Thesis Abstract

An Initial Public Offering (IPO) marks the transition of a private firm into a publicly listed company. A private, unlisted firm does not have any regulatory obligation to publicly disclose its financial and accounting information. On the contrary, a publicly listed company is obliged by the listing agreements to publicly and periodically disseminate various accounting related information about the financial performance of the company. This makes the information structure around the event of an IPO particularly interesting for research and academic investigation. In this dissertation, we have empirically examined three independent research questions around the event of an IPO listing by collecting data from the Indian primary market, and presented the results of our investigation in three different essays respectively.

In 2009, Securities Exchange Board of India (SEBI) brought in a regulation that allowed reputable, institutional investors to anchor an IPO by pre-committing to invest in the issue at a publicly disclosed bid quote, in advance of the IPO opening. This concept of Anchor Investors was introduced by SEBI for the first time into Indian primary capital market to boost the investor sentiments and provide credible IPO valuation benchmarks to the investor community at large. The need for a certification in the form of Anchor investor participation was acutely felt by the issuers and investment banks in the IPO market, as it became tougher for them to gain the confidence of investors on IPO valuation and long term fundamentals in a market environment of high volatility and bearish sentiments. In the first essay of this dissertation (chapter 4), we examine the certification effect of such anchor investor participation on a sample of 113 Indian IPOs which were listed during August 2009 and July 2012 on the returns, primary market demand, and IPO aftermarket volatility and liquidity of securities.

There is a rich literature in finance which examines the effectiveness of various certification mechanisms in reducing the ex-ante information uncertainty around an IPO offering. For example, the hiring of a reputable auditor (Beatty (1989)), reputable investment bank (Beatty and Ritter (1986), Titman and Trueman (1986), Michaely and Shaw (1994) and Carter, Dark and Singh (1998)) or a large underwriting syndicate team (Corwin and Schultz (2005)) in an IPO have been documented as a successful certification strategy adopted by various firms to signal their true value to potential, outside investors. In the first essay, we extend this stream of exploratory research further to study the certification role of Anchor investors in Indian IPOs by measuring its impact on various dimensions of an IPO market such as underpricing, IPO demand, aftermarket volatility, aftermarket liquidity and long term IPO performance.

The results of the first essay show that anchor investors are able to attract greater participation from other institutional investors, but fail to raise the retail investor demand for an IPO. We also find that the anchor IPOs have significantly lower aftermarket volatility and liquidity than non-anchor IPOs. The anchor IPOs also outperform non-anchor IPOs in the longer run (over a span of 130 and 260 trading days), although they do not differ significantly in the level of IPO underpricing. Overall, our evidence is consistent with certification role of anchor investor participation in IPOs, and suggests that anchor investors can significantly reduce the ex-ante information uncertainty around an IPO offering.

In the second essay of this dissertation (chapter 5), we examine the evolution of BSE limit order book during first 20 days of aftermarket trading by using a sample of 66 Indian IPOs during May 2010 and November 2011. We are motivated by previous works from Ahn, Bae and Chan (2001), Harris and Panchapagesan (2005) and Hall and Hautsch (2007) to extract the informational value of the entire open limit order book of a trading exchange. Our sample limit order book data contains information on price and quantity of best five bids and best five asks posted on the electronic BSE limit order book during the first 20 days of trading immediately following an IPO. This allows us to exploit the incremental information available at the quote levels in the BSE limit order book data to measure various market microstructure proxies such as limit order book depth and order imbalances that have not been investigated in the context of Indian exchanges previously. We examine three issues relating to the development of secondary market liquidity for Indian IPOs. First, we investigate the intraday pattern of several limit order book characteristics such as order imbalances, return, volatility, order book depths and spreads in the immediate IPO aftermarket. Second, we follow the evolution of limit order book characteristics on a day-to-day basis during the initial 20 days of IPO aftermarket, including the changes in limit order book liquidity of the IPO aftermarket using both inside spread, as well as the buy and sell side spreads of the limit order book. Finally, we investigate the determinants of first-day limit order book liquidity for BSE-listed IPOs, where we examine the ability of retail investors and institutional investors demand from the primary market in explaining the cross section of limit order book liquidity at the commencement of IPO trading.

The results from the second essay show that order imbalance is significantly negative immediately after listing, and limit order book liquidity follows U-shaped intraday pattern. Secondly, the analysis of the day-to-day evolution of limit order book characteristics in the IPO aftermarket shows that the limit order book depth rapidly decreases during the first week of listing, both in volume and value terms, and reaches a steady stable at the end of the first week. We also find that initial two weeks of IPO aftermarket explains most of the variation in limit order book characteristics. Examining the cross-sectional determinants of first-day liquidity of the BSE limit order book at different time intervals from the IPO listing, we find that retail investor demand significantly explains limit order book liquidity in IPO aftermarket. However, we do not find similar effect of institutional investor demand on IPO aftermarket liquidity.

The IPO literature has extensively documented the positive relationship between ex-ante level of information asymmetry in an IPO and IPO underpricing. However, the link between the IPO underpricing and ex-post level of information asymmetry has not been well examined. In the third essay of this dissertation (chapter 6), we examine the evolution of ex-post adverse selection risk in the IPO aftermarket of a sample of 70 Indian firms listed during May 2010 and November 2011, by adopting the proxy of Volume-synchronized Probability of Informed trading (VPIN). This order flow toxicity measure of adverse selection risk is based on a recently developed update of the well-known PIN model (Easley, Lopez de Prado and O'Hara (2012)), and has several advantages over the original PIN measure. For example, the VPIN measure can be used as a real time intraday risk management. The VPIN metric is updated after each volume bucket. The VPIN calculation also adopts the bulk volume algorithm which is a continuous classification technique. Secondly, we investigate the determinants of ex-post adverse selection risk by examining the effect of various firm, IPO and liquidity characteristics on the adverse selection risk in the IPO aftermarket. Finally, we also investigate the impact of information induced through IPO underpricing on ex-post adverse selection risk in the IPO aftermarket, by examining the association of degree of IPO underpricing with the intensity of ex-post adverse selection risk prevailing in the IPO aftermarket.

The results from the third essay show that the ex-post adverse selection risk is highest during the first hour of aftermarket trading immediately following an IPO offering, and it reduces gradually and monotonically over time, in the subsequent weeks, till around the end of first month of IPO aftermarket. The results suggest that the ex-post adverse selection risk gets mitigated in the IPO aftermarket, as more and more information become public and information asymmetry problems reduce. The investigation of the determinants of adverse selection risk in the IPO aftermarket indicate that the probability of informed trading in the IPO aftermarket is jointly determined by a combination of firm characteristics, IPO characteristics as well as post issue trading characteristics. In particular, we find that firms with higher larger IPO syndicate and greater post-IPO promoter holding face significantly higher adverse selection risks in the IPO aftermarket. Further, stocks that are highly liquid in the IPO aftermarket experience significantly lesser probability of informed trading, and hence face lower adverse selection risks in the aftermarket.

Finally, we find that IPO underpricing has a significantly negative effect on the ex-post adverse selection risk in the immediate IPO aftermarket. This suggests that the information production induced through IPO underpricing mitigates information asymmetry problem on the IPO listing day, and reduces the risk of informed trading in the IPO aftermarket. The results are consistent with the IPO book building literature, which suggest that information production is greater in IPOs which are more heavily underpriced.

The results from our dissertation essays underscore the importance of retail investor participation in the primary market for the development of IPO aftermarket liquidity, and have significant policy implications. Particularly, the findings from our research suggest the need for consideration of an increase in the quantum of retail tranche in Indian IPOs. In light of our contributions, the market regulator SEBI may consider introducing regulations and mechanisms that encourage more retail investors to participate in Indian IPOs.