The determinants of IPO initial returns for Chinese A-shares: an application of quantile regression

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Abstract
This paper investigates the determinants of initial public offering (IPO) initial returns for a sample of Chinese A-shares, the period from January 1993 to August 2006. Some features are highlighted in our paper as follows. First, in order to investigate the difference of determinants of IPO initial returns between the high and low initial returns, this paper applies the Quantile Regression (QR, hereafter) method. Second, this paper is the first of its kind to derive and explore the economic implications of the effect of market returns on the market-adjusted initial return. Third, we also take into consideration the important factors of “Macro Regulation and Control” and the “Reform of the Offering Price Model” in studying the IPO initial returns of A-shares.

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The results of the estimation are as follows. First, there are various differences between high and low initial returns, meaning that the empirical results of the quantile regression are more capable of describing the impact of the explanatory variables on the high and low IPO initial returns. Secondly, the macro controls and the reforms do in fact mitigate the high IPO initial returns. Third, the positive effect of the market returns on the high market-adjusted initial returns (IPO initial returns) indicates that these two returns move in the same direction, but that the volatility of the market-adjusted returns is higher than that of the market returns.

Keywords and phrases: IPO (initial public offering), initial return, quantile regression.

1. Introduction

The determinants of an initial public offering (IPO, hereafter) and initial returns constitute a hot topic in financial research. There are two kinds of variables expressed in the initial returns, namely, the raw initial return (RIR; hereafter), and also the market-adjusted initial return (MAIR; hereafter). The former calculates the return from the offering day to the listing day and the latter is the former one minus the market return. In our study, we use both these variables as the dependent variables.

Over the past decade, the Chinese economy and its stock markets have undergone numerous reforms, and hence several studies have focused on the determinants of IPO initial returns in the Chinese stock market (e.g., Chi and Padgett, 2005; Chen, Firth and Kim, 2004; Chan, Wang and Wei, 2004; Yu and Tse, 2006).

This paper also explores the determinants of IPO initial returns using Chinese A-shares as our sample. Since the IPO initial returns may be affected by the “different features of stocks”, “differences in investor sentiment”, and “the structural changes between the initial returns and their determinants”, it is therefore believed that the determinants of high initial returns should be different from those of low ones, with this difference being illustrated as follows:

1 The equation used in the calculation is \( RIR = \frac{(P_t - P_0)}{P_0} \times 100\% \), where \( RIR \), \( P_t \) and \( P_0 \) are the stock’s raw initial returns, the stock’s closing prices, and the stock’s offering prices.

2 The equation used in the calculation is \( MAIR = \frac{(RIR - (I_t - I_0))}{I_0} \times 100\% \), where \( MAIR \), \( RIR \), \( I_t \) and \( I_0 \) are the market-adjusted initial returns, the raw initial returns, the market closing index of the listing day and the market closing index of the offering day.