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**Short Run and Long Run Performance of IPO's Returns in the case of Pakistan**

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**Abstract**
This empirical study investigates the phenomenon of initial public offerings (IPOs) in Pakistan's financial markets, specifically focusing on the performance of IPOs in the short and long term. Using the concept of Cumulative Abnormal Returns (CAR), the study sheds light on the returns experienced by investors who participate in IPOs, comparing them against market benchmarks. The findings of the study reveal a consistent pattern of underperformance of IPOs, both in the short run and the long run, in the context of Pakistan's financial landscape. This underperformance is indicative of IPO underpricing, whereby the initial market price of IPO shares tends to be lower than their intrinsic value, leading to an initial excess return for investors who participate in the IPO process. These results are in line with prior research conducted in other countries around the world, indicating that the phenomenon of IPO underpricing is not unique to Pakistan but is rather a pervasive trend observed in various financial markets globally. The study contributes to the existing literature in corporate finance by providing empirical evidence of IPO underpricing specifically within the context of Pakistan's financial markets. By documenting and analyzing the performance of IPOs in Pakistan, the study offers valuable insights for investors, financial regulators, and market participants. Understanding the dynamics of IPO underpricing can inform investment strategies, risk management practices, and regulatory interventions aimed at fostering transparency, efficiency, and fairness in the IPO process. The findings of this study underscore the importance of rigorous empirical research in uncovering patterns and trends in financial markets, contributing to a deeper understanding of the dynamics that drive investor behavior and market outcomes.
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## 1. INTRODUCTION

IPO underpricing has garnered significant attention in the realm of finance due to its persistent nature and its implications for both investors and issuers. As companies choose to go public, they often seek to maximize the proceeds from their offerings while ensuring investor interest and market liquidity (Boot et al., 2008). However, the phenomenon of IPO underpricing complicates this process. During an IPO, underpricing occurs when the initial market price of the newly issued securities exceeds their offering price. This discrepancy between the offering price set by the issuer and the market price determined by investors results in an immediate gain for investors who are able to purchase shares at the offering price and sell them at the higher market price. The reasons behind IPO underpricing are multifaceted and have been the subject of extensive research. Some theories suggest that underpricing serves as a mechanism to incentivize investors to participate in the IPO, Reid-Grant, (2018) thereby ensuring a successful launch and providing liquidity to the issuer's shares in the secondary market. Additionally, underpricing may be attributed to information asymmetry between issuers and investors, as well as the presence of institutional investors who demand underpriced shares as compensation for their role in underwriting the offering. While underpricing may benefit investors who are able to capitalize on the initial price surge, it can result in significant revenue losses for issuers who effectively leave money on the table. Moreover, IPO underpricing may signal inefficiencies in the pricing process and raise questions about the transparency and fairness of the IPO market. Efforts to mitigate IPO underpricing include improved pricing mechanisms, such as auction-based IPOs, as well as regulatory measures aimed at enhancing disclosure requirements and reducing information asymmetry (Ayala 2016). However, IPO underpricing remains a complex and enduring phenomenon that continues to shape the landscape of public offerings and influence investor behavior in financial markets.

Companies often view IPOs as an attractive avenue for raising capital to fuel further growth and investment initiatives. By going public, companies can access a broader pool of investors and raise funds by issuing shares in the capital market. This influx of equity capital provides companies with the financial resources needed to expand operations, Black and Gilson (1998) develop new products or services, invest in research and development, or pursue strategic acquisitions. In addition to capital raising, an IPO can also serve as an opportunity for existing shareholders, such as founders, early investors, and employees, to monetize their ownership stakes in the company. By selling a portion of their shares to public investors through the IPO, these shareholders can realize liquidity and diversify their investment portfolios. There are various reasons why a company may choose to go public. One primary motivation is to increase its equity base, which can enhance financial flexibility and facilitate future growth initiatives (Abdulsaleh et al., 2013). Going public can also

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provide companies with easier access to capital markets, making it easier to pursue acquisitions and strategic partnerships. Furthermore, the act of going public can enhance a company's visibility and credibility in the eyes of investors, customers, suppliers, and other stakeholders. A publicly traded status can confer a level of prestige and legitimacy, signaling to the market that the company has achieved a certain level of maturity and success.

The phenomenon of IPO underpricing, where newly issued shares are priced below their market value on the first day of trading, has been widely studied in finance literature. This practice often leads to significant short-term gains for investors who are able to purchase shares at the IPO price and then sell them at a higher market price on the first day of trading. However, the reasons behind IPO underpricing and the beneficiaries of this phenomenon remain subject to debate and investigation. Research suggests that various factors contribute to IPO under-pricing. One commonly cited explanation is the "winner's curse" hypothesis, which posits that issuers intentionally underprice their IPOs to mitigate the risk of adverse selection and ensure that the offering is successfully subscribed by investors (Ni 2006). Under-pricing serves as a form of compensation to investors for bearing the risk of purchasing shares in an uncertain and untested market. Another explanation is related to the dynamics of supply and demand in the IPO market. Limited supply of shares relative to investor demand, combined with asymmetric information between issuers and investors, can create a situation where under-pricing becomes necessary to allocate shares efficiently and attract investor interest. While IPO under-pricing may benefit investors who are able to capitalize on short-term price appreciation, such as institutional investors and underwriters, it can also have broader implications for market efficiency and investor welfare. Excessive under-pricing may signal inefficiencies in the pricing mechanism and deter companies from accessing public markets, potentially hindering capital formation and economic growth. Additionally, research has shown that IPO under-pricing disproportionately benefits institutional investors and wealthy individuals who have access to IPO allocations and can participate in the initial trading frenzy (Draho 2001). Retail investors, on the other hand, may face challenges in obtaining IPO shares at the offering price and may miss out on the opportunity for short-term gains. The long-term performance of initial public offerings (IPOs) has been a subject of considerable debate and empirical investigation in the field of finance. While the phenomenon of short-term under-pricing in IPOs is well-documented, there is less consensus regarding the performance of IPOs over the long term.

Some studies have found evidence of IPOs exhibiting long-term overperformance, meaning that they generate positive abnormal returns for investors beyond the initial period of underpricing. Researchers such as Bird and Yeung (2010) and Thomadakis, Nounis, and Gounopoulos (2012) have reported instances where IPOs outperform the broader market indices over extended time horizons. These findings suggest that IPOs may offer attractive investment opportunities for investors who are able to hold onto their shares beyond the initial trading period. However, other studies have documented evidence of long-term underperformance among IPOs, indicating that these newly listed companies tend to deliver below-average returns relative to comparable benchmarks over the long term. Researchers like Jenkinson and Ljungqvist (2001) and Gompers and Lerner (2001) have observed instances where IPOs experience significant declines in value or fail to sustain their initial price levels over time. This underperformance may be attributed to factors such as poor post-IPO management decisions, overvaluation at the time of the offering, or adverse market conditions affecting the company's performance. The conflicting findings regarding the long-term performance of IPOs highlight the complexity of this issue and the importance of considering various factors such as market conditions, industry dynamics, and company-specific characteristics when analysing IPO performance. Additionally, methodological differences in research approaches and sample selection criteria can contribute to divergent results across studies. The study aims to investigate the pricing behaviour of initial public offerings (IPOs) in the Pakistani stock market, specifically the Karachi Stock Exchange (KSE). It seeks to determine whether IPOs are underpriced in the short run, particularly on their first day of trading, and to assess their performance over the long run. To begin with, the study analyzes the returns of IPO firms on their first trading day to ascertain whether there is evidence of underpricing. This initial examination focuses on the immediate price reaction of IPOs upon their introduction to the stock market, providing insights into investor sentiment and market dynamics surrounding new listings. Following the assessment of short-term underpricing, the study extends its analysis to examine the post-day performance of IPOs over an extended period, typically up to 30 trading days. This longer-term perspective allows for a more comprehensive evaluation of IPO performance beyond the initial trading period, capturing any subsequent price movements and identifying trends or patterns in the market behavior of newly listed companies.

By conducting both short-run and long-run analyses, the study aims to provide a comprehensive understanding of IPO pricing and performance in the Pakistani stock market. The findings of the research may contribute valuable insights to investors, policymakers, and market participants, informing investment decisions, regulatory measures, and market efficiency considerations in the context of IPO activity in Pakistan. The study adopts an event-time approach to measure the long-run market performance of IPOs in the Pakistani stock market. Specifically, it calculates returns over a period of three post-IPO years, providing a comprehensive assessment of how IPOs fare in the market beyond the initial trading period. While the study acknowledges that various factors may influence the performance of IPOs over the long term, its primary focus is on analyzing the empirical evidence of long-run performance rather than delving into the specific determinants or reasons behind any observed differences in performance. By adopting a quantitative approach, the study seeks to provide objective insights into the market dynamics surrounding IPOs in Pakistan. It is noted that while there has been extensive research conducted on IPO performance globally, there remains a relative scarcity of studies focusing on the Pakistani context. The study aims to address this gap in the literature by contributing new empirical evidence specific to the Pakistani stock market context. Previous studies conducted in Pakistan, such as those by Rizwan and Khan (2007), Sohail and Nasr (2007), and Shah et al., (2011), provide valuable insights, but the current study seeks to build upon and extend this research by employing a rigorous analytical approach to examine long-run IPO performance in Pakistan.

The study's findings hold significant implications for both finance literature and various stakeholders in the financial markets, including investors and policymakers. In today's interconnected global economy, where firms increasingly seek to make IPOs on a global scale and foreign joint ventures play a pivotal role in stock markets, understanding the dynamics of IPO performance in different regions is crucial. For investors, the study offers valuable insights into the market conditions and performance of IPOs in the Pakistani stock market. By assessing whether IPOs are underpriced, fairly priced, or overpriced, investors can make more informed decisions regarding their investment strategies. This information not only aids domestic investors but also serves to attract foreign capital to the market by providing transparency and clarity on market conditions. Moreover, by analyzing the performance of IPOs over both shorter and longer periods, the study contributes to enhancing investor confidence. Investors gain a better understanding of the potential risks and returns associated with investing in IPOs, thereby empowering them to make more rational and well-informed investment choices. This increased confidence and understanding can lead to greater participation in the IPO market, thereby increasing market liquidity and contributing to overall market efficiency. From a policymaker's perspective, the study offers insights that can inform policy decisions aimed at fostering a conducive environment for capital market development. By identifying trends in IPO performance and understanding investor behavior, policymakers can design policies that promote market stability, investor protection, and sustainable economic growth.

## 2. LITERATURE REVIEW

IPO underpricing is a well-researched phenomenon that has been observed in numerous countries around the world. Ritter (2007) comprehensive study in 2003 analyzed initial IPO returns across 38 countries over different sample periods and consistently found significant positive average returns for IPO firms. This finding underscores the prevalence of underpricing as a widespread phenomenon in global capital markets. Furthermore, a multitude of studies have delved into the short-term and long-term performance of IPOs, shedding light on the dynamics of post-IPO stock price movements and investor behavior. By examining the performance of IPOs over different time horizons, researchers aim to understand the factors driving initial underpricing and assess the sustainability of IPO firms' stock performance over time. These studies play a crucial role in advancing our understanding of capital market dynamics and informing investment strategies for market participants. They provide valuable insights into the behavior of IPO markets, helping investors make more informed decisions and policymakers design effective regulatory frameworks to promote market efficiency and investor protection. The variability in findings regarding the long-term performance of IPOs is indeed noteworthy. Jenkinson and Ljungqvist's seminal work in 2001, conducted by Ljungqvist et al (2003), highlighted this variability by documenting the poor long-term performance of IPOs in their study. Their findings echoed those of many researchers who observed that IPO performance could be influenced by factors such as the methodology employed and the benchmark used for comparison. Indeed, the performance of IPOs can vary depending on the specific metrics and benchmarks utilized in the analysis. Some studies have indicated lower IPO performance after the initial excess returns or underpricing, underscoring the importance of robust methodologies and appropriate benchmarks in evaluating IPO performance accurately. By acknowledging the nuances in IPO performance measurement and methodology, researchers can provide more nuanced insights into the dynamics of IPO markets. This understanding is crucial for investors, policymakers, and market participants seeking to navigate the complexities of IPO investments and market regulations effectively.

Ahmad-Zaluki et al., (2007) conducted a notable investigation into the long-term performance of IPOs in Malaysia. Their study, which spanned the period from 1999 to 2000, analyzed a comprehensive dataset comprising 454 IPOs. Their findings revealed intriguing dynamics in the long-term performance of these IPOs. In their analysis, Ahmad-Zaluki et al. found that IPOs exhibited significant overperformance in the long run when assessed using event-time cumulative abnormal returns (CARs) and buy-and-hold abnormal returns (BHARs). However, their results took an intriguing turn when a matched-firm benchmark was employed for comparison. When utilizing a matched-firm benchmark, the study indicated a notable underperformance of IPOs in the long run. This discrepancy underscores the importance of the benchmark chosen in assessing IPO performance and highlights the nuanced nature of IPO dynamics in the Malaysian market. Ahmad-Zaluki, Campbell, and Goodacre's findings contribute valuable insights to the understanding of IPO performance in Malaysia, shedding light on the complexities involved in evaluating the long-term performance of IPOs and the influence of different methodological approaches on research outcomes. Perera's (2014) study delved into the underpricing phenomenon and the long-term performance of IPOs within the Australian context. Employing a range of analytical techniques, the study offered valuable insights into IPO dynamics in the Australian market.

The research revealed that, on the whole, Australian IPOs exhibited significant underpricing, with figures indicating an underpricing of 25.47% and 23.11% based on market-adjusted abnormal return (MAR) measures in both the primary and total market segments. This substantial level of underpricing underscores the prevalent trend of IPOs being undervalued upon their initial entry into the market. Moreover, the study shed light on the nuanced nature of long-term IPO performance, highlighting the sensitivity of outcomes to the performance measures utilized. When analyzing the long-term market performance of IPOs using full-sample cumulative abnormal returns (CARs), the findings suggested that IPOs tended to overperform over a three-year period. However, when alternative measures such as raw buy-and-hold returns (BHRs), buy-and-hold abnormal returns (BHARs), and wealth relative (WR) index were employed, IPOs were found to underperform. Perera's (2014) study provides valuable insights into the dynamics of IPO underpricing and long-term performance in the Australian market, emphasizing the importance of considering diverse performance measures and methodologies in assessing IPO performance. These findings contribute to the broader understanding of IPO dynamics and offer valuable implications for investors, policymakers, and market participants in Australia.

Boabang's (2005) study focused on uncovering empirical evidence regarding the long-term performance of IPOs within the Canadian context. By analyzing data encompassing 83 IPOs conducted on the Toronto Stock Exchange over the period of 1990 to 2000, the study sought to provide insights into the post-IPO performance trajectory. The findings of Boabang's research suggested that IPOs in Canada were initially fairly priced, indicating a lack of significant underpricing upon their entry into the market. However, despite this initial pricing adequacy, IPOs were observed to underperform the broader stock market over the long term. This evidence of underperformance highlights a noteworthy trend in the Canadian IPO landscape, indicating that while IPOs may enter the market at fair valuations, they struggle to generate sustained positive returns compared to the overall market performance. Boabang's study contributes valuable empirical evidence to the understanding of IPO dynamics in Canada, offering insights that are relevant for investors, market participants, and policymakers alike. By shedding light on the long-term performance outcomes of IPOs, the research underscores the importance of careful evaluation and consideration of IPO investments within the Canadian market context.

Ritter (2007) seminal contribution to the discourse on the long-term performance of IPOs in the United States has had a significant impact on understanding the dynamics of initial public offerings. In his study, Ritter (2007) examined a substantial sample comprising 1,526 IPOs spanning the period from 1975 to 1984. The research findings revealed compelling insights into the performance trajectory of IPOs over an extended time horizon. One of the key findings of Ritter's study was the indication of long-term overpricing among IPOs. Despite the initial excitement surrounding IPO launches, the research uncovered evidence suggesting that IPO firms tended to underperform significantly in comparison to a carefully selected set of comparable firms matched by size and industry. Furthermore, Ritter's analysis highlighted the presence of notable variations in the degree of underperformance observed among IPO firms across different years and industries. This variability underscores the complex interplay of factors influencing the post-IPO performance dynamics, highlighting the importance of considering industry-specific and temporal factors in evaluating IPO investments.

Sapusek's (2000) examination of the long-term performance of IPOs in Germany from 1983 to 1993 sheds light on the post-IPO dynamics in the German market. By analyzing a sample comprising 678 firms that went public during the specified period, Sapusek's (2000) conducted a thorough investigation into the performance trajectory of these IPOs over an extended time horizon. One notable aspect of Sapusek's (2000) approach was the exclusion of the underpricing effect, allowing for a more nuanced assessment of long-term performance. Utilizing Dimson/Marsh buy-and-hold abnormal returns and benchmarking against various indices, including those representing smaller companies, Sapusek's (2000) sought to uncover the underlying trends in IPO performance. The results of the analysis revealed a consistent pattern of underperformance among firms that had undergone IPOs during the examined period. Moreover, Sapusek's (2000) research underscored the importance of selecting appropriate benchmarks for evaluating IPO performance. The findings suggested that the choice of benchmark index significantly influenced the perceived performance of IPOs, with indices representing smaller companies emerging as potentially more suitable benchmarks for performance comparisons.

Ang et al, (2007) study challenged prevailing notions regarding IPO underperformance by delving into the nuances of sample size and performance metrics. By assembling a substantial sample comprising 1,524 firms across two distinct sub-periods (1935-1972 and 1973-1996), Ang et al, (2007) sought to provide a comprehensive understanding of IPO performance dynamics. Their study employed a rigorous analytical framework, incorporating event time IPO returns, calendar time IPO returns, and advanced modeling techniques such as the Markov Switching Model.

In their empirical analysis, the researchers meticulously examined IPO underperformance across different timeframes and methodologies. Despite variations in sample size and performance measurement approaches, their findings consistently pointed to the persistence of IPO underperformance. Through the use of sophisticated modeling techniques and a robust dataset spanning several decades, Ang et al, (2007) Hochberg's study underscored the enduring nature of IPO underperformance, challenging earlier assumptions that attributed such findings to methodological limitations or selective sampling.

Omran's (2005) examination of share issue privatizations (SIPs) in the Egyptian stock market during the mid-1990s sheds light on the nuanced performance dynamics of these offerings over time. Analyzing data from 53 SIPs conducted between 1994 and 1998, Omran uncovered a complex pattern of long-run performance outcomes. The results of his study revealed a mixture of positive and negative abnormal returns across different time horizons. In the short term, SIPs exhibited positive abnormal returns, indicating favorable performance over a one-year period following their issuance. However, as the analysis extended to longer timeframes, namely three- and five-year horizons, the findings turned less optimistic, revealing negative abnormal returns. This mixed pattern of long-run performance suggests a dynamic and evolving landscape for SIPs in the Egyptian stock market. While initial gains may be realized in the immediate aftermath of privatization, sustained performance over longer periods appears more challenging. Omran's research contributes valuable insights into the multifaceted nature of SIP performance, highlighting the importance of considering varying time horizons when assessing the outcomes of privatization initiatives. By capturing both short-term successes and longer-term challenges, his study enriches our understanding of the implications of privatization efforts in emerging markets like Egypt.

Darani's (2012) investigation into the interplay between corporate governance practices and the long-term performance of initial public offerings (IPOs) listed on the Bursa Malaysia provides valuable insights into the Malaysian market landscape. Examining data spanning from 2006 to 2009, Darani's (2012) delved into the relationship between corporate governance standards and the subsequent returns of IPOs over an extended period. Employing measures such as cumulative abnormal return (CAR) and buy-and-hold returns (BHAR), the study sought to gauge the influence of corporate governance mechanisms on IPO performance. The findings of Darani's (2012) study underscored the significant

impact of corporate governance practices in elucidating the long-term performance dynamics of IPOs in Malaysia. Through rigorous analysis, the research revealed how adherence to robust corporate governance principles can shape the trajectory of IPO returns over time. By illuminating the link between corporate governance and IPO performance, Darani's (2012) study offers actionable insights for market participants, regulators, and policymakers alike. The identification of corporate governance as a key determinant of long-term IPO returns underscores the importance of fostering transparency, accountability, and ethical conduct within Malaysian firms seeking to go public.

McGuinness (1992) conducted a thorough examination of 80 initial public offerings (IPOs) in Hong Kong spanning the decade from 1980 to 1990. The focus of the study was on analyzing the post-listing returns of these IPOs to glean insights into their performance dynamics. The findings of McGuinness's study revealed a notable pattern in the post-listing returns of the IPOs, particularly highlighting significant positive returns on the first day of trading, followed by a subsequent decline in returns over time. This phenomenon underscored the transient nature of the initial market enthusiasm surrounding IPOs in the Hong Kong market. Further analysis of the initial excess market returns uncovered a substantial level of underpricing, averaging nearly 18 percent across the study period. This observation shed light on the prevalence of underpricing in the Hong Kong IPO market during the specified timeframe, suggesting that IPOs were consistently undervalued upon their entry into the market. In addition to documenting the phenomenon of IPO underpricing, McGuinness's study also delved into potential explanations for this observed trend. By exploring various factors and market dynamics, the research offered insights into the drivers behind IPO underpricing in the Hong Kong context.

Shama, (2011) conducted a comprehensive analysis of the performance of listed companies in the KSE-100 index in Pakistan, focusing on data spanning from 2000 to 2009. Their study centered on examining the performance of 73 initial public offerings (IPOs) within the Pakistani market context. The researchers explored the short-term performance dynamics of IPOs across three distinct phases of the economy: normal, boom, and recession periods. By analyzing data from various trading days following the IPOs, including the 1st, 5th, 10th, 15th, and 20th trading days, they sought to understand how market participants responded to IPOs in different economic environments. The findings of the study revealed that the market exhibited a tendency to reward investors in the short run following IPOs, as evidenced by the provision of abnormal returns across the specified trading days. This observation held true across the different phases of the economic cycle, indicating a consistent pattern of short-term performance for IPOs in the Pakistani market.

Through their empirical analysis, Shama, contributed valuable insights into the short-term performance dynamics of IPOs in Pakistan, shedding light on how market participants perceive and respond to newly listed companies during different economic conditions. Their research provided valuable information for investors, policymakers, and market participants seeking to understand and navigate the Pakistani IPO landscape.

Sohail and Nasr (2007) conducted a comprehensive study on the underpricing phenomenon and the subsequent performance of initial public offerings (IPOs) in Pakistan. Their research, which covered the period from 2000 to 2006, aimed to analyze both the short-term and long-term performance dynamics of IPOs within the Pakistani market context. During the specified time frame, a total of 50 IPOs occurred, providing a rich dataset for the researchers to analyze. Their findings revealed that IPOs in Pakistan exhibited a significant degree of underpricing, with an average underpricing rate of 35.66%. This observation indicated that IPOs tended to be priced below their intrinsic value at the time of listing, potentially leading to initial market enthusiasm and investor demand. Furthermore, Sohail and Nasr examined the performance of IPOs over both the short term and the long run, utilizing different models for their analysis. They reported that the average market-adjusted cumulative abnormal return (CAR) and buy-and-hold abnormal return (BHAR) over the one-year period following listing were -19.67% and -38.10%, respectively, when using a market-adjusted model. When employing the capital asset pricing model (CAPM), these figures increased to -53.30% for CAR and -65.73% for BHAR. These findings highlighted the significant negative abnormal returns experienced by investors in the aftermath of IPO listings in Pakistan. The research provided valuable insights into the pricing dynamics and post-listing performance of IPOs in the Pakistani market, offering valuable information for investors, policymakers, and market participants seeking to understand and navigate the complexities of the IPO landscape in Pakistan.

## 3. RESEARCH METHODOLOGY

In this study, a sample comprising 26 companies from various sectors of the KSE-100 index that went public between 2002 and 2011 was analyzed to assess their performance both in the short run and the long run. The research methodology adopted was based on the framework proposed by Ritter (2011), a seminal work in the field of initial public offerings (IPOs). To evaluate the short-term performance of the IPOs, the study examined the Cumulative Abnormal Return (CAR) for various time intervals, including the first day of trading and the subsequent two months. This approach allowed the researchers to assess the immediate market reaction to the IPOs and capture any initial underpricing or overpricing phenomena. For the long-term performance analysis, the study utilized monthly stock returns over a period of up to three years following the IPOs. By tracking the performance of the IPO companies over an extended timeframe, the researchers aimed to provide insights into their sustained market performance beyond the initial listing period. Data for the analysis, including KSE-100 index values, stock market prices, and relevant information on IPOs, were sourced from the official website of the Karachi Stock Exchange. This ensured that the study was based on accurate and reliable data from the Pakistani stock market. By employing a comprehensive approach that considered both short-run and long-run performance measures, the study aimed to provide a nuanced understanding of the performance dynamics of IPOs in the context of the KSE-100 index. This research contributes valuable insights to investors, policymakers, and market participants seeking to navigate the IPO market in Pakistan and make informed decisions regarding investment strategies.

**5. RESULTS AND DISCUSSION**

The table 1 provides data on the first day market-adjusted excess returns for initial public offerings (IPOs) over several years. Each row corresponds to a specific year, indicating the number of IPOs that occurred in that year and the corresponding initial return (IR) percentage. In 2002, there were 2 IPOs with an initial return of 41.25%. The following year, 3 IPOs occurred with an initial return of 31.83%. In 2004, 2 IPOs had a lower initial return of 7.50%. The trend continued with varying numbers of IPOs each year, with some experiencing positive initial returns and others negative. For instance, in 2008, there was only 1 IPO, but it had a notably high initial return of 189.50%. Conversely, in 2011, there were 2 IPOs, but they experienced a slight negative initial return of -0.84%.

**Table 1: First day market adjusted excess returns**

| Year | No. of IPO | Initial Return (IR) |
|---|---|---|
| 2002 | 2 | 41.25% |
| 2003 | 3 | 31.83% |
| 2004 | 2 | 7.50% |
| 2005 | 3 | -0.17% |
| 2006 | 3 | 50.78% |
| 2007 | 4 | 21.25% |
| 2008 | 1 | 189.50% |
| 2009 | 3 | 2.64% |
| 2010 | 3 | 11.18% |
| 2011 | 2 | -0.84% |
| | 26 | 35.49% |

The table 2 presents data on the cumulative abnormal returns (CAR) over a 60-day period following the initial public offerings (IPOs) for different years. Each row corresponds to a specific year and includes the number of IPOs that occurred in that year and the corresponding daily return (Ri) percentage. In 2002, there were 2 IPOs with a daily return of 0.60%. The following years witnessed varying numbers of IPOs, with corresponding daily returns fluctuating between positive and negative values. For example, in 2007, there were 4 IPOs with a relatively high daily return of 4.96%. Conversely, in 2006, the daily return was negative at -0.97%. Overall, the average daily return across the years provided in the last row is 0.62%. These daily returns reflect the performance of IPOs over the 60-day period following their listing on the stock exchange, adjusted for market conditions.

**Table 2: Daily returns-60 days (CAR)**

| Year | No. of IPO | Daily Return (Ri) |
|---|---|---|
| 2002 | 2 | 0.60% |
| 2003 | 3 | -0.04% |
| 2004 | 2 | -0.22% |
| 2005 | 3 | -0.30% |
| 2006 | 3 | -0.97% |
| 2007 | 4 | 4.96% |
| 2008 | 1 | -0.39% |
| 2009 | 3 | 0.67% |
| 2010 | 3 | -0.42% |
| 2011 | 2 | -0.26% |
| | 26 | 0.62% |

**Table 3: Monthly Returns (CAR) of 3 Years**

| Year | No. of IPO | Monthly Return (Ri) |
|---|---|---|
| 2002 | 2 | 1.86% |
| 2003 | 3 | -3.48% |
| 2004 | 2 | 9.35% |
| 2005 | 3 | -1.08% |
| 2006 | 3 | -1.39% |
| 2007 | 4 | -1.36% |
| 2008 | 1 | 1.14% |
| 2009 | 3 | 0.96% |
| 2010 | 3 | -0.95% |
| 2011 | 2 | 3.04% |
| | 26 | 0.25% |

The table 3 displays the cumulative abnormal returns (CAR) over a monthly period for IPOs across three years. Each row represents a specific year, providing the number of IPOs that occurred in that year along with the corresponding monthly return (Ri) percentage. In 2002, there were 2 IPOs with a monthly return of 1.86%. Subsequent years witnessed varying numbers of IPOs, with monthly returns fluctuating between positive and negative values. For instance, in 2003, there were 3 IPOs with a negative monthly return of -3.48%, indicating a decrease in value over the month. The average monthly return across the three years, indicated in the last row, is 0.25%. These monthly returns reflect the performance of IPOs over a one-month period following their listing on the stock exchange, adjusted for market conditions.

## 4. CONCLUSIONS

One key inference drawn from the results is the observed excess return of IPOs in the short run period, which can be attributed to the underpricing of the stock. This phenomenon underscores the significance of understanding the pricing mechanisms and market behavior surrounding IPOs, as it has implications for both investors and issuers in the capital market. Building on this insight, future research endeavors could delve deeper into the factors driving IPO underpricing and its implications for market efficiency, investor behavior, and corporate finance strategies. Exploring new dimensions such as the role of investor sentiment, institutional participation, regulatory frameworks, and market conditions could enrich our understanding of IPO dynamics and contribute to the development of more robust theoretical frameworks and empirical models. Moreover, this study opens up avenues for exploring the long-term performance of IPOs beyond the initial listing period. Investigating factors that influence post-IPO performance, such as corporate governance practices, industry dynamics, macroeconomic factors, and firm-specific characteristics, could yield valuable insights into the sustainability of IPO returns and their impact on shareholder value creation over time.

The underpricing of IPOs and its subsequent convergence to fair value over time is indeed a phenomenon that has intrigued researchers and practitioners alike. Several factors contribute to this behavior, and understanding them can shed light on the dynamics of IPO pricing and market performance. Firstly, underpricing can be attributed to information asymmetry between issuers and investors. Issuers may intentionally underprice their IPOs to attract investor interest and mitigate adverse selection risks. By offering shares at a discount to their intrinsic value, issuers signal confidence in the quality of their offerings and incentivize investors to participate in the IPO. Additionally, underwriter reputation plays a crucial role in the pricing and performance of IPOs. Well-established underwriters with a strong track record of successfully bringing IPOs to market may command higher investor confidence and demand, leading to lower underpricing.

On the other hand, lesser-known or inexperienced underwriters may need to underprice IPOs more aggressively to compensate for perceived risks and attract investor interest. Moreover, factors such as the firm's pre-IPO reputation, size, industry, growth prospects, and market conditions can also influence IPO pricing and performance. Firms with established brand equity, strong financial performance, and growth potential may experience lower underpricing and better long-term performance compared to smaller or less-known companies. Market conditions, including investor sentiment, liquidity, and overall market volatility, can also impact IPO pricing dynamics. During bullish market phases, investor appetite for new offerings may be higher, leading to lower underpricing and stronger aftermarket performance. Conversely, in bearish or uncertain market conditions, issuers may need to offer deeper discounts to attract investor interest, resulting in higher underpricing and potentially weaker post-IPO performance. The underpricing of IPOs is a multifaceted phenomenon influenced by a combination of issuer-specific, underwriter-related, and market-wide factors. Understanding these dynamics and their implications is crucial for investors, issuers, and regulators seeking to navigate the complexities of the IPO market and optimize outcomes for all stakeholders involved.

Indeed, exploring the sensitivity of IPO performance to various factors such as benchmarks, industry conditions, and economic cycles is essential for gaining a comprehensive understanding of IPO dynamics. Future research endeavors can delve deeper into these areas to uncover nuanced insights and address remaining questions in the field. Benchmark selection is a critical aspect of IPO performance analysis, as different benchmarks may yield varying results and interpretations. Researchers can examine the impact of using alternative benchmarks, such as market indices, industry-specific benchmarks, or peer group comparisons, on IPO performance measures. By systematically comparing the outcomes obtained with different benchmarks, researchers can assess the robustness and reliability of their findings and identify the most appropriate benchmarking approach for different contexts. Moreover, investigating the influence of industry-specific factors on IPO performance can provide valuable insights into sectoral variations in underpricing, aftermarket performance, and long-term returns. Different industries may exhibit distinct characteristics, growth prospects, and risk profiles, which can affect investor perceptions and behaviors during and after IPOs. Analyzing how industry dynamics interact with IPO pricing and performance can deepen our understanding of sector-specific patterns and trends. Furthermore, exploring the impact of broader economic conditions, such as macroeconomic indicators, business cycles, and market sentiment, on IPO performance can enhance our knowledge of market-wide influences on new stock offerings. Economic downturns or expansions, changes in interest rates, and geopolitical events can all influence investor sentiment and appetite for IPOs, thereby shaping pricing dynamics and post-IPO performance outcomes. By incorporating macroeconomic variables into IPO performance models, researchers can assess the extent to which economic factors drive IPO behavior and outcomes.

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