research explores other benefits of IFRS adoption (for example, Daske et al. (2008) examine changes in cost of capital). Our research complements the cost of capital evidence of Daske et al. in the following way. Greater value relevance is one dimension of accrual quality (Francis et al., 2004) and higher accrual quality can translate into a lower cost of capital, especially when firms raise equity financing in distant countries where investors are not insiders in the sense described by Ball et al. (2000). Put simply, a greater value relevance of book value and earnings means investors need to rely less on "other information" (Ohlson, 1995). Hence, firm information risk declines.

From a methodological perspective, we begin with the traditional linear valuation model to evaluate the improvement in fit for equity valuation as the GAAP regime changes. These are our benchmark models, since they represent current operating procedure for analyses in the spirit of Ball and Brown (1968). We then supplement the linear model with the addition of a cross-product term, the product of book value and earnings. While the true valuation model relating "assets" and "cash flow" to equity value is proportional, book values and earnings measure assets and cash flow with some degree of measurement error. One important source of measurement error is that contributed by a specific set of accounting standards. Consider, for example, the impact of Code Law conservatism prior to IFRS adoption. This downward bias in book and earnings is a source of measurement error induced by accounting standards (see Beatty et al., 1999). As a second example, consider the move within IFRS towards more fair value accounting. As pointed out by Ohlson (2009), the ultimate use of fair value accounting is perfect mark-to-market accounting. In such a regime, earnings measure permanent (i.e., "expected") earnings with considerable measurement error and while earnings perfectly explain returns, earnings do a poor job in explaining the level of price. This is a source of measurement error introduced by IFRS accounting standards. Making reasonable assumptions about the nature of this measurement error, there is support for the use of a non-linear pricing model that includes a cross-product term of some form. Moreover, as will be seen, adding the cross-product term changes the inferences reported in the paper.

Our sample data, obtained from Worldscope, consist of 3488 firms from 14 EU countries and Australia (three Common Law and 12 Code Law countries). Our results suggest the following. First, the adoption of IFRS has had a greater impact on the financial statements of Code versus Common Law countries (the mean percentage changes in both earnings per share and book value per share are larger for firms from Code Law countries). Also, for Code Law countries, IFRS increases book value and earnings, consistent with the consensus view expressed in the literature that Code Law GAAP was conservative in nature (for example, see Jermakowicz and Gornik-Tomaszewski, 2006, p. 186).

Second, using "same firm year" valuation tests and linear pricing models, the adoption of IFRS increased absolute pricing errors for Common Law countries, on average, relative to Code Law countries. This result is counterintuitive given that IFRS resulted in a greater change in accounting statements for Code Law countries. Using the non-linear pricing model (termed the Product Model), however, we find no evidence of a reduction in relative price relevance for Common Law countries. This suggests that the deterioration in the linear model's explanatory power for Common Law countries is caused by an increase in non-linearity of the relation between stock prices and accounting information. Changes in the significance of the cross-product term reveal this to be the case.

Aggregating across the 15 countries in our sample, we conclude that, after controlling for nonlinearities, there is no change in the association between book value, earnings and price. Thus, using association as a market-based attribute, IFRS adoption benefits (see Francis et al., 2004; Schipper, 2009) would appear to be limited. However, the Product Model reveals capital market benefits of IFRS adoption when we examine an alternative market-based attribute, namely, the importance of the product term which we view as capturing measurement error. After IFRS adoption, there is no difference in measurement error between Code and Common Law countries, whereas before IFRS there was a difference, which we attribute to prior cross-sectional variation in Code Law conservatism. If one interprets measurement error as one dimension of financial reporting quality, this implies the same financial reporting quality after IFRS for two groups of countries that had different financial reporting quality before IFRS. Thus, IFRS enhances comparability, an inference we can draw from the data while holding enforcement and incentives constant to the analysis. This result points to a benefit of IFRS adoption, an inference that would not have been possible had we confined the analysis to linear models and traditional goodness-of-fit metrics.

In terms of contribution, our analyses would seem retrospective in that all European countries and Australia have already switched to IFRS and the historical relevance of former home county GAAP may be less interesting. Nevertheless, there are many countries which have not as yet adopted IFRS, including Canada (which will adopt IFRS in 2011) and the United States which is contemplating IFRS adoption. Our results will be of interest to these countries, and to standard setters and accounting professionals around the globe who are interested in the impact of IFRS conversion.

The remainder of the document is organized as follows. In the next section, we present a review of the relevant literature. Section 3 then presents a conceptual case for an alternative pricing model which adds an additional explanatory variable – the cross-product term – to the traditional OLS regression model. The methodology is discussed in Section 4, followed by the sample data in Section 5. Section 6 then presents the empirical results and Section 7 concludes.