

# DECAPITALIZATION IN THE PAKISTAN STOCK EXCHANGE

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## **ABSTRACT**

The primary objective of this study is to identify firm-specific and market-related factors influencing the listing gap in the Indian Market and the Pakistan Stock Exchange (PSX) from 2010 to 2023. During this period, Pakistan experienced a significant listing gap, with only 67 companies listed while 170 were delisted, resulting in a net gap of 103 firms. For this analysis, we selected 60 delisted firms from each market and matched them with 60 firms of similar size that remained listed.

Our findings indicate that cost-push inflation in Pakistan has led to unsustainable earnings for various firms and sectors, impairing their ability to pay dividends. Additionally, smaller firms struggled to become part of the PSX, diminishing their financial visibility, value, and growth prospects. Consequently, their book-to-market value decreased, weakening their bargaining power with financial institutions and leading them to leave the PSX to maintain their status. Moreover, the governance ecosystem of the PSX poses significant challenges. A substantial portion of the KSE index is dominated by state-owned enterprises (SEOs), and their boards, often occupied by bureaucrats, are also involved in the policy board of the Securities and Exchange Commission of Pakistan (SECP).

In addition, the supremacy of the banking, oil and gas, cement and fertilizer sectors in the PSX is generally supported by the government policies highlighting the disparities in the stability and firm's performance. Targeted governmental actions are necessary to improve financial stability and visibility because of the unfavourable conditions facing investment banks, ETFs, and the textile industry. Based on our findings, we report that a supportive regulatory and economic climate are the key factors to the long-term viability of listed firms.

To reduce the probability of delisting, it is critical to simplify the listing and regulatory processes, reduce compliance costs, provide a level playing field for all firms (all sectors should get the same opportunities in terms of incentives, tax rebates, etc.), and monitoring of newly listed firm and assist their existence. Besides, favourable market dynamics and confidence of firms will help boost market activities where listed firms can gain benefits to enhance sales and capture more market opportunities. The findings of this study will be valuable for policymakers and the SECP, who regulate the ecosystem of the PSX, providing insights to enhance market stability and firm performance.

**Keywords:** Delisting, PSX, Indian Stock Market, Cox Proportional Hazard Model

## **PREFACE**

In the vast expanse of knowledge and inquiry amidst the vibrant tapestry of academia, this study is a testament to the ceaseless pursuit of understanding and progress. Dr. Abdul Wahid, Assistant Professor in the Department of Accounting and Finance, NUML School of Business, and Dr. Muhammad Zubair Mumtaz, Associate Professor in the College of Business Administration, University of Bahrain, as the Co-Principal Investigator, have embarked upon a profound exploration. Their mission, with unwavering determination, is to assess why so many companies are delisted in Pakistan.

In any economy, stock market activities act as a barometer to determine the country's overall position in the market scenario. In a conducive environment, listed firms seek various benefits, including gathering funds from the general public. However, it is interesting to note that firms are delisting over time. The gap between listing and delisting firms is quite alarming. Thus, the objective of this study is to determine the factors that cause the delisting of firms from the Pakistan and Indian stock exchanges. The findings of this study reveal significant insights into the delisting phenomenon in Pakistan and India.

With the support and resources generously granted by the esteemed 'Research for Social Transformation and Advancement' (RASTA), located at the prestigious Pakistan Institute of Development Economics (PIDE), this study embodies a grand scale, intertwining economics, public policy and the desire to bring about societal transformation. PIDE, renowned for its commitment to scholarly excellence, provides an ideal foundation for such an undertaking.

In this pursuit of knowledge, the researchers find solace in the guidance and suggestions of the erudite Prof. Dr. Nadeem Ul Haq, Vice-Chancellor of PIDE. His wisdom and counsel have been instrumental in shaping the path of this research. Moreover, the RASTA advisory board has lent its unwavering support, fostering an environment conducive to intellectual exploration and discovery. Gratitude is also extended to the mentors who have illuminated the path with their wisdom. Dr. Ahmed Waqar Qasim, Senior Economist at PIDE, and Dr. Muhammad Zeshan, Head of the Research Group for Trade, Industry & Productivity (TIP) at PIDE, have played an invaluable role in providing crucial insights and guidance. Their expertise has paved the way for a deeper understanding of the subject.

In the quest to comprehend the nuances of stock market ecosystems, the researchers have looked beyond theory. Mr. Syed Ahmad Abbas, Chief Listing Officer at PSX, and his team have been instrumental in arranging enlightening sessions by providing comprehensive data and insights. Additionally, this study would not have been possible without the management of listed and delisted companies who gave us interviews, time, and data. Their provision of information and insight has been a cornerstone in this ambitious undertaking. Researchers sincerely thank these individuals and organizations for their invaluable contributions.

As the pages of this study unfold, let us embark on a journey of enlightenment and discovery. Through rigorous analysis and meticulous observation, let us unravel decapitalization's intricacies. It is our collective hope that this study will serve as a guiding light, paving the way for an era of enhanced entrepreneurial endeavors and catalyzing the transformation of our society.

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## INTRODUCTION

### 1.1 Background

According to Pour & Lasfer (2013), firms may list their shares as a strategic measure to enhance their bargaining power with financial institutions, reduce their reliance on debt financing, and increase their visibility and reputation. This enhancement in bargaining power can be achieved by reducing leverage, improving the market-to-book value ratio—which indicates an increase in the firm's value through rising share prices—and enhancing visibility and growth prospects (Boers et al., 2017).

However, certain publicly traded companies may choose to delist from a stock exchange in the future. There are two classifications of delisting: voluntary and involuntary. Voluntary delisting occurs when the governing bodies of a company elect to withdraw its status as a publicly listed entity. Various factors may influence this decision, including financial challenges, non-compliance with listing standards, corporate consolidations, or trade-offs between cost and benefits (Liao, 2020). In contrast, exchange authorities based on their assessment that a company has failed to meet the necessary listing requirements, initiate involuntary delisting (Park et al., 2018).

A variety of hypothetical models have been developed to test the causes of the delisting of shares e.g. (a) size of a firm hypothesis, (b) management entrenchment hypothesis, (c) leverage hypothesis, (d) cost-benefit trade-off hypothesis, (e) window of opportunity hypothesis, (f) financial distress hypothesis, (g) financial visibility hypothesis, and (h) undervaluation hypothesis. Bartlett (2009) hypothesized that firm size is significantly associated with a firm's propensity to go private. This proposition has two implications: (1) larger firms are potentially more efficient at amortizing fixed costs, and (2) the propensity of small firms to go private increases when the recurring costs of listing increase. This indicates that the larger the firm size, the smaller the probability of going private. Firm market capitalization and the book value of assets were used as proxies to measure the firm's size (see Bartlett, 2009; Blay & Geiger, 2001; Phillips, 1988).

Renneboog et al. (2007) identified the role of the management entrenchment hypothesis in a firm's propensity to go private. That proposition implies weaker incentive alignment in publicly listed firms with higher managerial ownership (Chahine & Goergen, 2013; Forst et al., 2014). This relationship is also referred to as leverage. When promoters or managers of newly issued IPOs retain a high proportion of shares, they may use the firm's resources in their own interests to increase in ownership and control. To the extent this happens, the consequence is more management entrenchment and an increased propensity to go private (Wahid & Mumtaz, 2020). The analytical methodology in this paper examines the effect(s) of entrenchment on a firm's propensity to go private. The size of the post-issue promoter group holding of shares (PIPH) and the ratio of management shareholding in outstanding shares are used as proxies for managerial entrenchment.

Another hypothesis used to explain the incidence of firms going private is leverage size. Pour & Lasfer (2013) found that the main concern of UK firms applying for listing on the AIM is the opportunity to rebalance their capital structure rather than to finance their growth opportunities. The same proposition was tested by (Bharath & Dittmar, 2010). Those authors concluded that voluntarily delisted demonstrates a higher level of leverage than other firms. The firm's leverage has been taken as a proxy of the leverage buyout hypothesis, which illustrates the higher likelihood of highly leveraged firms going private.

The cost-benefit trade-off hypothesis is also considered a significant determinant of delisting. Kim & Weisbach (2008) argued that firms probably go public to raise funds for investments, transfer wealth from new shareholders to existing shareholders, and increase liquidity. To some extent - these benefits are counterbalanced by the costs of listing (Fjesme, 2019; Huibers, 2020). These costs include (a) registration and underwriting fees, (b) auditing and disclosure, and (c) agency problems.

If a listed firm's marginal benefit/cost ratio is less than shedding avoidable costs may be one of the reasons for going private (Martinez & Serve, 2017). The firm's growth (an increase in its market capitalization) and an increase in the liquidity of its shares (trading volume) are proxies of the cost-benefit trade-off hypothesis. We hypothesized that the higher the stock's liquidity and the faster the firm's growth, the smaller the probability of going private.

Earlier studies used the so-called window of opportunity hypothesis to explain the poor performance of IPOs in the long run (Benninga et al., 2005). This hypothesis proposes a strong relationship between the timing of issuance and low stock returns. It has been argued that firms knowingly overprice their issues during the hot market IPO activity period, resulting in low returns in the long run (Ritter, 1991). Suppose that the hypothesis is an accurate description of firms' behavior. In that case, newly listed firms raise funds from the market at prices (Mumtaz et al., 2016) which tend to overvalue its growth prospects and opportunities (Lee, 2012; Loughran & Ritter, 1995). If investors recognize the initial overpricing in the long run, the market adjusts the pricing downward, which may cause the firm to delist.

The financial distress hypothesis proposes that high costs of financial distress tend to deter firms from going private (Bharath & Dittmar, 2010). Studies reported mixed findings; some indicate that financial distress cost significantly impacts a firm's propensity to go private, and some argue the reverse. (Weir et al., 2008; Wilson & Wright, 2013). In the studies that have addressed this question, the current ratio and revenue growth rate have been used as proxies to indicate financial distress. The higher the current ratio and the faster sales growth, the lower the likelihood of delisting.

Another hypothesis relates to financial visibility, which is the ability of a firm to attract an adequate level of investors' interest and recognition (Ferreira et al., 2014; Mehran & Peristiani, 2010). The intermediate role played by the security advisor, or nominee advisor in the case of AI, leads to a higher level of the firm's financial visibility. That enhanced visibility is manifested as enhanced liquidity, increased institutional shareholding and a larger trading volume of the stocks. Previous studies used nominee or security advisor holding, stock liquidity, institutional shareholding, and trading volume as proxies to measure financial visibility. See (Boot et al., 2008; Mehran & Peristiani, 2010).

The hypothesis proposes a negative relationship between the degree of financial visibility and the decision to go private; Higher financial visibility of a firm is associated with a smaller likelihood of going private. The undervaluation hypothesis is also one of the crucial drivers of delisting. This hypothesis suggests that when managers have private information about the undervaluation of stocks, they may decide to go delist to avoid listing costs (Renneboog et al., 2007; Weir et al., 2005). Tobin's Q, market-to-book ratio, or price-earnings ratio tests a stock's undervaluation.

Several recent empirical studies also pointed out a decline in the number of firms on the exchanges in the last three decades. This shortcoming is explained by macroeconomic reasons such as changes in industry-economies of scale that favor integrating private firms rather than the initial public Offerings (IPOs or regulatory changes to listing requirements. Bailey et al. (2006) reported that the low rate of new listings and the high probability of delisting explain the trend. They also highlighted that the decline in the number of listed firms is due to the high delisting rate. They also highlight that the low rates of new lists and the high delists explain it. 54 percent and 46 percent respectively.

Since 1974, the Karachi Stock Exchange (KSE) has seen the delisting of 361 companies, a substantial figure compared to the 525 companies listed in 2023. The reasons for delisting varied, including voluntary cessation of operations, conversion of specific closed-end mutual funds to open-ended ones, compulsory dissolution due to court orders, and non-compliance with listing regulations. Of these, 113 firms voluntarily delisted from the KSE and reverted to private status after repurchasing their shares.



## **1.2 Problem Statement**

Delisting is a global phenomenon where companies remove their shares from stock exchanges, a trend that began in the United States in the 1980s. To date, more than 76,000 firms globally have been delisted. Most exchanges typically exhibit a positive listing gap—meaning the number of firms listed in a specific period exceeds those delisted. For instance, India experienced a positive listing gap with a net increase of 1,315 companies from 2010 to 2023. Conversely, during the same period, the PSX faced a net listing shortfall of 103 companies, with only 67 new listings versus 170 delistings. This shortfall can be attributed to stringent regulatory policies and lower financial visibility for smaller firms. This study explores the factors contributing to delisting in Pakistan by comparing them with the Indian market.

## **1.3 Objectives of the Study**

To fulfill the core objectives of the study, the following objectives will be pursued:

1. To identify firm-specific factors, such as financial performance and corporate governance, that influence a firm's propensity to go private.
2. To examine the effects of regulatory stringency and market dynamics that render firms vulnerable to delisting.
3. To conduct a sectoral analysis to pinpoint common and differing factors among the sectors with the highest delisting rates.
4. To ascertain the factors related to financial visibility by examining sectoral means, mainly focusing on identifying oligopolies that occupy a significant portion of the index and their practical roles.
5. To compare the Pakistan Stock Exchange with the Indian market to highlight commonalities and differences.

## **1.4 Importance of the Study**

The stock market is integral to the economic development of a country, serving as a crucial platform where companies can raise capital and investors can buy and sell securities. This exchange channels funds from investors to companies, allowing them to finance various activities such as research and development, acquiring new technologies, and constructing facilities. Furthermore, the stock market facilitates the public listing of company shares, enabling these entities to gather funds for expansion, innovation, and job creation.

In addition to aiding companies in raising capital, the stock market offers investors a venue to diversify their portfolios and manage risks. By investing in a variety of companies, investors can mitigate their risk exposure to any single entity. Additionally, the stock market allows companies to access capital more efficiently and quickly than traditional bank loans, accelerating economic growth. However, the Pakistan Stock Exchange (PSX) has been experiencing decapitalization. Simultaneously, high borrowing costs due to elevated interest rates complicate business investments in new projects and consumer purchases of durable goods. These high rates also diminish the capital available for business investments and hiring, stifling economic growth in Pakistan.

This study aims to assist policymakers and regulatory bodies in identifying the core issues and underlying causes of decapitalization, which could lead to increased portfolio investment inflows and a more robust capital market for large and small firms.

## **LITERATURE REVIEW**

### **2.1 Overarching Theory**

The prevailing theoretical framework underpinning the phenomenon of delisting is Utility Theory, which underscores the principle of rationality. Rationality in this context is founded upon the assessment of trade-offs between costs and benefits. Consequently, when the costs associated with maintaining a listing surpass the benefits derived from being listed, firms opt to initiate the delisting process. This tradeoff proved effective not only in cases of voluntary delisting but also in involuntary delisting. Recent regulatory changes, including the implementation of the Sarbanes-Oxley Act in the United States, have contributed to increased costs for publicly listed firms. Consequently, the financial requirements for companies to remain listed have escalated in recent years. As a result, many of the smaller companies that went public in the late 1990s may wish to reconsider their decision (Renneboog et al., 2007).

### **2.2 Benefits of Listing**

#### **2.2.1 Liquidity Hypothesis**

One of the fundamental reasons for a company to go public is to enhance its liquidity, and if it does not seem possible, then the company is more likely to keep its status private (Meera et al., 2000). Likewise, many businesses prefer going public with the goal of increasing their market share. Moreover, according to Witmer (2005), a firm faces the risk of having its stock delisted if the liquidity of its operations drops to an unacceptable level. The reason for this is the inverse link that exists between liquidity and the bid-ask spread and, by extension, the value of the firm (Pham et al., 2020). These companies may have lower financing costs because they can profit from easier asset valuation (Tutino et al., 2013). This could lead to a reduced interest rate being offered on the desired debt financing.

On the other hand, sometimes, a company may delist itself from the stock exchange if it decides it no longer wants to be active in trading (Pour & Lasfer, 2013). For example, according to the life cycle stage theory, companies having reached to the maturity stage, can benefit from delisting as it can help them in avoiding listing fees. This strategy leads the business to leverage its financial stability and reduces the dependency on external funds. Moreover, according to the research conducted by Pour & Lasfer, (2013), many of the companies that delisted from the London Stock Exchange in 1995 went public for the first time in order to make their capital structure more stable. They had to delist because they couldn't raise capital from the market.

According to Geranio & Zanotti (2012), the presence of information asymmetry serves as a crucial predictor of PTP (Public-to-Private) transfer and significantly impacts the valuation of companies. In this context, market lack of interest is considered the primary driver of undervaluation by many researchers. This approach creates a discrepancy between the company's worth and what outsiders think about it. Insiders have a better idea of the organization in which they are interested in investing, while outsiders only have access to the publicly available information (Goh et al., 002). One possible reason for this gap is the ineffectiveness of managers in communicating the value generated by market enterprises to their stakeholders (Jahansoozi, 2006).

#### **2.2.2 Financial Visibility**

According to the financial visibility hypothesis given by Witmer (2005) when a global company plans to list its shares in the United States (US), the number of its shareholders increases by a factor of 29 percent. This shows that analyzing the reasons for insufficient inclusivity is meaningless in a regulatory market environment. In contrast, Chaplinsky & Ramchand (2007) argue that if the number of foreign businesses listed on the New York Stock Exchange rises, the United States market may lose

some of its power to draw the attention of analysts. This means that the appeal of companies listed in foreign stock markets might decrease, making it harder to stand out. Nevertheless, it is projected that, contrary to Witmer (2005), the US market will continue to attract the interest of specialists.

For an explanation, the number of listed businesses has an increasing effect as the number of firms increases and is one of the many elements that affect a company's visibility. Smaller companies may have less of an impact than larger ones because of the larger former's disproportionately substantial research expenditures spent, which only deliver marginal advantages. This might be the case since larger organizations often gain more from their investments in research (Beyer et al., 2012; Geranio & Zanotti, 2012).

### ***2.2.3 Undercover Play***

Some companies choose to exit the financial market as a counter strategy, unlike companies that hope to profit from financial visibility through going public (Baker et al., 2002). In other words, withdrawing from the financial markets is one way to operate covertly and undetected by the market as a whole or by individual rivals (Pour & Lasfer, 2013). All publicly listed firms are significantly exposed to all of its stakeholders. The motivation is to ensure fairness and openness. Therefore, it is possible for a company to depart the global market and restrict the publication of financial information by withdrawing unilaterally from the capital markets. This would be done so that the people's financial information doesn't get out (Donaldson & Preston, 1995; Healy & Palepu, 2001; Leuz et al., 2008).

One of the major benefits of the transition of companies from public to private ownership is the elimination of public scrutiny over business operations. As stated by Bartlett (2009), private companies are not required to comply with stringent transparency and disclosure requirement as listed companies. This lack of transparency facilitates the process of the formation of cartels and grouping among companies and brokers (Harrington Jr, 2006).

Similarly, in Pakistan, markets have long been criticized for cartel-like behavior, where prices and supply are significantly manipulated by the companies for their own benefits. Sugar and cement industries are some of the examples of such companies (Ali et al., 2015; Darr, 2020). Through delisting, companies within sectors like these can continue their operations with less oversight. Moreover, lack of transparency in financial matters can lead investors to perceive high risk because of Pakistan's volatile stock market history (Chohan et al., 2024). Based on that, it can be inferred that the purpose of PTP deals is to make up for the stock market's lack of liquidity. Therefore, if a corporation wants to keep a shareholder on board, the shareholder may be coerced into purchasing shares in a company in which he or she has no interest.

## **2.3 Cost of Utility**

### ***2.3.1 Agency Cost***

Managers act as representatives of shareholders and are incentivized with higher compensation for expanding the company beyond its minimum requirements. Therefore, managers tend to receive higher compensation and gain greater influence. According to this theoretical framework, companies can exit markets with lower growth prospects and reduce the likelihood of management involvement in non-productive enterprises. To achieve business growth, the management can either undertake ventures that have a low Net Present Value (NPV) or invest the available free cash flow at a cost that is less than the cost of capital (Kreilkamp et al., 2023; Nienhaus, 2022; Ning et al., 2017).

Contrary to that, the demand for dividends by shareholders as opposed to the company's reinvestment in growth or abandonment of unproductive efforts (payout policy) can potentially

create a conflict of interest. In this phenomenon, if a company delists on a stock exchange, the concentration of equity will decrease, and a group of individuals can exert greater control over the company. These individuals have a financial interest in the firm and have the ability to control its operations. The resolution of agency problems may be possible after the restoration of control (Bøhren et al., 2012).

### ***2.3.2 Risk Sharing***

One of the advantages of being a publicly traded company is that its shareholders may band together to absorb financial losses. When the risk of the assets is high and the owner is either risk-averse or sufficiently confident about the predicted return on the assets, trading on exchanges is a feasible alternative that should be examined. If the risk of the assets is minimal and the company is listed, it may be better for the company to become private than to remain public. The benefits of risk reduction are shared by owners with a lower risk aversion and those with a higher risk tolerance (Bass et al., 2017; Gómez-Mejía et al., 2007).

For instance, companies in the United States (US) contemplating leveraged buyouts can benefit from risk-sharing. Martinez and Serve (2017) found that firms with lower beta risk, a common metric of idiosyncratic risk, are more inclined to participate in PTP deals. The risk sharing hypothesis was found to be a significant factor in determining whether or not a company should be delisted (Bortolon & Silva, 2015; Frank & Goyal, 2004).

### ***2.3.3 Listing Regulations***

Expenses associated with being listed on stock exchanges are a major factor for many companies when making the choice to go private. Public companies have faced a significant barrier over the past decade in the form of shifting regulations and an increase in the minimum amount of money required to be listed, even if all of these costs, such as investor relations and disclosure obligations, are accounted for when a company plans to enter the capital markets through an initial public offering (IPO) (Magni et al., 2022). The amount of money a company needs to get listed has increased in recent years. For this reason, Carney (2005) suggests that "many of the smaller companies that went public in the late 1990s, as well as foreign issuers that entered the US market, may wish to rethink their decision." The question of whether this is the optimal next step needs to be carefully considered.

For an explanation, in the American context, Miller and Frankenthaler (2003) argue that economic instability in the capital markets and the stringent regulations imposed by the Sarbanes-Oxley Act compelled publicly traded companies to evaluate the cost-benefit ratio associated with continuing to trade their shares on the financial market. Likewise, Bortolon & Silva (2015) found some reasons of delisting of companies listed on Brazilian Stock Exchange. These reasons include lack of record updates, absorption through mergers, voluntary requests for delisting, and severe financial issues such as liquidation and bankruptcy.

### ***2.3.4 Listing Cost***

It has been observed, when listing requirements are relaxed or tightened, a different set of companies become eligible for listing. Harsher rules do not necessarily indicate that fewer businesses will be listed since harsher standards might make a listing more desirable. However, this drop can be explained by stricter criteria if they lead to fewer postings. After the enactment of SOX in 2002,

exchanges revised listing rules to incorporate new corporate governance mandates (Crain & Crain, 2005).

Historically, there was no tightening of either the initial or maintenance listing criteria between 1996 and 2002. In 1996, NASDAQ updated its listing requirements. The results, however, were inconsistent. While raising the asset size threshold, NASDAQ opened the door to companies that had previously been excluded from listing. There was probably an increase in the number of new lists on the market as a result of the revisions to the listing requirements. The number of publicly traded companies will also be affected if the price of listing on the stock exchange is adjusted (Bushee & Leuz, 2005).

### ***2.3.5 Delisting Loss***

The debate whether delisting is beneficial or not is not closed yet. For instance, Pour & Lasfer (2013) compiled a large body of research in which they assessed the positive and negative aspects of delisting. Chandy et al., (2004) examine what they refer to as the "dark side" of delisting in their research. As soon as a corporation gives up its status as a publicly listed company, the value of the company's shareholders, the liquidity of the stock, and the reputation and visibility of the management all take a tumble (Troy & Romm, 2004). In contrast, (Luc & Cara, 2018) studies the possible favorable ramifications that may arise from this phenomenon. Both groups came to the conclusion that there is a possibility that this phenomenon will have a positive impact. Various factors within a company can influence the decision to transition it from a public entity to a private one. These factors include the potential for tax savings (Weir et al., 2006), a decrease in agency costs resulting from the realignment of incentives (Renneboog et al., 2007), the transfer of information from stakeholders to shareholders (Weir et al., 2006), as well as direct and indirect costs.

Nevertheless, many researchers believe that delisting on a stock exchange may have serious and lasting impacts on companies, investors, employees, and stakeholders. For instance, delisting removes a company's ability to issue new shares and raise funds which limits its growth and investment opportunities. Since the company's shares are no longer publicly traded, the company's financial and operational information is less accessible to investors (Breheny et al., 2023; Pour & Lasfer, 2013). This diminished visibility makes it challenging to attract new investment. Furthermore, being listed often signifies adherence to certain financial and regulatory standards, and losing this status can be seen as a failure, erode investor confidence, and make it difficult to secure new investors (Martinez & Serve, 2017). Hence, maintaining compliance with listing standards and plain communication is important to evade adverse consequences.

## **2.4 Other Factors Causing Companies to Delist**

### ***2.4.1 Size of Organization***

According to (Bortolon & Silva, 2015), the decision to transition to a private ownership structure within the context of the life cycle is dependent on the size of the company. They further argue that the small and medium-sized enterprises are more vulnerable to asset undervaluation and delisting risks than large enterprises. This aspect can be partially justified by the observation that small and mid-sized companies are less visible and less appealing to market agents. Consequently, the attractiveness of delisting is enhanced by the underestimation of the company that occurs due to the

asymmetry of this information (Seru et al., 2010). However, the expansion of a company is dependent upon the expenses associated with the dissemination of necessary information to the capital market, which can diminish as the company experiences growth (DeAngelo et al., 1984).

The size of the firm and the proportion of freely traded shares should also be considered (Arbel & Strebel, 1982). Incorporating low floating makes the advantages of being a publicly traded company less advantageous. This is because illiquidity is more frequent when floating is low (Fama & French, 1995). Even while small businesses consistently outperform the market, reliable data on them can be difficult to come by. In addition, the main obstacle for institutional investors to invest in small stocks is the problem of insufficient liquidity. Investments in liquid securities are simpler to liquidate and have less of an effect on the market (Clark, 2023). Even though small-cap securities are less expensive than larger companies, institutional investors may be unwilling to participate in them. This is because staff at small-cap firms are often fewer in number (Jensen, 1986).

#### ***2.4.2 Dividend Policy***

Participation in the capital markets necessitates the existence of a dividend policy that is both consistent and current. This is being done to attract a large number of potential investors and boost the company's standing in the market. The company's dividend policy provides potential investors with essential information about the business. For example, the seven growth organizations are dependent on their payment policies, but their owners would be hard-pressed to anticipate all the consequences of a shift in these policies. As a result, the current shareholder base of a value-oriented company may be unsupportive of the company's choice to pursue development ambitions while considering a change in dividend policy. Because of this opposition, the stock price may fall if shareholders decide to sell their shares. Moreover, if a company's dividend strategy is not as strong as before, it can leave the capital market to protect its value (Maverick, 2022; Scott, 2020).

#### ***2.4.3 Obtaining Temporary Funding***

According to Geranio & Zanotti (2012), a growing percentage of companies are pulling out of the market soon after their Initial Public Offering (IPO). This pattern should keep up for the foreseeable future. There are a number of scenarios in which a company can choose to have a brief existence as a publicly listed company, including capitalizing on a temporary bull market and then quickly exiting the market after favorable conditions have passed or coming to terms with the fact that becoming public was the wrong option. After accounting for all costs, the IPO price is greater than the last disclosed price, hence the company has made a loss. However, a favorable spread between the IPO price and the stock's prior trading price is more typical for companies that can reap the benefits of growing markets (Johnson, 2014).

#### ***2.4.4 Free Cash Flow***

The free cash flow theory states that once a company has been delisted from a public market, its management is less inclined to pursue high-risk and high-reward business opportunities. This is especially important in regions with little chances for growth (Jensen, 1986; Jensen & Meckling, 2019). Koh et al., (2013) state that the knowledge process skills of a company are tied to its knowledge management infrastructure. This paints a complete picture of the impact efficient knowledge management may have on an organization's productivity (Marx & Fuegi, 2020). As a

result, several authors, including (Joshi, 2011), have detailed the considerations management teams need to consider when selecting whether a firm should be public or private.

According to (Lombardi & Ravazzolo, 2016) Managers in the knowledge economy are expected to take risks on projects with negative Net Present Values (NPVs) from time to time in order to grow their businesses. If shareholders prefer that FCFs be distributed to them as dividends rather than being reinvested in the business or spent on pointless projects, this might provide a conflict of interest (Carayannis & Grigoroudis, 2014). Investors would rather see FCFs dispersed as profits than kept by the firm or wasted on meaningless activities, thus this is the case. This is due to the fact that certain investors would rather have the firm invest in more profitable items than keep its free cash flow (FCF). Owners and managers of organizations with a lot of cash on hand sometimes disagree on the best way to disperse that wealth (Renneboog et al., 2007).

#### ***2.4.5 Financial Performance***

Piotroski (2000) argues that only observing the company's exterior features is insufficient to understand the delisting decision, and that detailed investigation of the company's history and financial data is also required. Delisting choices can be constrained, in fact, by a company's financial performance. He discovered management can decide whether or not to delist by analyzing the impact of free cash flow (FCF), agency costs, and financial performance, firm value, and stock returns on these factors (Habib & Ljungqvist, 2005). Management will be able to decide whether or not to delist based on this information. To delist or not to delist, this information will be invaluable to management.

Likewise, the findings of (Ahmadi & Bouri, 2019) suggest that operational performance may have a significant influence on delisting decisions. For instance, according to (Crocì & Giudice, 2014) a company's operating performance, as measured by return on asset and return on equity, reaches a certain threshold, management is compelled to delist the company in order to better manage the rising level of firm operating performance. It can be inferred that the company's growing degree of operating performance is easier to control once it has been delisted. The potential delisting may be quantified according to the writers in question. They state that there are two options for businesses to assess their performance. The first one is that the company can choose to accumulate assets based on market conditions and maintain a public position to seek potential business opportunities. Another option for a company to take advantage of the various expansion opportunities is going private. Hence, management is supposed to speed up the delisting process as firm value increases (Kang, 2017).

#### ***2.4.6 Corporate Governance***

In the literature on corporate governance, delisting is recommended as a strategic response measure to alleviate institutional conflicts and achieve alignment between management incentives and shareholder interests, particularly in entities with management deficiencies (Jensen, 1986; Kaplan, 1989). According to Jensen (1986), the inclusion of agency expenses within the framework of indirect listing costs is proposed, and the act of delisting can serve as a strategy to alleviate agency conflicts that arise between the principal and the agent. However, there are differing views on the correlation

between institutional expenditure and delisting in existing literature. The gap in interests between managers and shareholders will intensify when managers have greater motivation to gain personal advantages (Jensen & Meckling, 2019). We can say that, the motivation to engage in the consumption of private benefits of control is heightened in the presence of inadequate corporate governance mechanisms.

Hostak et al., (2013) claim that international companies that delist on the US exchanges have less board governance than other companies. Moreover, Hofstetter (2005) also suggests that to remove agency-related problems, companies with weaker governance structures choose the option of delisting. In this context, some scholars believe that delisted companies have a more common CEO dualism than listed companies (Weir et al., 2006). Also, companies with fewer independent directors are likely to be delisted through privatization processes because CEOs and board chairpersons are likely to resign (Bailey et al., 2006). Likewise, according to the incentive realignment concept proposed by Kaplan (1989), the delisting process has the potential to realign the incentives of managers and shareholders.

#### ***2.4.7 Ownership Structure***

The presence of family members serving as board members is a prevalent occurrence in the context of small- and medium-sized firms (van Aaken et al., 2020). Consequently, the board, sometimes referred to as the "family board," wields significant influence over decision-making and sets the agenda for Shareholders Meetings. According to (Wang, 2006), there is a positive correlation between ownership by founding families and the quality of earnings. This is seen by fewer anomalous accruals, increased earnings informativeness, and reduced persistence of transitory loss components in earnings. According to the findings of (Villalonga & Amit, 2006), it is observed that family ownership is associated with wealth creation only in cases when the founder assumes the role of CEO inside the family or serves as Chairman with a hired CEO. Moreover, (Bruton et al., 2009) discovered that there is no significant correlation between family control and performance, as evaluated by accounting data. However, the authors suggest that the presence of an independent board, apart from the founding family, has a beneficial effect on performance.

The family-controlled ownership structure is characterized by the ultimate controllers, who possess more than 50 percent of the total shares in the Board of Directors (BOD) at the end of the year, being comprised of family members. Consequently, the operational culture within this ownership structure has an impact on the performance of the business. There appears to be a correlation between family ownership and delisting (Anderson & Reeb, 2003).



## METHODOLOGY

### 3.1 Population and Sampling

The study's population comprises all firms delisted from the Pakistan Stock Exchange (PSX) and Indian Stock Exchanges, specifically the National Stock Exchange (NSE) and Bombay Stock Exchange (BSE). The NSE is the largest stock exchange in India, featuring a fully automated, electronic, and screen-based trading system. The BSE, established as the oldest and first stock exchange in India, also plays a significant role in the study. Additionally, the study includes listed firms (survivors) that remained on the exchanges and did not delist. These firms were selected as matching firms based on market capitalization.

A purposive sampling technique was employed to select the sample, focusing on firms based on their delisting decisions. Delisting can be categorized into two types: voluntary and involuntary. Voluntary delisting occurs when a company decides independently to remove its shares from a stock exchange. Involuntary delisting happens when a stock exchange removes a company's shares from its listing due to non-compliance with the exchange's standards or regulatory requirements. For this study, we specifically considered only firms that underwent voluntary delisting. An equal number of survivor firms (listed) of the same size during the same period were also included. The sample consists of 60 delisted firms and 60 matching firms from Pakistan, with a similar quantity selected from the Indian exchanges. The timeframe for this study spans from January 2010 to September 2023.

### 3.2 Data and Process

From 2010 to 2023, 67 companies were listed, and 170 companies were delisted from the Pakistan Stock Exchange (PSX). In contrast, 2,223 firms were listed during the same period, and 908 firms were delisted from Indian stock exchanges. For this study, we selected 240 firms: 120 from the PSX and 120 from the Indian stock exchanges. Each group comprises 60 voluntarily delisted firms and 60 survivor firms. The selection criteria involved purposive sampling based on the firms' delisting decisions.

We collected data for the three years preceding the delisting of each selected firm. For instance, if a firm was delisted in 2013, we gathered data from 2010 to 2013. For comparison, we also selected a matching firm of similar market capitalization, focusing on the same industry. If a direct match within the same industry was unavailable, a similar industry was chosen for the survivor firm. Financial data were sourced from the firms' financial reports, while governance-related information was obtained from financial reports and the firms' websites. This comprehensive approach ensures a robust analysis of the factors influencing delisting decisions and the performance of survivor firms.

### 3.3 Econometric Model and Description

To determine the factors influencing the delisting of Initial Public Offerings (IPOs), we employ the event study methodology, categorizing each firm's delisting status as a dummy variable (1 = delisted firm, 0 = listed firm). This methodology has been widely used in previous studies on various financial events, including the demutualization of exchanges, dividend declarations, mergers and acquisitions, IPO performance, and share splits. The survival time of each company comprises the occurrence of delisting at time  $t > 0$  or censoring at time  $c > 0$ . In cases where delisting and survival are mutually exclusive, it is customary to define an event indicator  $\delta \in \{0,1\}$  and an observable survival time  $y > 0$ . The observable time  $y$  represents the measured duration of a right-censored delisting event.

$$y = \min(t, c) = \begin{cases} t & \text{if } \delta = 1, \\ c & \text{if } \delta = 0 \end{cases}$$

We collected data on the identified variables for each of the antecedent events, which are included as explanatory variables in Equation (1). Additionally, data were gathered from listed firms of

comparable size during the sample period using the matching firm methodology. The details of the data collection process are as follows:

Delisted Firms	Matching Firms
<ul style="list-style-type: none"> <li>e.g., Firm A voluntarily delisted on January 2013 and withdraw market capitalization of 300 million.</li> <li>We collected the data of each variable mentioned in equation (1) for the last antedated three years before the event occurs.</li> </ul>	<ul style="list-style-type: none"> <li>We selected the same size (in between range of 300 million) firms e.g. B &amp; C that were listed on AIM on same period i.e. January 2013.</li> <li>We collected the data of each variable mentioned in equation (1) for last antedated five years 1999-1995 of both B &amp; C firms.</li> </ul>

$$h(t, X) = h_0(t) \exp(\beta_1 EPS + \beta_2 PER + \beta_3 DPR + \beta_4 PM + \beta_5 RG + \beta_6 PG + \beta_7 CR + \beta_8 DE + \beta_9 EPI + \beta_{10} EPD + \beta_{11} FAT + \beta_{12} TAT + \beta_{13} RETA + \beta_{14} Fage + \beta_{15} FSize + \beta_{16} Bsize + \beta_{17} Instown + \beta_{18} Pfloat + \beta_{19} NEDs + \beta_{20} CEOD + \beta_{21} MktVol + \beta_{22} ReCost + \beta_{23} ListCost + \beta_{24} TrdVol) \quad (1)$$

$h(t, X)$  is the hazard function, dependent on time  $t$  and covariates  $X$ .  $h_0(t)$  is the baseline hazard function, representing the hazard for an individual with a baseline (zero) level of covariates? This function is unspecified, highlighting the semi-parametric nature of the model.  $\exp(\beta_s X_s)$  is the exponential term involving a linear combination of covariates of following independent variables:

Abbreviation	Full Title	Calculation	Explanation
EPS	Earning per Share	Net income / Outstanding Shares	EPS is used to gauge the profitability of a company relative to its outstanding shares of common stock.
PER	Price earnings ratio	Market Price per share/ EPS	It indicates how much investors are willing to pay for one rupee of earnings.
DPR	Dividend payout ratio	Dividends per Share/ earnings per Share	It helps investors understand how much of the company's profits are being returned to shareholders
PM	Profit margin	Net Profit/ total sale	Net profit margin indicates how much earnings are available for investor after all expenses have been deducted
RG	Revenue growth	(current sale- previous year sale)/ previous year sale	It measures the percentage change in a company's sales over a specified period
PG	Profit growth	(current profit- previous year profit)/ previous year profit	It measures the percentage change in a company's profit over a specified period
CR	Current Ratio	Current assets/ current liabilities	It is a measure of a company's liquidity, providing insight into its ability to pay off short-term debts.

DE	Debt to equity	Debt/ Equity	It is a financial leverage ratio that compares a company's total liabilities to its shareholders' equity.
EPI	Earning power to investment	Net profit/ investment cost	It measures the profitability of an investment relative to its cost.
EPD	Earning power to debt	EBIT/Interest cost	It measures a company's ability to meet its debt obligations by comparing its earnings before interest and taxes (EBIT) to its interest expenses.
FAT	Fixed assets utilization	Net sale/fixed assets	It measures a company's efficiency in generating sales from its investment in fixed assets.
TAT	Total assets utilization	Net sale/total assets	It measures a company's efficiency in generating sales from its investment in total assets (current and fixed assets).
RETA	Retained earnings to total assets	Retained earnings/ total assets	It measures the proportion of a company's total assets that are financed by retained earnings
Fage	Firm age	Age of firm	Firm age refers to the number of years a company has been in existence since its founding (current year- year of incorporation)
Fsize	Firm size	Log of total assets	Log value of total assets of your firm.
BS	Board size	Total number of directors	Total number of directors
Instown	Institutional ownership (%)	Shares Owned by Institutions/ total numbers of shares	Institutional ownership refers to the percentage of a company's outstanding shares that are owned by institutional investors.
Pfloat	Public Float	Total outstanding shares- restricted shares	It refers to the number of a company's shares that are available for trading by the general public.
NEDs	Number of non-executives directors	Total number of non-executives directors	Non-executive directors (NEDs) are members of the board who are not part of the company's executive management team
CEOD	CEO Duality	CEO Duality	CEO duality refers to the situation where the roles of Chief Executive Officer (CEO) and Chairman of the Board of

			Directors are held by the same individual.
MktVol	Market Volatility	Std of index returns	Market volatility refers to the frequency and magnitude of price movements in financial markets.
ReCost	Reporting and Audit Cost	Expected cost incurred at accounts and audit	Reporting and audit costs refer to the expenses incurred by a company in the process of preparing and presenting its financial statements and undergoing external audits.
ListCost	Listing Cost	Total cost of listing	Listing costs refer to the expenses a company incurs when it decides to list its shares on a stock exchange.
TrdVol	Trading volume	Log of trading volume	Trading volume refers to the total number of shares traded for market.

### 3.4 Econometric Techniques

In this study, we employed the Cox Proportional Hazards Model to analyze and understand the relationship between the survival time of delisted firms and a set of predictor variables as specified in equation (1). This model allows us to measure the hazard ratio for each variable, thereby identifying factors that positively or negatively influence a firm's likelihood of survival or delisting from the stock market. The hazard function,  $h(t,X)$ , depends on time  $t$  and covariates  $X$ . The baseline hazard function,  $h_0(t)$ , represents the hazard for an individual with baseline (zero) covariates and remains unspecified, underscoring the semi-parametric nature of the model. The term  $\exp(\beta_s X_s)$  involves an exponential function of a linear combination of covariates, where coefficients are the coefficients representing the impact of each predictor variable.

### 3.5 Qualitative Data and Analysis

In this study, we also collected data from higher management of listed and delisted companies over a five-year period, as well as from SECP, PSX officials, and brokers. We conducted interviews and gathered data using closed-ended questions derived from variables that were statistically robust. We categorized the responses into two aspects: (1) frequency, indicating how many respondents discussed and emphasized each variable, and (2) severity, reflecting the perceived impact levels of these variables (i.e., very high, high, and moderate). The results were summarized based on these three levels across each group: SECP & PSX, investors & brokers, and companies.

## FINDINGS AND ANALYSIS

### 4.1 Global Listing Trends

Table 1 illustrates the global listing trends, showing an overall increase in the total number of listed firms worldwide. However, in South Asia, this trend is declining. In the 2000s, there were 6,633 listed companies, but by 2020, this number had fallen to less than 6,300, indicating a higher delisting rate than new listings and a significant listing gap. Similarly, in the United States, the number of listed firms decreased from 5,860 in the 2000s to less than 4,400, reflecting a higher delisting rate and a growing listing gap. The United Kingdom is experiencing a similar downward trend.

These patterns suggest a global decline in equity markets due to various factors, including rising interest rates, the financial crisis of 2007-08 and its aftermath, and shifts in investor preferences towards markets offering higher returns and capital gains. This aligns with the preferred habitat model, which posits that capital flows to markets with more favorable conditions. As investor participation declines, stock markets become less attractive to companies, leading to lower financial visibility and benefits, prompting firms to delist.

*Table 1: Number of listed firms around the world*

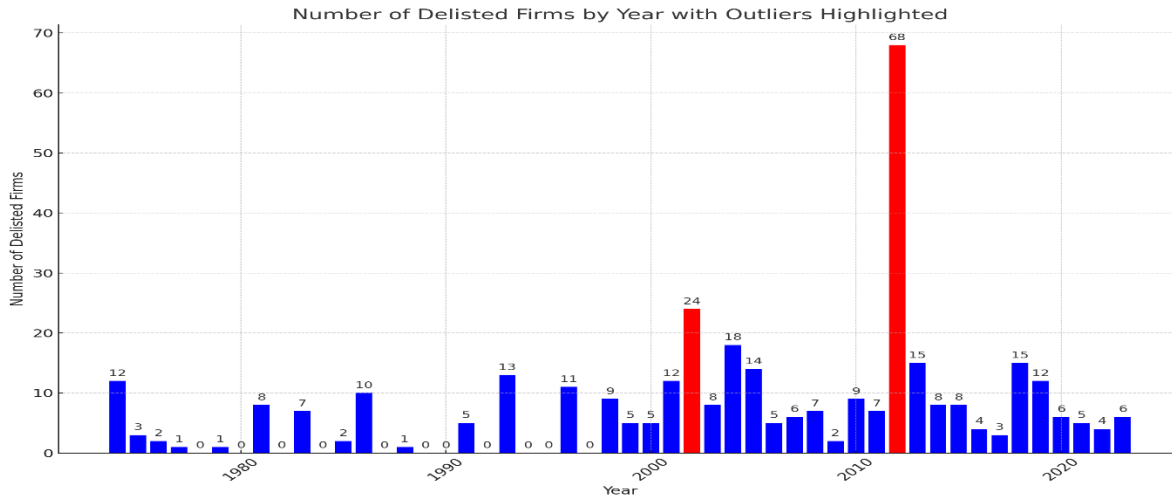
Host country of firms listed	2000-2004	2005-2009	2010-2014	2015-2020
Canada	2,242	3,791	3,908	3,427
Central Europe and the Baltics	1,015	1,314	1,585	1,210
China	1,224	1,526	2,400	3,345
East Asia & Pacific	10,407	12,809	15,305	18,388
Europe & Central Asia	10,300	10,861	10,466	7,199
United Kingdom	2,414	2,570	1,937	1,706
Latin America & Caribbean	1,411	1,227	1,256	1,186
North America	8,124	8,698	8,141	7,746
South Asia	6,633	5,958	6,470	6,329
East Asia & Pacific	3,052	3,813	5,283	6,494
Europe & Central Asia	1,146	2,050	2,305	1,942
Latin America & the Caribbean	1,402	1,225	1,234	1,167
Upper middle income	5,645	6,716	7,458	8,028
United States	5,860	4,891	4,220	4,373
World	40,087	42,595	44,482	43,488

*Source: World Bank (2024).*

### 4.2 Capital Erosion in PSX

Figure 1 illustrates the historical patterns of delisting in Pakistan, highlighting a significant increase after 2010. Interestingly, during the financial crisis of 2007-09, this trend was lower compared to the period following 2010 and between 1990 and 2005. This increase post-2010 can be attributed to domestic crises such as the energy crisis and severe security issues in Pakistan, which led many firms to shut down. The firms most affected by delisting included textile spinning (17 firms), textile composite (10 firms), exchange-traded funds (8 firms), and investment banks (7 firms). During this period, the energy crisis and the resulting high cost-push inflation compelled many firms to go private. Additionally, in 2012, the government passed the Demutualization Act to convert the three stock exchanges into a single public limited company instead of a guaranteed limited entity.

Figure 1: Delisting Trend in PSX since its inception



Source: Pakistan Stock Exchange.

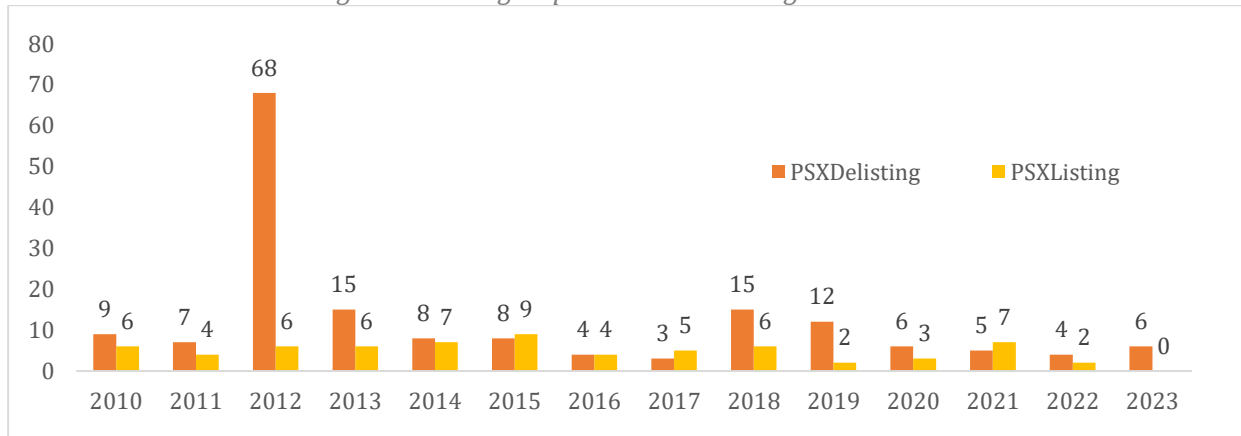
Despite the stock index recently reaching more than 72,000 points, the Pakistan Stock Exchange (PSX) is currently grappling with a significant challenge: the delisting of Initial Public Offerings (IPOs) from its platform. This issue undermines its core function of facilitating company listings. From 2010 to 2023, the PSX experienced a net listing shortfall of 103 companies, with only 67 companies listing compared to 170 being delisted, as illustrated in figure (2) which shows a net decrease of 103 firms. Similarly, Table 2 illustrates the trends in capital inflows and outflows from 2010 to 2023. Throughout this period, the capital inflows and outflows remained relatively parallel, with specific years experiencing higher outflows and others experiencing higher inflows.

Table 2: Flow of capitalization in Pakistan Stock Exchange (in million)

Year	Capitalization		Decapitalization
	Paid up Capital at Face Value	Total Capital Inflow	Capital Outflow
2010	2,968.19	3,351.29	8,943.92
2011	2,342.45	3,581.56	1,944.88
2012	406.359	406.359	6976.808
2013	2,080.14	4,576.31	10,264.23
2014	5,699.88	132,687.31	8518.258
2015	11,246.93	190,589.11	722.306
2016	5,219.61	8,473.04	6341
2017	13,002.65	14,539.07	186.108
2018	1,008.10	4,327.73	1852.496
2019	1,090.00	5,024.90	3163.973
2020	2,643.21	5,816.85	2002.289
2021	3,648.18	19,279.28	35.683
2022	390.00	840.00	1780.254
2023	101.24	435.33	165.826

Source: Pakistan Stock Exchange.

Figure 2: Listing Gap in Pakistan during 2010-2023



Source: Pakistan Stock Exchange.

### 4.3 Determinants of Delisting at PSX

We employed the Cox Proportional Hazards model to ascertain the robust factors influencing a firm's propensity to voluntarily delist. The findings, detailed in Table 3, highlight firm-specific, market-specific, and governance-related factors that affect the likelihood of delisting. Our analysis of financial performance reveals how effectively a firm's assets are utilized, contributing to the enhancement of investor wealth.

The study identifies critical financial performance indicators such as Earnings Per Share, Price-Earnings Ratio, Dividend Payout Ratio, and Profit Margin, with respective hazard ratios of 0.705 ( $Z = -2.04$ ), 0.591 ( $Z = -2.62$ ), 0.435 ( $Z = -7.49$ ), and 0.501 ( $Z = -12.41$ ). These findings suggest that superior financial performance metrics are inversely related to the firm's propensity to go private. Primarily, investors prioritize capital gains and dividend yields when investing in stocks. Higher values of these indicators typically increase stock value and dividends, thereby enhancing investor wealth. Consequently, investors are more inclined to allocate resources to firms that either offer higher dividends or whose stock prices are appreciating rapidly. Such dynamics further enhance a firm's financial visibility in the market.

The second aspect, which is firm-specific, pertains to the firm's liquidity and growth, both indicative of the firm's ability to meet obligations and forecast future growth. Indicators such as Revenue Growth and Profit Growth, with hazard ratios of 0.62 ( $Z = -4.55$ ) and 0.72 ( $Z = -2.06$ ) respectively, suggest that higher growth rates diminish the likelihood of delisting. Conversely, the Current Assets Ratio and Debt-to-Equity Ratio, with hazard ratios of 1.25 ( $Z = 0.39$ ) and 1.38 ( $Z = 9.85$ ), indicate that elevated debt levels augment the likelihood of a firm choosing to delist.

Similarly, the Earning Power to Investment ratio, with a hazard ratio of 1.24 ( $Z = 2.09$ ), indicates that a higher ratio suggests an increased propensity for the firm to go private. Likewise, the Earning Power to Debt ratio stands at 1.32 ( $Z = 2.49$ ), suggesting that firms with greater earning power are more inclined to utilize and repay debt, as debt financing traditionally offers lower costs and fewer codal formalities compared to equity financing—which now demands more stringent codal formalities for continued stock market listing. Similarly, Reporting and Audit Costs, with a hazard ratio of 1.15 ( $Z = 1.32$ ), and Cost of Listing and Trading Volume, with hazard ratios of 0.85 ( $Z = -1.65$ ) and 0.32 ( $Z = -1.28$ ) respectively, reflect the increased codal and listing costs that encourage firms to delist. On the other hand, debt financing, which involves considerably lower codal formalities, becomes more appealing for firms with strong earning power, shifting their financing preference from equity to debt.

Firm Age and Firm Size are also critical factors in Pakistan, with hazard ratios of 0.9 ( $Z = -1.78$ ) and 0.2 ( $Z = -4.73$ ) respectively, indicating that larger firms are more resilient and better equipped to meet ongoing listing requirements compared to smaller ones. To support SMEs, the GEM-Board has been introduced on the PSX, featuring less stringent policies than the Main-board. Furthermore, Board Size, with a hazard ratio of 0.7 ( $Z = -3.09$ ), demonstrates that a larger and more diverse board strongly influences a firm's ability to meet codal formalities and remain listed. Conversely, Insider Ownership, with a hazard ratio of 1.5 ( $Z = 3.15$ ), increases the likelihood of delisting, suggesting that management ownership prefers not to remain listed on the PSX, which requires a more transparent manner.

The corporate structure of public limited companies often reveals that many boards are interconnected, with members frequently being close relatives or business partners. In several cases, family members and relatives of higher management are integral parts of the board. Conversely, State-Owned Enterprises (SOEs) delisted from the PSX board often suffer from bureaucratic entanglements. Typically, a secretary from a related ministry serves as a board member of these SOEs and may simultaneously hold positions on various other boards, including policy boards of regulatory bodies like the SECP. This situation fosters an oligopoly dominated by specific families and bureaucrats rather than technocrats, influencing policy-making and creating a rent-seeking ecosystem.

*Table 3: Determinants of delisting at PSX*

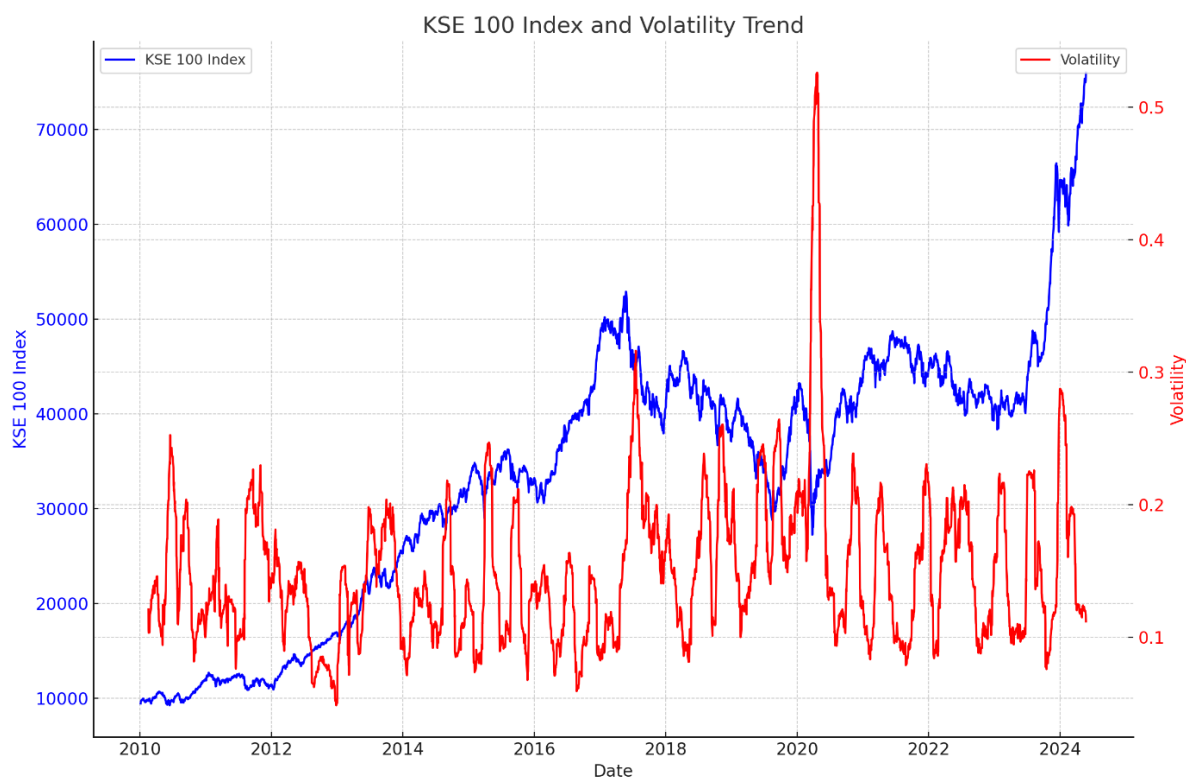
<b>Variables</b>	<b>Haz. Ratio</b>	<b>Std. Err.</b>	<b>Z Value</b>
<b>Firm Financial Performance</b>			
EPS	0.705	0.145	-2.04
Price Earnings Ratio	0.591	0.165	-2.62
Dividend Payout Ratio	0.435	0.052	-7.49
Operating Profit Margin	0.501	0.03	-12.41
<b>Liquidity and Growth</b>			
Revenue Growth	0.62	0.092	-4.55
Profit Growth	0.72	0.152	-2.06
Current Assets Ratio	1.25	0.612	0.39
Debt to Equity	1.38	0.142	9.85
<b>Earning Power and Asset Utilization</b>			
Earning Power to Investment	1.24	0.402	2.09
Earning Power to Debt	1.32	0.492	2.49
Fixed Assets Turnover	1.15	0.563	1.35
Total Assets Turnover	1.11	0.732	1.38
Retained Earnings to Total Assets	1.55	0.641	2.39
<b>Firm Lifecycle</b>			
Firm Age	0.9	0.285	-1.78
Firm Size	0.2	0.156	-4.73
<b>Corporate Governance &amp; Ownership</b>			
Board Size	0.7	0.124	-3.09
Insider Ownership (%)	1.5	0.374	3.15
Public Float (%)	1.25	0.482	1.85
Number of Non-Executive Directors	0.88	0.393	-1.82
CEO Duality	1.1	0.185	0.50
<b>Market Dynamics &amp; Compliances</b>			
Market Volatility	1.3	0.451	1.67
Reporting and Audit Cost	1.15	0.437	1.32
Cost of Listing	0.85	0.28	-1.65



Trading Volume	0.32	0.235	-1.28
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Last but not least the market dynamics and compliance factors, such as Market Volatility (hazard ratio 1.3,  $Z = 1.67$ ) indicating the higher volatility, more uncertainty and risk in market which enhance the firm's propensity to go private. figure (3) illustrates the trend of the KSE 100 Index alongside its volatility from 2010 to 2024.

Figure 3: Stock market movements during 2010-2023



This growth, however, is interspersed with periods of significant volatility, as represented in red, highlighting fluctuations in market stability. Notably, from 2010 to 2014, the KSE 100 Index experienced steady growth accompanied by higher volatility, indicating speculative market trends. This occurred even though the industrial production and export volumes of the industries represented in the KSE100 did not show corresponding increases.

After 2013, the new government assumed power, placing a heightened focus on industry and the stock market. The period saw increased volatility, notably in 2014, when strikes and a dharna lasting over 100 days contributed to market uncertainty. In 2015, the China-Pakistan Economic Corridor (CPEC) agreement was signed with China to boost market growth and economic development in Pakistan. This development positively influenced the PSX index. Following the initiation of CPEC, a Chinese consortium acquired 40 percent of the shares of the Pakistan Stock Exchange (PSX) after the demutualization of three exchanges and their consolidation into a single entity, namely PSX.

#### 4.4 KSE 100 Index Constituents and Financial Visibility

To gain a deeper understanding of the composition of the KSE 100 index, we have analyzed detailed descriptive data concerning its constituents and their financial visibility. As of June 2024, the composition of the KSE 100 index, which is inherently dynamic, reveals changing weights of the

constituent firms. The top six companies collectively represent 25 percent of the index weight. This is followed by seven companies accounting for the next 25 percent, and 19 companies comprising the 50 percent - 75 percent range. Consequently, the remaining 68 companies contribute to the final 25 percent of the index weight, demonstrating a significant concentration of influence among a select group of key players. The net profit margins and dividend payout ratios for these quartiles are respectively 23.71, 25.43, 11.81, 11.06 and 36.00, 25.00, 44.10, and 25.23, as detailed in Table 4. This data underscores remarkable progress over the last three years. Conversely, various industries are experiencing financial challenges. In response, we have delved further into the data to identify the top five sectors with the highest index weightage.

*Table 1: KSE 100 constituent and financial visibility*

	Index Weight ≤ 25%	25% > Index Weight ≤50%	50% > Index Weight ≤75%	75% > Index Weight
No. of Companies	6	7	19	68
Volume	1,309,953	1,883,247	2,536,290	2,563,163
EPS Growth (%)	26.68	34.69	644.32	199.54
PEG %	.08	.09	-1.12	-1.66
Net Profit Margin (%)	23.71	25.43	11.81	11.06
Payout Ratio %	36.00	25.00	44.10	25.23
Mkt Capitalization (000's)	208,454,719	272,980,936	86,035,543	46,364,081
No. of INED	3	4	2	3
NED	5	4	4	4
Total Director	10	9	8	9

#### **4.5 Oligopoly of Rent-Seekers**

When we examine the top five sectors contributing to 54 percent of the KSE 100 Index weight, the banking sector emerges as the leader, accounting for approximately 19 percent of the total index. This sector demonstrates a 28.73 percent dividend payout ratio, a 13.42 percent profit margin, and a 39.56 percent growth in EPS over the last three years. Operationally, the banking sector faces significant risk exposure, lending over 87 percent of its deposits to the state. Consequently, they have benefited from policy rates ranging between 15-22 percent in the past three years. Additionally, the sector's monopolistic stance is reinforced by the near impossibility of new bank entries, which boosts their share value and trading volume, coupled with higher earnings and subsequent dividend payouts,

In second place, the Oil & Gas Exploration Companies hold 10.56 percent of the index weightage and report a net profit margin of 32.35 percent and a payout ratio of 36.75 percent. Predominantly state-owned, these companies maintain a monopoly, significantly benefiting from the continuous rise in petroleum and gas prices, thus achieving substantial profits. The Fertilizer sector, which holds a monopoly in the market, benefits greatly from subsidies for electricity and gas, which are vital for an agricultural country like Pakistan. This sector consistently sees an upward demand for its products, showcasing a net profit margin of 12.99 percent and a payout ratio of 43.50 percent.

The Power Generation & Distribution sector, also monopolistic, includes various public sector firms and entities in public-private partnerships. These firms receive capacity charges even without full utilization of their plants, leading to an asset utilization ratio near 100 percent. Consequently, the sector remains profitable despite higher electricity bills based on capacity charges rather than actual consumption.

Lastly, the fifth most prominent sector on the PSX is the Technology & Communication sector, representing approximately 8 percent of the index. It boasts net profit and payout margins of 23.16

percent and 36.00 percent, respectively. This sector holds a monopolistic position in the market with only five companies operating within it. Moreover, the market is expanding rapidly, fueled by Pakistan's increasingly large youth population, which is highly oriented towards technology and avidly uses the internet along with its products and services. This demographic shift is generating substantial profits and earnings for market participants.

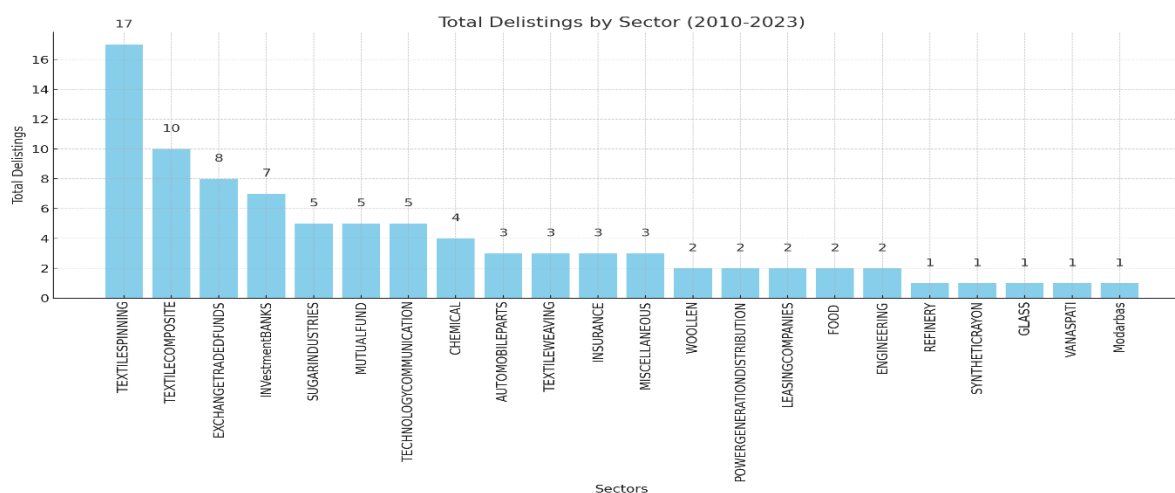
Table 2: Top five sector of KSE 100 Index

Industry	Index Wht	EPS Growth (%)	PEG %	Net Profit Margin (%)	Payout Ratio %
Commercial Banks	18.89	39.56	0.13	13.42	28.73
Oil & Gas Exploration Companies	10.56	21.74	-0.05	32.35	36.75
Fertilizer	9.00	29.75	0.15	12.99	43.50
Power Generation & Distribution	8.25	7.94	-1.00	21.34	39.71
Technology & Communication	7.81	21.40	-0.78	23.16	36.00

#### 4.6 Top Delisted Sectors

In order to find out the sector specific factors that cause the delisting, we selected the top four sectors which experienced the higher number of delisting as show in figure (4).

Figure 1: Sector-wise delisting trend during 2010-2023



When considering sector-specific factors, earnings per share (EPS) varied significantly, more pronounced in Textile Spinning and Exchange Traded Funds but less so in Textile Composite. The price-earnings ratio was significant in Textile Spinning and Textile Composite but less impactful for Exchange Traded Funds and Investment Banks. The influence of firm age was critical in Textile Spinning but less so for Exchange Traded Funds. Firm size strongly protect effect against delisting, particularly in the Textile Composite. Both Textile Sectors (Spinning & Composite) showed characteristics that increased the likelihood of firms going private. Exchange Traded Funds were less influenced by traditional financial metrics and more by market-based metrics, while Investment Banks displayed variability in how market conditions and financial structures impacted their delisting risk.

Table 3: Sectoral Determinants of Delisting at PSX

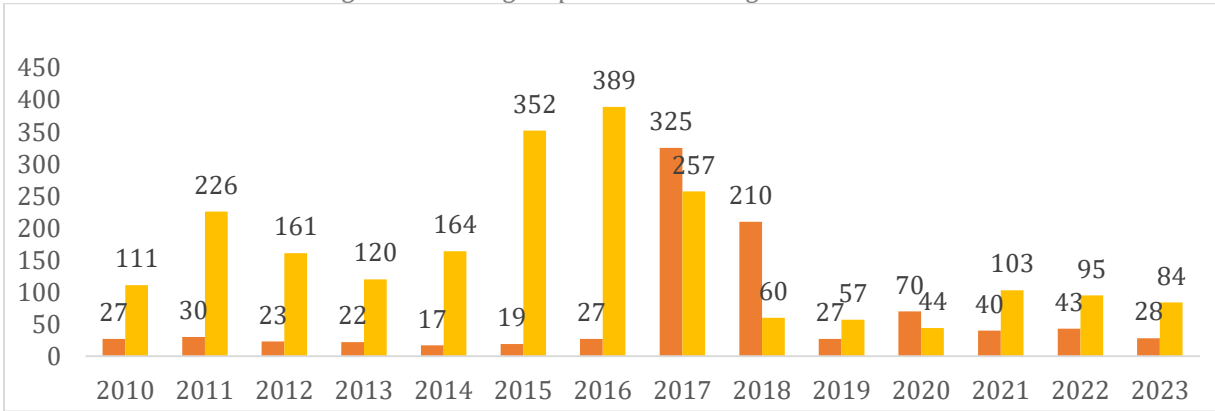
Variables	Textile Spinning		Textile Composite		Exchange Traded Funds		Investment Banks	
EPS	0.68**	(0.123)	0.60	(0.151)	0.73**	(0.159)	0.77*	(0.136)
Price Earnings Ratio	0.50***	(0.191)	0.48***	(0.131)	0.42**	(0.157)	0.49**	(0.130)
Dividend Payout Ratio	0.42***	(0.066)	0.49***	(0.042)	0.47***	(0.010)	0.59***	(0.012)
Operating Profit Margin	0.36***	(0.078)	0.37***	(0.013)	0.68***	(0.055)	0.67***	(0.016)
Revenue Growth	0.63***	(0.098)	0.64***	(0.059)	0.60***	(0.073)	0.66***	(0.071)
Profit Growth	0.90**	(0.137)	0.82	(0.174)	0.68*	(0.178)	0.64*	(0.166)
Current Assets Ratio	1.24	(0.610)	1.17	(0.613)	1.11	(0.564)	1.10	(0.638)
Debt to Equity	1.40***	(0.109)	1.39***	(0.121)	1.19***	(0.123)	1.23***	(0.094)
Earning Power to Investment	1.37*	(0.436)	1.09	(0.372)	1.29**	(0.385)	1.11*	(0.370)
Earning Power to Debt	1.44**	(0.520)	1.24**	(0.477)	1.33**	(0.481)	1.16**	(0.499)
Fixed Assets Turnover	1.00	(0.534)	1.01	(0.546)	1.01	(0.576)	1.32	(0.520)
Total Assets Turnover	1.08*	(0.746)	1.09	(0.765)	0.92*	(0.717)	1.18	(0.699)
Retained Earnings to Total Assets	1.67**	(0.675)	1.52**	(0.618)	1.65**	(0.688)	1.36**	(0.680)
Firm Age	0.73**	(0.313)	0.82	(0.329)	0.95*	(0.334)	1.02**	(0.281)
Firm Size	0.13***	(0.133)	0.02***	(0.136)	0.23***	(0.113)	0.29***	(0.159)
Board Size	0.67***	(0.102)	0.63***	(0.169)	0.82***	(0.158)	0.72***	(0.105)
Insider Ownership (%)	1.44***	(0.423)	1.44***	(0.414)	1.62***	(0.405)	1.53***	(0.404)
Public Float (%)	1.41**	(0.444)	1.36	(0.470)	1.30	(0.513)	1.26	(0.471)
Number of Non-Executive Directors	1.06*	(0.376)	1.05**	(0.440)	0.94	(0.350)	1.06	(0.354)
CEO Duality	1.26	(0.191)	0.93	(0.150)	1.00	(0.156)	0.94	(0.230)
Market Volatility	1.17**	(0.501)	1.23	(0.445)	1.12**	(0.455)	1.33	(0.428)
Reporting and Audit Cost	1.16	(0.392)	1.03	(0.482)	0.99	(0.477)	1.26	(0.400)
Cost of Listing	1.03**	(0.309)	1.01	(0.285)	0.72	(0.273)	0.87*	(0.295)
Trading Volume	0.27	(0.264)	0.13	(0.210)	0.27	(0.201)	0.48	(0.252)

Note: From 2010 to 2023, four sectors exhibited notably high rates of delisting on the PSX. Specifically, the textile spinning sector saw 17 firms delist, followed by the textile composite sector with 10 firms. Additionally, 8 firms from the exchange-traded funds sector and 7 from investment banks also withdrew from the listing during this period.

#### 4.7 Listing Gap in Indian Market

In contrast, the Indian market, our neighboring economic environment, saw a net increase of 1,315 companies during the same period, as depicted in Figure 3. The figure highlights the top 10 sectors with delisted firms, with the textile sector experiencing the highest delisting from the Pakistan Stock Exchange (PSX). The primary driver for these delisting is a cost-benefit analysis where the costs of maintaining a listing surpass the perceived benefits. Furthermore, many firms have ceased operations or relocated to other countries or sectors, mainly due to the prevailing energy crisis.

Figure 2: Listing Gap in India during 2010-2023



Sources: Mumbai Stock Exchange and National Stock Exchange.

#### 4.8 Determinants of Delisting Indian Market

To investigate the influential market factors contributing to delisting, we selected the Indian market, and the results of the Cox Proportional Hazard Model are presented in Table 7. Our analysis identifies several significant factors affecting the likelihood of delisting. For instance, EPS (hazard ratio: 0.523, Z value: -4.89) and dividend payout ratio (hazard ratio: 0.398, Z value: -7.89) reveal that lower values in these metrics increase the risk of delisting. This underscores the importance of earnings per share and consistent dividend distribution in maintaining investor confidence.

Profit margin (hazard ratio: 0.479, Z value: -12.41), return on assets (hazard ratio: 0.512, Z value: -4.35), and revenue growth (hazard ratio: 0.584, Z value: -5.43) are also critical factors. Lower values in these indicators suggest decreased financial sustainability and a higher propensity for delisting. Additionally, the debt to equity ratio (hazard ratio: 1.270, Z value: 8.70) and working capital turnover (hazard ratio: 0.715, Z value: -2.85) highlight the significance of a firm's liquidity. Higher values in these metrics point to both short-term and long-term liquidity risks.

Earning power to investment (hazard ratio: 1.227, Z value: 2.39) and retained earnings to total assets (hazard ratio: 1.471, Z value: 2.54) are crucial as well. Higher ratios in these areas mitigate the risk of delisting, emphasizing the importance of robust earnings and asset retention. Lastly, firm age (hazard ratio: 0.827, Z value: -2.77) impacts delisting risk, with younger firms being more vulnerable, whereas larger firm size (hazard ratio: 0.203, Z value: -5.49) provides a protective effect against delisting.

Table 4: Determinants of delisting in Indian market

Variables	Haz. Ratio	Std. Err.	Z Value
<b>Firm Financial Performance</b>			
EPS	0.523	0.131	-4.89
Dividend Payout Ratio	0.398	0.051	-7.89
Operating Profit Margin	0.479	0.039	-12.41
Return on Assets	0.512	0.074	-4.35
<b>Liquidity and Growth</b>			
Revenue Growth	0.584	0.097	-5.43
Current Ratio	1.098	0.542	1.20
Debt to Equity	1.270	0.152	8.70
Working Capital Turnover	0.715	0.183	-2.85
<b>Earning Power and Asset Utilization</b>			
Earning Power to Investment	1.227	0.382	2.39
Retained Earnings to Total Assets	1.471	0.601	2.54
Asset Turnover Ratio	1.013	0.729	0.18
<b>Firm Lifecycle</b>			
Firm Age	0.827	0.261	-2.77
Firm Size	0.203	0.193	-5.49
<b>Corporate Governance &amp; Ownership</b>			
Board Independence	0.613	0.126	-4.39
Insider Ownership (%)	1.541	0.394	3.79
Public Float (%)	1.297	0.491	2.33
CEO Tenure	0.951	0.392	-1.89
<b>Market Dynamics &amp; Compliances</b>			
Market Volatility	1.387	0.481	2.67
Compliance Costs	1.195	0.437	2.77
Regulatory Environment	0.843	0.281	-1.56
Trading Frequency	0.314	0.205	-1.99

#### 4.9 Qualitative Analysis of Interview and FGDS

Interviews and discussions with SECP and PSX officials, brokers, investors, and firm management (both listed and delisted in the last three years) reveal a consensus on the regulatory burden increasing the cost of listing and ongoing compliance. Firm management highlights that compliance and document verification by auditors incur significant costs and time, making listing more expensive and lengthier. SECP and PSX officials argue that these measures ensure transparency, which is critical for developing countries dealing with transparency issues in financial statements.

The financial position and performance of PSX-listed firms are crucial. Firms with net profit and payout ratios higher than interest rates attract more investors. However, management notes that high cost-push inflation and reduced consumer purchasing power limit earnings and revenue growth. Additionally, high rates on sukuk and sovereign bonds make shares of less visible, growing companies vulnerable. Only firms benefiting from subsidies, SOEs, large enterprises, and financial banks are surviving and attracting investors.

Market dynamics significantly impact less visible firms in the KSE 100 index. High volatility, favorable for index firms due to growth, increases the propensity for firms to go private. Governance issues are a major factor causing delisting, with SECP and PSX officials particularly concerned about governance in SOEs. Challenges arise when bureaucrats serve on multiple SOE boards as independent members

and participate in SECP policy boards. Similarly, family members rotating on boards of public limited companies create a fragile governance ecosystem, influencing market policy-making.

*Table 5: Result of interview and FGDs with management of firms, SECP and PSX higher officials*

<b>Themes</b>	<b>Subthemes</b>	<b>PSX and SECP Officials</b>	<b>Companies Higher Management/Board Members</b>	<b>Investors and Brokers</b>	<b>Consensus/Divergence</b>
Regulatory Environment	Compliance Costs	Increased compliance costs are burdensome for companies	High compliance costs are a significant factor in delisting	Compliance costs discourage investment	Consensus on high compliance costs being burdensome
Regulatory Environment	Regulatory Changes	Stringent regulations are necessary for market stability	Frequent regulatory changes create uncertainty	Unpredictable regulations affect market confidence	Divergence on the necessity and impact of changes
Financial Performance	Profitability	Firms with poor financial performance are more likely to delist	Financial performance directly impacts listing status	Investors seek profitable firms; delisting indicates poor performance	Consensus on the impact of financial performance
Financial Performance	Cost-Benefit Analysis	Delisting occurs when costs outweigh benefits	Companies reassess listing when costs exceed benefits	Investors perceive delisted firms as less attractive	Consensus on cost-benefit analysis driving delisting
Market Dynamics	Market Volatility	High market volatility impacts investor confidence	Volatility creates challenges for maintaining listing status	Volatile markets discourage investment	Consensus on negative impact of market volatility
Market Dynamics	Liquidity	Low liquidity drives firms to delist	Maintaining liquidity is critical for listed firms	Liquidity is a key factor for investor decision-making	Consensus on the importance of liquidity
Corporate Governance	Board Composition	Effective governance is crucial for market confidence	Board composition affects compliance and strategic decisions	Good governance is essential for investment confidence	Divergence on the importance of effective governance

Corporate Governance	Insider Ownership	High insider ownership can lead to delisting	Insider ownership influences delisting decisions	Investors prefer transparency over high insider ownership	Divergence on the negative impact of high insider ownership
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*Note: Frequency indicates how often the reason was cited by interviewees and focus group participants.  
Severity: Indicates the perceived impact of the reason on the decision to delist.*



## CONCLUSION

In any economy, stock market activities serve as a barometer to gauge the country's overall market position. In a favorable environment, listed firms seek various benefits, including raising funds from the general public. However, it is noteworthy that firms are increasingly delisting over time, creating a significant gap between listed and delisted firms. This study aims to identify the factors causing the delisting of firms from the Pakistan and Indian stock exchanges.

We analyze a sample of 240 firms, including delisted and surviving firms, employing the Cox proportional hazards model to evaluate the hazard ratios of various determinants. Our findings reveal significant insights into the delisting phenomenon in Pakistan and India. The analysis indicates that Earnings Per Share (EPS), Price-Earnings (P/E) ratios, and dividend payout ratios are crucial in reducing delisting risks. Conversely, debt-to-equity ratios, market volatility, and listing costs increase the likelihood of delisting in both markets.

Sectoral analysis highlights that textile spinning, textile composite, Exchange-Traded Funds (ETFs), and investment banking are particularly vulnerable to delisting due to financial and governance issues. Regulatory and economic factors also play a significant role in delisting decisions. Complicated and onerous regulatory requirements, high compliance costs, and unstable economic conditions are the primary drivers of delisting. Qualitative data from interviews and focus group discussions underscore the challenges firms face in maintaining their legal existence.

Additionally, the dominance of the banking, oil and gas, cement, and fertilizer sectors in the PSX is generally supported by government policies, highlighting disparities in stability and performance among firms. Targeted governmental actions are necessary to improve financial stability and visibility, particularly for investment banks, ETFs, and the textile industry.

Based on our findings, we conclude that a supportive regulatory and economic climate is essential for the long-term viability of listed firms. To reduce the probability of delisting, it is crucial to simplify the listing and regulatory processes, reduce compliance costs, provide equal opportunities for all firms across sectors, and closely monitor newly listed firms to assist their survival. Favorable market dynamics and firm confidence will boost market activities, enabling listed firms to enhance sales and capture more market opportunities. In this regard, the Securities and Exchange Commission of Pakistan (SECP) should formulate a comprehensive listing and monitoring plan to ensure the survival and growth of listed firms, thereby fostering market confidence and encouraging firms to remain publicly traded.

## **RECOMMENDATIONS**

To reduce the probability of delisting and promote the listing of firms, the recommendations of this study are based on a three-pronged strategy covering regulatory process, risk - return dynamics and improved governance parameters:

### ***Reduce Regulatory Sludge:***

1. Ease compliance requirements reduce the costs and time associated with document verification by auditors.
2. Relax regulatory mechanism for new firms (say five years) so they can breathe and comply with the procedural activities.
3. Simply regulatory processes will encourage firms to list on the stock market.

### ***Risk and Return Dynamics***

1. Implement measures to support firms in improving net profit and payout ratios, making them more attractive to investors.
2. Assist firms facing high cost-push inflation and reduced consumer purchasing power to enhance earnings and revenue growth.
3. Monitor high rates on Sukuk and sovereign bonds to protect shares of less visible, growing companies.
4. Support market dynamics that help less visible firms in the KSE-100 index that manage high volatility and uncertainty.

### ***Improved Governance***

1. Strengthen governance practices in state-owned enterprises (SOEs) by addressing board composition and bureaucratic involvement issues.
2. Devise a mechanism ensuring that independent members of boards do not serve on multiple boards which will improve governance and reduce conflicts of interest.
3. The governance ecosystem can be improved by formulating policy-making processes that are more robust and less influenced by family or bureaucratic interests.

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