IFRS IMPLEMENTATION AND OTHER FACTORS DETERMINING COST OF EQUITY CAPITAL - EMPIRICAL EVIDENCE FROM CHINESE PUBLICLY LISTED COMPANIES

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ABSTRACT

This research uses Chinese publicly listed companies' financial information from 1998-2010 to analyze factors affecting cost of equity capital. A total of 1,329 firms are included in the study. We do not find significant influence of IFRS implementation on cost of equity capital. The single most important factor influencing the cost of equity in the China stock market is book to market ratio. Cost of equity goes up as book to market ratio goes up.

INTRODUCTION

The cost of equity capital is essential to a firm's success and can be influenced by various factors. Researchers have addressed many of these factors. Some of the findings include the following. Firms with superior social responsibility performance enjoy a subsequent reduction in the cost of equity capital [5]. More analyst coverage is associated with less underpricing of seasoned equity offerings [1]. Firms with strong shareholder rights have a significantly lower implied cost of equity [3]. Labor unions increase firms' costs of equity by decreasing firms' operating flexibility [3]. The above are only a few of the factors that have been studied. This research will be devoted to the impact on the cost of equity capital that was the result of the mandatory implementation of IFRS in China.

IFRS impact on the cost of equity has been studied be various researchers. Li (2010) used European data and concludes that, on average, the IFRS mandate significantly reduces the cost of equity. Daske (2006) uses German firms and fails to document any cost of equity benefit by using either IFRS or US GAAP instead of local GAAP. Ionaşcu et al. (2010) uses Romania data and finds that the cost of equity capital did decrease from 0.8 to 0.07 after the IFRSs were adopted in Romania. Daske et al. (2008) uses data from 26 countries and documents a decrease in firms' cost of capital and an increase in equity valuations, but only if they account for the possibility that the effects occur prior to the official adoption date. Dargenidou et al. (2006) showed empirically that accounting diversity is likely to be of little importance in integrated financial markets and they expect the change to IFRS to have short lived impact on the capital markets.

China mandated IFRS conversion for publicly traded companies starting 1/1/2007. China's approach is a principles-based approach to translate the new rules into its own code, the Chinese Accounting Standards System. The revisions bring Chinese standards closer to the IFRS benchmark of internationally recognized quality, but the new standards will not be word-for-word translations of IFRS, though they will be founded on similar principles. China's approach of moving substantially to IFRS, but maintaining some differences, is consistent with that of some other countries. Of course, this

practice has the potential to reduce the comparability of financial statements prepared according to "IFRS", but by companies in different countries.

LITERATURE REVIEW

There have been hundreds of studies on the anticipated and actual impact of IFRS on a variety of issues. A good number of studies have focused on the impact on cost of equity capital. Edward Lee et al. (2008) did an early study using 2005 and 2006 IFRS data for 17 European countries. They found no evidence of a reduction in cost of equity capital compared to costs prior to adoption of IFRS for companies in countries in which the financial reporting incentives and enforcement standards are relatively low. They did find a significant reduction for companies in the high incentive group, which were mostly UK companies. These findings agreed with those of Daske (2006) who studied a group of German firms. Later, Daske et al. 2008 looked at companies in 26 countries and found a decrease in the cost of capital, but only if they accounted for the possibility that the effects take place prior to the official adoption date for IFRS and only in countries where firms have incentives to be transparent and where legal enforcement is strong.

Karamanou (2009) looked at 384 firms that voluntarily adopted IAS (the predecessor of IFRS) in the period from 1988-2002. They found an increase in firm values for these firms and concluded that the primary reason for the increase was the reduction in cost of capital. Li (2010) looked at 1084 firms during the 1995-2006 period and documented an average decrease in cost of capital of 47 basis points, but only for firms in countries with strong legal enforcement that provided increased disclosure and increased comparability of information. Finally, Pine (2010) makes the case that firms should be able to reduce their cost of capital by cross-listing their stock on additional stock exchanges. This cross-listing is enhanced by the adoption of IFRS, which is viewed as a quality accounting standard and eliminates the cost of converting financial statements for different jurisdictions.

Originally, our study was to investigate the possible effect of switching to IFRS on the cost of equity capital for Chinese companies, which were mandated to switch to IFRS as of January 1, 2007. As we proceeded, we found that another factor is the major determinant of cost of equity capital for Chinese companies.

RESEARCH METHOD

Data Collection

We recruited students fluent in Chinese to manually collect data from sina.com.cn. Data were collected from a total of 1,329 publicly listed companies, and 13,209 company years. We included all industries in our data collection. We then grouped our observations into China GAAP observations (1998-2006) and IFRS observations (2007- 2010).

Methods of Calculating Cost of Equity

Equity may be generated internally or obtained externally. However, in both cases the cost of equity is the same as stockholders have to be paid. There are three main methods of calculating the cost of equity: the Dividend Growth Model (DGM); the Capital Asset Pricing Model (CAPM); and the Bond Yield plus Risk Premium (BYRP) approach. Calculating the cost of Equity (K_e) from the DGM requires knowledge

of the current dividend (D_0), the current stock price (P_0) and the *constant* rate of growth of dividends (g). The constant growth rate (g) has to be estimated using some combination of analyst forecasts, historical growth rates and the growth formula [g=(Retention Ratio)(Return on Equity)]. The CAPM approach requires knowledge of the risk free rate (R_f), the market return (R_m), and the beta of the stock (β_m).

Why We Use DGM

Bruner et al. (1998) found that in the United States context the most commonly used method of estimating the cost of equity was the CAPM approach. They also found that the Discounted Cash Flow method is the dominant investment evaluation technique. The CAPM has an implicit assumption in that it rewards investors for taking only market risk, it does not reward investors for taking diversifiable risk. However, undeveloped and imperfect capital markets, like China, might need to reward investors for taking some unsystematic risk. Further, the use of the CAPM is impeded in markets that lack a measure for the risk free rate of interest. Using the United States Treasury bond rates as a proxy for the Chinese risk free rate would not be fruitful. Further the ephemeral nature of beta might not make the CAPM suitable for calculating the cost of equity for Chinese firms.

The Dividend Growth Model (DGM) seems a more robust model for calculating Chinese cost of equity. The stock price (P_0) is observable, the next dividend to be paid (D_1) can be ascertained with a high degree of accuracy. The expected growth rate (g), however, needs to be determined. This can be gauged from analyst forecasts, historical growth rates and the growth formula mentioned earlier.
The standard formula for cost of equity capital is:

Cost of equity capital$_{t-1}$=Dividend$_t$/stock price$_{t-1}$+ dividend growth rate (1)

That is, the cost of equity is the sum of the expected dividend yield and the expected yearly growth rate in dividends.

Dividend$_t$ =Retained earnings year$_{t-1}$+net income$_t$-Retained earnings$_t$ (2)

Dividend growth is approximated by average growth year over year from 1999-2010. The cost of capital calculated using formula 1 is used as the dependent variable. Regression analysis was done to analyze the effect of IFRS implementation on cost of equity. The data from 1999 until 2006 is considered before IFRS data and the 2007-2010 period is considered post IFRS data. The analysis controlled for factors such as industry, size, state ownership percentage, BOD, etc. The analysis includes basic financial ratios such as debt to equity, debt to asset, current ratio, return on assets, profit margin ratio, return on shareholders' equity, and asset turnover. The analysis also includes the financial statement year to account for the general economic environment of a certain year. Please note that current year cost of capital is used and all the prediction factors are based on previous year data. In other words, we are predicting current year's cost of capital based on the company's previous year performance.

Cost of equity capital= industry, year, IFRS, log market value of equity, book to market ratio, log sales, state share percentage, independent BOD/log sales, total BOD members/log sales, debt/equity, debt/asset, CA/CL, NI/asset, NI/sales, NI/equity, sales/assets (model 1)

Where state share percentage includes both direct ownership by the government and indirect ownership through shares owned by state-owned companies.

Previous research has shown that book to market ratio and log market value of equity is interrelated with cost of capital. Model 2 removed these two variables.
Cost of equity capital= industry, year, IFRS, log sales, state share percentage, independent BOD/log sales, total BOD members/log sales, debt/equity, debt/asset, CA/CL, NI/asset, NI/sales, NI/equity, sales/assets. (model 2)

CONCLUSION

In contrast to what we expected to find, i.e., that the cost of equity will decrease after the implementation of IFRS, we found that IFRS does not change cost of equity. This finding agrees with Lee et al. (2008), who found that mandatory implementation of IFRS in European countries produced, "no evidence of a reduction in the level of cost of equity capital among countries with lower financial reporting incentives and enforcement…"

The single most important factor influencing the cost of equity in the China stock market is book to market ratio; it explains nearly 95% of the cost of equity. It seems to signal that investors of Chinese market are looking for high growth companies. Chinese publicly listed companies tend to pay as much as they can in dividends. Their dividend payout ratio has a mean of 97% and a median of 41%. Higher dividend payments could lead to a lower cost of equity capital, because, all things being equal, investors are willing to pay more for the stock of a company that pays large dividends than for the stock of a company that pays small or no dividends.

This practice deserves attention. Although investors deserve payback, companies also need to retain sufficient capital to expand. At the current stage, even with the massive dividend payout, Chinese publicly listed companies are growing quickly. This is due to the ability of Chinese companies to raise money both in the debt and equity markets, and to the impressive growth rate of China. As China progresses to a more mature stage, this massive dividend payout strategy may not be able to sustain itself.

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