Underpricing and long-term underperformance in IPOs

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Abstract

This thesis investigates underpricing and long-term underperformance in European IPOs between 2002 and 2011 and discusses existing evidence and proposed explanations for the empirical anomalies. Average underpricing of 8.7% is found in a unique sample of 1,226 IPOs. It is argued that IPOs in the United Kingdom differ from continental European IPOs and that asymmetric information, investor sentiment and regulation all have explanatory power for underpricing. After carefully evaluating methodological issues, no evidence for long-term underperformance is found using a calendar time portfolios. The analysis of subsamples provides a deeper understanding of size and time related effects for both phenomena.

Executive Summary

I Objectives

The initial public offering (IPO) is an important financing tool and it is in the interest of issuers and investors alike that there is an efficient IPO market. The high complexity of the interactions between issuers, intermediaries and investors provides an interesting and challenging field to study. In particular, underpricing and long-term underperformance are two intriguing phenomena associated with IPOs that receive a lot of academic interest. The research to date has been very US focused and, especially early studies, suffer from methodological flaws. The current market environment, shaped by the recent financial crisis and the ongoing integration of European markets, combined with the lack of a comprehensive European study justifies the research in this area.

Given this starting point, the thesis has three objectives. First, it provides a framework for the two phenomena by giving a structured evaluation of existing literature. Second, it offers an empirical analysis of underpricing in recent European IPOs. In particular, it evaluates the hypotheses that (i) significant underpricing exists in European markets, (ii) underpricing is converging across Europe, and (iii) regulation, information asymmetries and behavioral theories affect the level of underpricing. Third, it evaluates the long-term performance of recent European IPOs starting from the hypothesis that no long-term underperformance exists.

II Approach

The thesis is organized in three parts, following the three objectives. In the first part, a summary of previous literature is provided. The focus lies on critically reviewing the proposed explanations for the two phenomena, and on providing an overview of empirical findings. Methodological issues which arise in connection with measuring long-term underperformance are also discussed.

The second part consists of the empirical analysis of underpricing. Underpricing is defined as the difference between offer price and first closing price and is calculated for a unique sample of 1,226 IPOs between 2002 and 2011, covering Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom. The calculated underpricing is tested for significance and subsamples are formed to identify differences across country, size and time. Standard regression is employed to determine the impact of asymmetric information, behavioral theories and regulation on the level of underpricing.

In the third part, the long-term performance of the sample IPOs is studied. As main method, equal- and value-weighted monthly calendar time portfolios are constructed and regressed on the Fama-French (1993) three-factor model to calculate abnormal returns. As many similar studies only report buy-and-hold abnormal returns (BHARs), they are also calculated by comparing IPO returns to the respective local market index. After testing for significance, subsamples are analyzed to find patterns across IPOs. Due to sample size reasons, country-level results can only be calculated using BHARs.

III Results

The introductory literature review shows evidence of underpricing in Europe (mean underpricing 21%) and the US (17%). A structured overview of the major explanations proposed by literature shows that no single theory manages to fully explain underpricing, yet in particular theories based on principal-agent issues and investor sentiment manage to explain parts of it. In the review of long-term underperformance, the summary of European and US literature shows that evidence is less clear here. In particular, the methodology used to measure abnormal performance is shown to have several significant flaws.

The empirical study of underpricing shows an average underpricing of 8.7% for the sample IPOs, well below the level of underpricing found in earlier periods. The cross-country analysis finds that the level of underpricing is converging across countries, and regression results support theories based on asymmetric information, investor sentiment and regulation. Additionally, IPOs in the United Kingdom (UK) are found to be different from other sample IPOs, mainly due to the comparatively minimal requirements of the Alternative Investment Market (AIM) where 85% of the sample UK companies were listed.

No evidence was found to support long-term underperformance. The calendar time portfolios show no statistically significant abnormal returns. However, small IPOs show signs of underperformance which can most likely be explained by a bad model problem. Only when using equal-weighted buy-and-hold abnormal returns a statistically significant underperformance of 14.2% over 3 years is found. Overall, the thesis fulfills its objectives and provides a good picture of underpricing and long-term underperformance in recent European IPOs.