Does Risk Disclosure in Prospectus Matter in ChiNext IPOs' Initial Underpricing?

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ABSTRACT

A major challenge facing a privately held company that desires to go public is to set an accurate offer price in its initial public offering (IPO). While an overpriced IPO dampens the market demand, an underpriced IPO undersells the company. The task calls for a more careful analysis of the multiple facets of many factors; its complexity has led to profound research aiming to better understand the pricing of IPOs, or, more precisely, the underpricing of IPOs.

This paper examines the informational content of IPO prospectuses on IPO initial returns with a special focus on the disclosure of risk factors. Using a unique dataset, we investigate the relationship between the initial returns and the risk factors disclosed in the prospectuses for 355 ChiNext IPOs from October 30, 2009 to December 31, 2012 in Shenzhen Stock Exchange (SZSE). We are, in particular, interested in learning if underwriters use the information disclosed in IPO prospectuses in determining their offer prices.

Building on the existing literature and using various econometric models and through initial screening, we identify significant variables from the market-, firm-, and offer-specific characteristics that affect the opening price return (*OPR*), the closing price return (*CPR*), and the 21st trading day initial return (monthly closing return, *MCR*) for 355 ChiNext IPOs, respectively. Using those variables as the control variables, we add the selected and additional risk factors identified from ChiNext IPOs' prospectuses to further examine whether those risk factors will provide any incremental explanation power on the initial returns, after controlling for time-series, cross-sectional and time-varying return volatility in regression residuals. The regressions models are listed below.

$$OPR_i = \alpha_i + \sum_{j=1}^{m} \beta_j CV_{i,j} + \lambda_1 BD_1 + \varepsilon_i \tag{1}$$

$$OPR_i = \alpha_i + \sum_{j=1}^{m} \beta_j CV_{i,j} + \lambda_1 BD_1 + \sum_{k=1}^{n} \gamma_k RF_{i,k} + \varepsilon_i \tag{2}$$

$$OPR_i = \alpha_i + \sum_{j=1}^{m} \beta_j CV_{i,j} + \lambda_1 BD_1 + \sum_{k=1}^{n} \gamma_k RF_{i,k} + \rho_i \ln(\sigma_i^2) + (\frac{1-\theta(L)}{1-\phi(L)}) + \varepsilon_i \tag{3}$$

For the opening price return and from regression (1), we find that the offline and online subscription multipliers from institutional and individual investors (oversubscriptions), listing day stock market condition (market momentum), and issue size (size effect) are the most dominant factors that affect the opening price return. In addition to those four significant factors, the reform dummy that indicates the change in the number of floating shares after an IPO event and the pre-issue profit growth are significant too, even though their incremental contribution towards the overall model fitness (measured by the adjusted R^2) is only 0.01 each. The adjusted R^2 reaches 0.56.

After including 15 additional risk factors and from regression (2), we find that, in addition to the same control variables that are found significant before, one risk factor is found statistically significant that is the litigation risk. It has a significant and positive coefficient associated with it. It seems to suggest that the litigation risk is priced by the underwriter in the initial offer price but not perceived by investors in the market. Therefore, the higher the litigation risk, the lower the offer price and the higher the opening price return. The adjusted R^2 rises to 0.57.

After we apply a GARCH-M model with an ARMA(1,1) process in the regression residuals and from regression (3), we find that the offline and online oversubscriptions and the market condition remain positive and significant while the offer size remains negative and significant for the opening price return. The litigation risk remains positive and significant. The AR(1) and MA(1) terms are found positive and significant and the conditional return variance has a positive and significant impact on the initial return. Once again, the results reinforce that the litigation risk is an important factor in pricing ChiNext IPOs. The adjusted R^2 rises to 0.67, which indicates the fitness of the model.

With the same approach, we repeat regressions (1)-(3) using closing price return (*CPR)* as the dependent variable. We find that the offline oversubscription remains positive and significant. The listing day market condition also has a positive impact on the closing price return. The offer size has a negative and significant impact on the closing price return and the reform dummy remains significant. The only difference is that the online oversubscription is no longer significant. The adjusted R^2 is 0.52.

After adding the risk factors and from regression (2), we find that the piracy/trademark infringement risk and litigation risk, along with government tax subsidy, and an IPO firm's depreciation on its intangible assets are significant. The piracy/trademark infringement and litigation risks have a positive impact on the closing price return while government tax subsidy and depreciation on IPO firms' intangible assets have a negative impact on the closing price return. The contribution from those risk factors towards the overall model fitness is 0.01 each, which helps to increase the overall model fitness to 0.55.

From the GARCH-M model with an ARMA(1,1) adjustment in the regression residuals and from regression (3), we find that the same set of the control variables remains significant and the same risk factors, except the depreciation on an IPO firm's new fixed assets, remain significant. The conditional return variance has a positive and significant impact on the closing price return, as well as for the AR(1) and MA(1) terms. The adjusted R^2 further rises to 0.66.

Finally, we repeat the analysis using the monthly closing return (*MCR)* as the depend variable (*MCR* serves as a proxy for the short-term equilibrium return). We confirm that the offline oversubscription multiplier, listing day stock market condition and issue size still play a leading role in ChiNext IPOs' monthly underpricing. In addition to the about three variables, several new significant control variables emerge, which include the pricing to listing delay, the IPOs' industry ID, and the number of board directors, in addition to the reform dummy. The adjusted R^2 from regression (1) is 0.53.

The most interesting and different findings from regression (2) is that all the risk factors disclosed in ChiNext IPOs' prospectuses are not significant to the monthly initial return, suggesting that disclosure of risk exposures in ChiNext IPOs' prospectuses do not have any significant impact on the monthly underpricing, which is consistent with the definition that if a market is in equilibrium, all assets in the market should be fairly priced. All the significant control variables remain significant and the signs are the same, except that the reform dummy is no longer significant from regression (3) in the GARCH-M and ARMA(1,1) setting. The adjusted R^2 is 0.59. Our findings have policy implications.