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The Determinants of the Delisting Phenomenon in Pakistan

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Abstract

The listing gap is a major threat to the Pakistan Stock Exchange. This study compares corporations that voluntarily left the Pakistan Stock Exchange (PSX) between 2010 and 2023 and their counterparts' survival firms from the PSX. The similarly sized and industry-focused survived listed enterprises are analysed. The research finds that financial health and market dynamics are important factors affecting the choice to delist. The results show that several financial and market factors determine delisting patterns. Using a Cox hazard model, the research examines the time-to-delisting and finds factors that greatly affect the chance of delisting. EPS, Size, and Fixed assets turnover are some major factors behind the delisting, are found in the analysis.

Introduction:

A stock exchange is a marketplace where stocks, bonds, and other securities are traded. Companies list their shares on stock exchanges to raise capital and gain exposure to investors. When combined with higher interest rates on debt, a restrictive monetary policy can make equity markets both an efficient and cost-effective source of capital. It also lessens organisations' reliance on loan markets, which results in a reduction in the amount of interest they are required to pay. Companies that are publicly traded have the ability to recruit highly qualified workers by providing them with stock options and other similar incentives. Companies that are publicly traded receive greater attention from the media and analysts, which boosts both the company's worth and its visibility. The high level of leverage that companies have can be brought back into equilibrium. A listed firm has a better chance of receiving benefits as a result of being listed. These benefits include loosening of restrictions on borrowing money, increased liquidity, increased negotiating power with banks, and recognition from investors (Khan, Muhammad, 2019).

Pakistan Stock Exchange (PSX): Background and Development:

The Pakistan Stock Exchange (PSX) is the premier securities exchange in Pakistan, playing a crucial role in the country's financial market infrastructure. Over the years, the PSX has undergone significant changes, evolving from a modest, informal platform to a modern, competitive exchange. This evolution mirrors the economic transitions, policy reforms, and technological advancements within Pakistan's capital markets. The exchange has faced challenges but has also contributed substantially to the economic growth of the country by providing a platform for businesses to raise capital, encouraging foreign investment, and enhancing financial transparency.

i. Early Beginnings (1947-1970s):

It is possible to trace the beginnings of Pakistan's stock market all the way back to 1947, which was the year that Islamabad was established. In the early days of Pakistan's independence,

the Karachi Stock Exchange (KSE) was the first stock market to be formed. Its activities were first conducted informally. In Karachi, which serves as the commercial and financial centre of Pakistan, the stock market was established, and the Karachi Stock Exchange (KSE) developed to be the most prominent in the city. According to the Securities and Exchange Commission of Pakistan (SECP), 2017, the exchange was initially rather tiny, with only a few businesses listed on it and a restricted number of market players. The majority of these market participants were local brokers and institutional investors.

Pakistan's economy was mostly based on agriculture during this time period, and the country was only beginning to enter the industrialisation era. Due to the informal nature of the market and the absence of the requisite infrastructure and regulatory frameworks, trade was inefficient, and there was a lack of transparency resulting from this. Despite this, the 1960s were the decade that marked the beginning of the country's industrialisation, and there was a growing interest in financial markets at this time. Consequently, this resulted in the Karachi Stock Exchange being officially recognised as an entity, which was the first step towards a more modernised financial sector in Pakistan (Khan, 2019).

ii. Growth and Institutionalization (1970s-1990s)

It was during the 1970s that Pakistan's financial markets saw a period of significant transformation, notably when the Securities and Exchange Commission of Pakistan (SECP) was established in 1971. This commission was entrusted with the responsibility of monitoring operations within the capital market. According to Sahoo and Mahakud's (2020), this event signalled a significant move towards regulatory monitoring in Pakistan's commercial financial markets. The Securities and Exchange Commission of Pakistan (SECP) was founded with the purpose of regulating the operation of stock exchanges, ensuring transparency, and protecting the interests of investors. The framework for contemporary financial regulation in Pakistan was built as a result of this.

During the 1980s, significant changes were implemented, which had a role in the expansion of the KSE. During this time period, the liberalisation of the economy was a significant event that marked a significant milestone. This liberalisation included the elimination of certain prohibitions on foreign investments and the opening of new industries to participation from the private sector. Additionally, the government supported the listing of businesses, notably state-owned businesses that had been privatised via the use of Initial Public Offerings (IPOs) (Choudhary, 2018). Not only did these modifications result in a rise in the number of firms that were listed, but they also included an expansion of the pool of investors, both domestic and foreign.

iii. Consolidation and Integration (2000s-Present)

By the turn of the century, Pakistan's stock market had undergone significant modernisation and consolidation. One of the most important changes that took place was the demutualization of the KSE in the year 2002. This move made it possible for the exchange to function as a corporate entity rather than as an institution that was reliant on membership. As a result of this transformation, corporate governance changes were implemented, transparency was enhanced, and the exchange became more appealing to investors from both the United States and other countries (Khanna, 2021).

The Pakistan Stock Exchange (PSX) is the unified and dominant exchange in Pakistan. It was formed in 2016 by the merger of the Karachi Stock Exchange, the Lahore Stock Exchange, and the Islamabad Stock Exchange. The purpose of this consolidation was to streamline operations, boost the efficiency of trading, and raise the competitiveness of the PSX. This was especially important in a regional setting where competition from rising markets such as India and the Middle East was increasing. Additionally, the merger was a component of a larger, more comprehensive initiative to modernise the infrastructure of the exchange and to promote the expansion of market liquidity. Sayeed and Rizwan (2019) state that as a result of this, the Pakistan Stock market (PSX)

not only became the sole stock market in Pakistan, but it also began to function on international platforms, which improved its integration into the national and worldwide financial systems.

Technical improvements were a significant factor in modernising the PlayStation X at this time. Traditional open-outcry techniques have been replaced by automated trading systems, which have increased the speed and efficiency of transactions. In addition, the Central Depository Company of Pakistan was founded in 1997. This allowed for the electronic clearing and settlement of securities, which resulted in a considerable reduction in settlement risks and an improvement in market efficiency (Khan et al., 2020).

The merger of the PSX with the World Federation of Exchanges (WFE) in 2017 resulted in substantial global recognition, which increased the PSX's visibility and encouraged investments from overseas. In spite of these achievements, there are still issues to be faced, particularly with regard to sustaining market depth and addressing trends in delisting. As Khan and Ali (2019) point out, the listing gap, which occurs when the number of firms that have been delisted is more than the number of new listings, is a serious problem that continues to harm the PSX trading platform. There are a number of factors that contribute to delisting, including high compliance costs, restricted access to finance, and market inefficiencies. All of these factors make it less appealing to continue to be publicly listed.

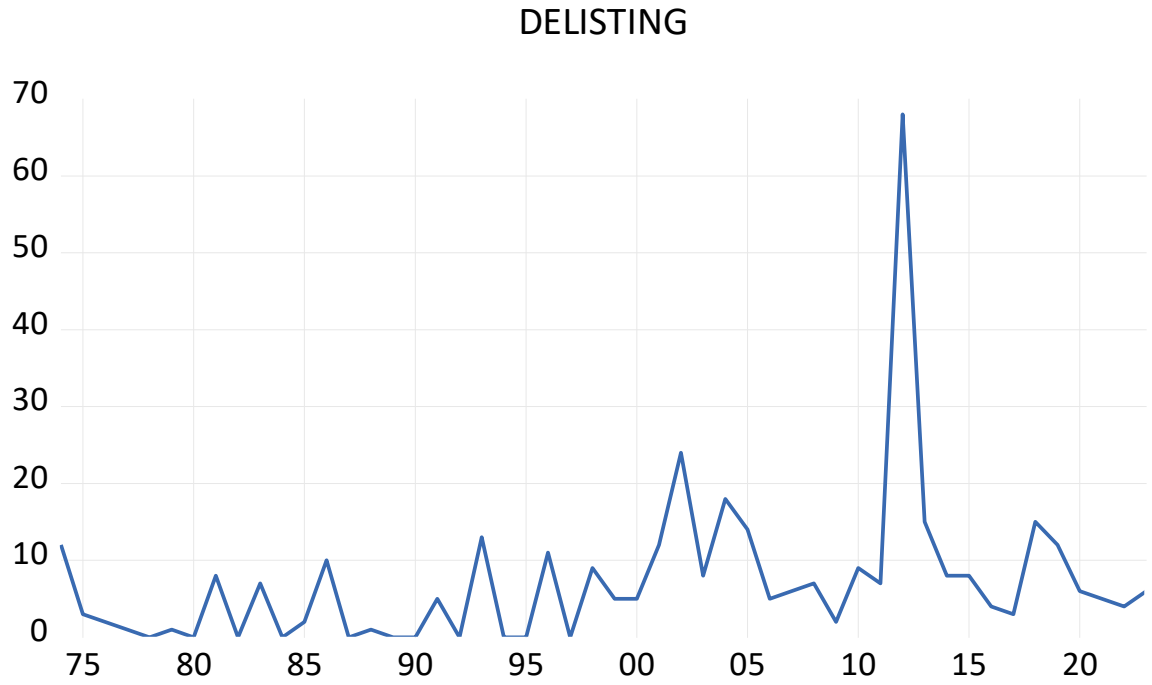
Delisting in the Pakistan stock exchange:

As of April 2015, the Karachi Stock Exchange had 560 businesses that were listed on its exchange. These companies had a total market value of Rs. 7,305.81 billion, which is equivalent to around $73 billion, and a listed capital of Rs. 1,177.77 billion, which is equivalent to $11.77 billion (SECP, 2016). The PSX has seen both an increase in the number of listings and a decrease in the number of listings since the merger in 2016. As of the 18th of May in the year 2023, there were 525 businesses that were listed on the Pakistan Stock Exchange (PSX), with a total market value of PKR 6.21 trillion and a free float market capitalisation of PKR 1.98 trillion (PSX, 2023b).

The number of businesses that were delisted from the KSE/PSX between the years 1974 and 2023 was 361. This is a significant attrition rate when compared to the number of firms that are now listed (PSX, 2023an). Over the course of over fifty years, the phenomenon of delisting has been caused by a variety of circumstances, including the voluntary discontinuation of operation, the conversion of closed-end mutual funds to open-end structures, the dissolution of the fund by court order, and the failure to comply with regulatory criteria (PSX, 2023a; Statista, 2023). Notably, 113 companies chose to delist their shares voluntarily, so they returned to private ownership after completing the formalities for buying back their shares.

Increasing compliance costs, concentrated ownership structures, and regulatory burdens are some of the issues that are reflected in this persistent listing gap, which is a developing worry in the growth of Pakistan's capital market (PSX, 2023a; Khan & Ali, 2019). However, this listing gap continues to exist, and it is an increasing concern.

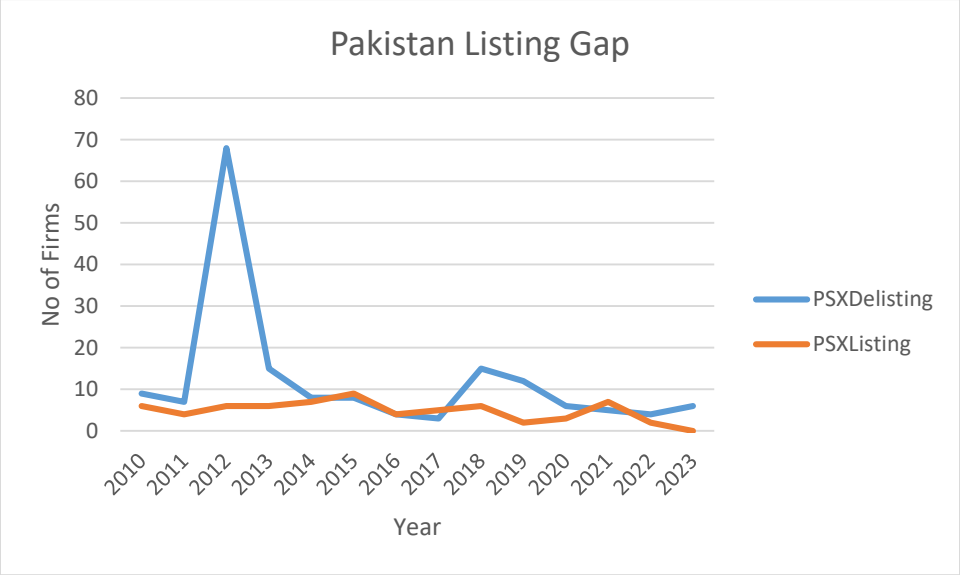
Figure 1 Delisting in PSX



*Source: Author computed (Years on X-Axis, and Number of Firms on Y-Axis)

The present situation in Pakistan highlights the existence of a listing gap, wherein the number of corporations exiting the Pakistan Stock Exchange (PSX) surpasses the number of new firms entering it. This issue is a significant concern, as many studies have linked the performance of stock exchanges to the overall performance of the country's economy. When a listing gap exists, it signals that the real growth of the market is diminishing, as the number of public sector firms declines rather than increasing over time (PSX, 2023a). The listing gap in the PSX has profound implications for investor confidence, capital formation, and the country's financial development. If the trend persists, it could indicate deeper systemic issues such as regulatory inefficiency, high compliance costs, and market volatility, all of which discourage companies from listing and remaining on the exchange (Khan & Ali, 2019; Nadeem, 2022). This study aims to explore the listing gap problem further, analyse its causes, and suggest potential solutions. Figure 2 illustrates the listing gap in PSX by showing the number of listed and delisted firms from 2010 to 2023 (PSX, 2023b).

Figure 2 Listing Gap in PSX



*Source = Author's own computation

Figure 2 gives a striking illustration of the constant pattern where the number of delisted businesses surpasses the number of listed firms throughout the studied timeframe. This pattern demonstrates the difficulties that stock exchanges continue to have in keeping the companies that are listed on them. In the years 2015, 2017, and 2021, there were significant deviations from this trend. During these years, the number of companies that were newly listed was more than the number of companies that were delisted, although only for a short time. These outliers indicate times when there was a rise in market activity or favourable conditions that encouraged additional listings, such as economic recovery, regulatory improvements, or investor confidence.

In every other year, the delisting rate in Pakistan's stock market was consistently higher than the listing rate, reflecting the reality that various factors contribute to companies leaving public markets. These factors may include increasing regulatory requirements, poor financial performance, undervaluation of stocks, or strategic decisions to privatize (Khan & Ali, 2019; Nadeem, 2022). Such patterns raise significant concerns about the overall health and competitiveness of the Pakistan Stock Exchange (PSX). A persistently high delisting rate can constrain market liquidity, reduce investment options, and undermine investor confidence, all of which are crucial for the long-term sustainability of the exchange (PSX, 2023a; Iyer & Reddy, 2024). It is critical for policymakers and regulators to identify the core reasons for this ongoing imbalance between listings and delistings. Addressing these challenges could lead to the creation of a more favourable environment for companies to remain publicly listed, ultimately enhancing the vitality and stability of Pakistan's stock market (PSX, 2023b; Deshmukh & Puranik, 2024).

Literature Review

The debate over whether to leave public stock exchanges and switch to private ownership is still difficult for academics and corporations. While some experts emphasise the benefits of delisting, others point out the major disadvantages. The complexity and multi-faceted nature of the delisting phenomenon are demonstrated by the fact that it can have varied consequences for different companies and sectors.

Chandy et al. (2004) point out that those who are against delisting frequently highlight the "dark side" of the procedure. According to these academicians, giving up one's public stature might result in a number of negative consequences. When a company's stock is removed from a public exchange, the liquidity of the stock falls, and the value of the investors usually declines as well. Because of this lack of liquidity, shareholders are finding it more difficult to acquire or sell shares at their fair market value. Delisting can have a detrimental effect on a company's capacity to attract future investments and its relationships with stakeholders since it diminishes the visibility of the organisation and its management.

On the other hand, there are certain advantages that opponents of delisting point forth. Renneboog (2007) investigates the advantages of becoming private, claiming that it might provide businesses more freedom to concentrate on their strategies and operations. By delisting from public listings, which are connected with regulatory compliance duties, companies can simplify their financial structures and save money on taxes (Weir, 2005). In addition, delisting might help to lower the expenditures of the organisation. According to Renneboog (2007) and He (2008), delisting reduces conflicts of interest and improves decision-making by matching the incentives of management and shareholders.

Wright (2009) also points out that delisting makes it easier for external stakeholders and internal owners to communicate with one another. Businesses may concentrate on their long-term strategies and operate in secret without the fear of being exposed to the public. Furthermore, being publicly listed incurs both direct and indirect expenditures, which may be minimised by delisting.

These expenditures include responsibilities linked to reporting, compliance fees, and investor relations.

Another reason, especially for smaller companies, to remove themselves from the stock market is the ongoing undervaluation of their stock on public markets. The stock market favours larger firms, which is why smaller companies are always undervalued (Croci & Del Giudice, 2014). These firms will no longer be restricted by undervaluation after they are delisted, and they will be able to undertake initiatives that will help them fulfil their potential in the private market.

Pour and Lasfer (2013) evaluate the advantages and disadvantages of delisting and give a thorough overview of the topic. Their study shows that delisting can have varied effects on different firms and industries because of characteristics such as size, regulatory environment, and decision-making reasoning. There are both pros and cons to delisting. It might decrease transparency, liquidity, and the value of shares held by shareholders. On the other hand, it might also help with cost reductions, cost reduction, and the enhancement of internal incentives.

The repercussions of delisting are diverse and multifaceted; thus, we do not know if it is beneficial or harmful to companies. There are several reasons why delisting may be a desirable option for some companies, including tax benefits, lower agency fees, greater operational flexibility, and independence from market undervaluation. Before deciding to delist, it is important to consider the possible disadvantages, which include reduced liquidity, shareholder value, and visibility. Going private is a complicated and constantly changing issue that requires more study and analysis since the decision to go private is influenced by the particular circumstances of each firm.

In Pakistan, the stock market is characterized by a relatively high degree of volatility and external economic pressures, such as political instability and regulatory changes (Hassan, 2021; Malik & Imran, 2020). As such, understanding the factors that influence delisting decisions in Pakistan is crucial for both market participants and policymakers. The financial health of a firm, including profitability, liquidity, leverage, and market valuation, plays a significant role in determining whether a firm continues to remain listed or opts for delisting (Shah & Khokhar, 2019; Farooq & Kiani, 2020). Additionally, market conditions, investor sentiment, and firm-specific characteristics such as corporate governance also influence these decisions (Khan & Haider, 2021; Bukhari & Sulaiman, 2019). By focusing on these aspects, this paper explores the metrics and their relationship with delisting decisions in Pakistan, India, and the USA corporate landscape.

According to Piotroski (2000), it is not enough to only look at the surface-level features of a firm in order to understand the choice to delist it; one must also do a detailed examination of the company's financial facts and historical background. Endogenous factors can be found in a number of different examples. A firm's financial success may actually restrict the alternatives for delisting (Dickinson, 2011). Piotroski (2000) and Habib (2005) explained how management might decide whether to delist by looking at the impact of free cash flow (FCF), agency costs, financial performance, company valuation, and stock returns on these factors. Management will evaluate this material, and the decision to delist will depend on the outcome of that review. Management considers the option to delist or not to be very important since this information will be really useful.

Management is increasingly considering the possibility of delisting enterprises in light of the rising standards of operational performance within organisations. This consideration is being made through the lens of the information economy approach (Weir & Wright, 2006). According to Kang (2017), a company's operational performance and stock returns are markers of its financial success, which may affect its potential for expansion. The writers in question claim that it is possible to measure this potential. It is said that companies that need to assess a number of performance metrics have two different choices available to them. At first, the company may choose to maintain its public status, which would enable it to continue to accumulate assets in accordance with the current market circumstances and to investigate possible business opportunities. Choosing to operate as a private company is a practical way for a corporation to take advantage of the many

prospects for growth that come with strong financial performance. In this situation, there is another option that may be used. Engel (2007) discusses how financial performance metrics affect the relationship between free cash flow and delisting choices. Management is responsible for speeding up the delisting process as the value of the company increases (Kang, 2017). An agreement among several experts in the field supports this assessment. In light of this discussion, we suggested that.

Data and methodology

This study looks at the topic of delisting from the Pakistan Stock Exchange (PSX) perspective and focuses on the time span between 2010 and 2023. During this period, 49 firms have withdrawn from the PSX according to PSX (2024). It provides information on more recent changes and trends in the Pakistani market. For comparison analysis, a matched sample of 49 surviving firms, those that did not delist during the same period, is employed. The surviving enterprises are picked from the same categories as the delisted corporations and are matched based on size, assuring comparability. For instance, if a textile business voluntarily delisted in 2012, a comparable textile firm of equal asset size that remained listed throughout the same period was picked for the research. The study analyses data from three years before the delisting year for each voluntarily delisted business and compares it with the equivalent three-year data of the matched surviving firms. This technique provides for a rigorous comparison of the criteria that separate voluntarily delisted organisations from those that continue to stay listed.

Variables:

Abbreviation	Variable Name	Calculation
EPS	Earnings per share	Earnings per share = Net profit / Average shares outstanding
LS	Log of size	Log of Total Assets
CR	Current Ratio	C. Assets / C. Liabilities
DE	Debt-to-equity ratio	Total Debt/Total Equity
TAT	Total assets turnover	Sales / total assets
EI	Earning Power to Investment	Net income / total Assets
ED	Earning Power to Debt	Net income / Total Liabilities
FT	Fixed assets turnover	sales / fixed assets
GPM	Gross Profit Margin	Gross profit/sales
OPM	Operating Profit Margin	Operating profit/sales
NPM	Net Profit Margin	Net profit/sales
Ebvs	Book equity to total capital	Net Profit to the total number of shares

Model:

$$DELISTING_{it} = \alpha_0 + \alpha_1\ EPS_{it} + \alpha_2 LS_{it} + \alpha_3 CR_{it} + \alpha_4\ DE_{it} + \alpha_5 TAT_{it} + \alpha_6\ EI_{it} + \alpha_7\ ED_{it} + \alpha_8 FT_{it} + \alpha_9\ GPM_{it} + \alpha_{10}\ OPM_{it} + \alpha_{11} NPM_{it} + \alpha_{12}\ EBVS_{it} + \in_{it}$$

Cox hazard model:

This study follows the methodology presented by Cox (1972) which is famously known as the cox hazard model. It has grown to become one of the most widely used methods for analyzing time-to-event data.

The objective of the model is to ascertain the extent to which various distinct factors contribute to the probability of an individual's firm survival. In essence, this methodology allows for the examination of how specific circumstances influence the temporal occurrence rate of a particular event, such as delisting. The term "hazard rate" is commonly employed to denote this specific rate.

Results & Discussions

Here, the study delves into the causes of voluntary delisting, especially how financial factors play a part in this decision-making process. A company's financial variables are important measures of its success as they reveal its liquidity, profitability, market activity, and general financial health (Jensen & Meckling, 1976). These metrics are frequently employed to evaluate the operational efficacy and long-term viability of a company in highly competitive marketplaces. Companies often decide to delist voluntarily when their financial situation worsens or when being public conflicts with their strategic objectives; this study seeks to uncover particular financial variables that contribute to these decisions (Pagano et al., 2002). If a company's market capitalization drops, its profitability drops, or its trading volume drops, it might be an indication that investors are losing interest in the company and that it's time to delist. These variables are captured and analyzed in this study to provide light on the financial factors that precede delisting and how they affect market behavior.

Descriptive Statistics:

If you want a high-level picture of your dataset that shows its distribution and structure, descriptive statistics are a must-have. According to Newbold et al. (2019), a thorough description of the dataset may be achieved by utilizing key metrics such as the mean, median, minimum, maximum, standard deviation, and number of observations. An essential statistic for every dataset, the mean provides a snapshot of the overall pattern of values and serves as a benchmark for further comparisons. Alternatively, when outliers are present, the median gives a more robust estimate of central tendency by splitting the sample into two equal halves and providing the mid-value (Field, 2018). In order to comprehend the accuracy of the dataset's analysis, one must know the sample size, which is indicated by the number of observations. Bigger datasets often provide more precise insights. How far off individual data points are from the mean is reflected in the standard deviation, which is a measure of dispersion or variance. According to Gandhi and Porter (2009), a smaller standard deviation number implies a more consistent dataset, whereas a larger one shows more variability. By displaying the dataset's extremes its minimum and highest values the range makes it easier to spot any outliers and strange occurrences. Taken as a whole, these descriptive statistics provide for a better comprehension of the data's features by offering a picture of its central trends, variability, and distribution. The descriptive statistics for the chosen financial variables are shown in Table 2. These statistics summarize important measurements that show the characteristics and variability of the dataset.

Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
Eps	.5913912	7.058147	-27.558	35.24
Ls	4.298748	2.243921	.3671695	10.03537
Cr	.8223476	1.388528	.000072	10.7122
De	.3229859	1.679478	-4.702085	4.681044
Tat	.8512043	.8989005	-.8543587	4.367389
Ei	.0054277	.1839858	-1.518943	1.146125
Ed	-.0187856	.5594539	-3.962351	4.169817
Ft	1.924845	2.813458	-6.266751	16.92046
Ebvs	-.0400104	1.008824	-6.641917	3.567478
Gpm	.0997949	1.037287	-7.22082	6.484752
Opm	-.0496462	.9057945	-6.708675	2.413716
Npm	-.1801849	1.641802	-11.83214	4.432452

Note: This **table** presents descriptive statistics of 98 observations of firms from the Pakistan stock market.

This dataset contains Earnings Per Share (EPS) figures that range from -27.55 to 35.24, which indicates that there is a significant amount of diversity in the financial performance of different organisations. The earnings per share (EPS) value of 0.59 shows that, on average, businesses generate low profits and regularly come close to reaching the point where they are profitable again. In rising nations like Pakistan, where economic volatility and sectoral inefficiencies may impair financial performance, this trend shows a prevalence of low profitability or intermittent losses among enterprises. This is a characteristic that is typical of emerging countries like Pakistan (Ahmed & Afza, 2019). When the standard deviation is 7.05, it indicates

that there is a significant amount of variation in earnings, emphasising both businesses that are incredibly successful and those who are facing significant losses. This dispersion may be attributed to the fact that the dataset contains a large number of different industries, each of which has its own unique set of operational challenges, market dynamics, and development trajectories (Javed & Iqbal, 2007). As a result, the dataset has a wide variety of financial outcomes, which serves to illustrate the wide range of economic environments in which these businesses operate.

The size of a company's assets may be quantified using the log of size (LS) variable, which has a mean value of 4.29, which indicates that the assets are, on average, sufficiently large. This suggests that the majority of the companies in the sample had an asset base that is typical of medium-scale operations, which is a structure that is typically observed in emerging countries (Gujarati & Porter, 2009). The value of 2.24 for the standard deviation indicates that there is very little variation, which suggests that the amounts of assets held by businesses are quite consistent. The fact that the range of asset sizes is from 0.36 to 10.03 implies that there are no substantial differences in the numbers. According to Iqbal and Brooks (2007), the utilisation of a logarithmic scale helps to reduce the impact of outliers, which in turn helps to normalise extreme data and reduce skewness. By highlighting the fact that there is little variation and aggregation around the mean, this technique makes it possible to show the asset size distribution in a more accurate manner. A relatively uniform economic structure is highlighted by the uniformity in firm size, which indicates that the majority of businesses operate at scales that are comparable to one another.

The current ratio (CR) is an essential metric for analysing a company's short-term liquidity since it represents the company's ability to meet its short-term liabilities with its short-term assets. The sample has a CR that ranges from 0.000072 to 10.71, which indicates that some firms are experiencing serious liquidity issues while others are in excellent financial condition. According to Rehman (2016), the optimal CR is typically 1, however a mean CR of 0.822 indicates that the majority of enterprises are unable to fulfil their short-term obligations. When the CR is less than 1, it implies that there is a greater likelihood of liquidity issues, which might put the stability of operations at risk. The standard deviation of 1.38 implies that there is only a moderate amount of variation, which suggests that the distribution of liquidity levels among businesses is normal. some have more robust liquidity, with the highest CR of 10.71 perhaps suggesting well-managed financial policies (Ahmed & Afza, 2019). While many organisations are experiencing problems, some demonstrate more stable liquidity.

The Debt to Equity (De) ratio is a measure that discloses the capital structure of a firm by comparing the amount of debt to the amount of equity. This ratio indicates the amount of leverage that is used to support operations. The dataset reveals a mean De ratio of 0.322, which indicates that the majority of businesses rely more on equity than debt, which significantly lowers the level of financial risk and boosts the level of stability seen. According to research conducted by Shleifer and Vishny in 1997, businesses in developing nations usually opt for conservative borrowing techniques in order to limit the amount of financial uncertainty they face. This trend is consistent with the findings of that research. The standard deviation of 1.67 implies that there is only a little amount of variation, which suggests that the majority of businesses keep their debt-to-equity ratios equal. The range of -4.70 to 4.68, on the other hand, indicates outliers, such as businesses that have negative equity, which may suggest a potential financial disaster. Negative values are indicative of situations in which a company's obligations exceed its equity, which is a common issue for organisations that are experiencing financial difficulties (Pagano et al., 2002). The majority of businesses are responsible with their debt management, but those with greater leverage levels are more likely to take on additional financial risk. This is typically done in order to fund expansion or to compensate for losses.

The Total Assets Turnover (TAT) ratio is a metric that is used to quantify the capacity of an organisation to convert its available assets into cash. A mean score of 0.85 shows that the company normally generates $0.85 in revenue for every dollar of total assets. This is the case when the

company has a mean score. This indicates that the company is generating an average amount of money in comparison to its asset base; however, it also signals that the assets are not being utilised to their maximum potential. This is because higher asset turnover ratios often indicate that assets are being utilised in a more efficient manner. One can see that the TAT ratio fluctuates between -0.85 and 4.36, which is an indication that it is not always in a good position. As shown by the negative score of -0.85, there may be instances in which the income of the firm is insufficient to pay off its assets. This may be the consequence of inefficiency or poor financial performance on the part of the organisation. On the other hand, there are instances in which the assets of the firm are being utilised in an efficient manner, which results in a high production of revenue in relation to the assets of the company, as demonstrated by the positive value of 4.36. The fact that there is such a wide range of values, ranging from negative to positive, demonstrates that the company's success in managing its assets in an effective manner is not predictable. Despite the fact that the asset turnover does display some degree of volatility, it remains within a consistent range. Furthermore, the standard deviation of 0.89 indicates that the variation in the TAT values is rather insignificant. To summarise, the asset utilisation of the firm is not very spectacular, but the performance fluctuations associated with it are not particularly severe either.

Examining the Earnings Power to Investment (Ei) ratio of a company is one method that can be utilised to assess the profitability of a corporation. On a monthly basis, the company generates a profit that is nearly nonexistent in comparison to its total assets, with a mean of 0.0054, which is equivalent to 0.54%. This indicates that the firm is not making effective use of its assets to generate considerable profits, which is a sign that the company's profitability is deficient. These numbers, which vary from -1.51 to 1.14, are further evidence that the institution has a limited capacity for making money. Indicative of periods of negative earnings relative to investments, which ultimately result in a loss, a score as low as -1.51 is indicative of such periods. Nevertheless, there are instances in which the company is able to generate a greater amount of revenue from its assets, as demonstrated by a value of 1.14 that is positive. Although this is a significant variance, it does indicate that the firm has a difficult time producing a healthy return in relation to the investments it has already made. The Ei ratio has an extremely low degree of volatility, as seen by its standard deviation value of only 0.18. As a result, this suggests that the company's earnings, in comparison to its investments, exhibit some degree of variation; nevertheless, this variation is not excessive, and that there is a consistent pattern of low earning power overall. As a result, the company's potential to generate big profits from its assets is quite limited, and the changes that occur around this extremely low level of profitability are only slight.

Examining a company's earnings to debt ratio, often known as the Ed ratio, is one method for determining the state of the company's finances. The fact that the ratio of profits to debt is negative, with a mean value of -0.018 (or -1.8%), suggests that the earnings of the firm are, on average, not adequate to cover the interest and principal payments on its debt. When a corporation's debt levels are higher than its capacity to generate profits, this indicates that the company is in a tough financial state that might potentially lead to more financial difficulties. The range of -3.96 to 4.16 is illustrative of the significant amount of variation that exists within the ratio. When the ratio hits 4.16, it indicates that earnings are stronger and that there is a healthy balance between earnings and debt. On the other hand, when it dips to -3.96, it indicates that the firm is having substantial difficulties in creating positive earnings in order to manage its debt. The enormous range suggests that the company's financial performance is very unpredictable, with periods of very terrible and moderately favourable times. This is shown by the fact that the range is so large. As can be observed from the standard deviation value of 0.55, there is some variation in the values around the mean. Given the very little shift, it would appear that the earnings-to-debt ratio does, in fact, undergo fluctuations; nevertheless, these fluctuations are not severe, and the performance of the firm normally remains within a range that is acceptable. To summarise, the data indicate

that the firm has a difficult time keeping its debt under control, but they also indicate that there are areas of the organisation's performance that are stronger than others.

An analysis of a company's Fixed Assets Turnover (Ft) ratio can provide insight into the efficiency with which it converts its fixed assets into cash. Considering that the organization's fixed assets have a mean value of 1.92, we can see that the organisation normally generates $1.92 in income for every dollar of fixed assets that it has. It is reasonable to assume that the firm is making effective use of its fixed assets given that it is able to generate more revenue than it spends. Using the FT ratio is a standard method that is utilised to evaluate the effectiveness of a corporation in converting its property, plant, and equipment (PP&E) into revenue. According to the data, there is a significant range of values, ranging from -6.26 to 16.92, which indicates that the performance of the firm is very variable. When the FT ratio is high, it indicates that the company is making effective use of its assets; when it is low, it indicates that there are periods of time when the company is not earning enough money or even losing money. The wide range of outcomes not only indicates that the job is of a good quality but also that there are areas in which performance might be enhanced. The fact that there is some movement around the mean, as demonstrated by the standard deviation of 2.81, suggests that the FT ratio of the firm is subject to fluctuation; nonetheless, the overall variability is not severe. Given this information, it may be deduced that the firm's efficiency in using its fixed assets varies, but that these variations fall within a reasonable range.

Through the "Book Equity to Number of Shares" (Betc) ratio, which displays the book value per share, each shareholder is able to get insight into the total value of the assets held by the firm. The organisations that are included in this dataset frequently have book equity per share that is relatively negative, which indicates that their liabilities are more than their assets per share. This is demonstrated by a mean value of -0.0400104. The high variation in the ratio (with a standard deviation of 1.008824) demonstrates that there is a wide range of variations in the financial health of the companies. A ratio that is positive implies that a firm's assets are better covered by its equity, whereas a ratio that is negative shows that the company is in a poor financial condition. This variation is further underscored by the fact that the data runs from -6.641917 to 3.567478, with some companies displaying highly negative values (representing considerable financial difficulty) and others displaying positive values (indicating varying degrees of financial stability with varying degrees of stability). This wide range is evidence that the companies' financial positions are diverse with respect to one another.

When talking about the profit margins of a corporation, the first margin that is mentioned is the gross profit margin, also known as GPM. The gross profit margin (GPM) is a measure of a company's profitability since it displays the percentage of revenue that remains after the cost of products sold has been subtracted from the total revenue. This company has a mean gross profit margin of 0.099, which indicates that the average gross profit margin for this company is 9.9%. This suggests a company that is profitable to a certain extent but has the potential to be even more successful. The amount of variation that exists around the mean for the Gpm is represented by the standard deviation, which is 1.03. Due to the fact that the standard deviation is 1.03, we are able to observe that the GPM typically falls somewhere in the range of 8.86% to 10.93% around the mean. To put this into perspective, this indicates that the GPM of the firm has a tendency to be very stable, with only minor changes, for the most part. In spite of this, the fact that it has the potential to go as low as -7.22% demonstrates that there are instances in which the GPM can be negative, falling anywhere in the range of 6.48% to -7.22%. In the event that the firm's revenue is lower than its cost of products sold, the company will experience a loss at the level of gross profit. However, if the GPM is positive and it is 6.48 percent, then shows that the company has the potential to generate a profit at certain times in time. In spite of the fact that the mean is positive, the wide range indicates that the profitability of the firm may be highly variable.

Examining the operational profit margin (OPM) of a company is one method that can be utilised to evaluate the profitability of a corporation. This is the fraction of income that is left over after all operating expenses have been paid (taxes and interest are not included in this calculation). With a usual value of -0.049, which is equivalent to a loss of 4.9%, the company is consistently incurring financial losses due to the fact that its operational earnings are lower than its sales. At this point, it would appear that the organisation is having trouble meeting its operating costs with the money that it is receiving. The standard deviation of the OPM is 0.90, which demonstrates the variability of the OPM. -5.39% to -3.49%, which is within one standard deviation of the mean, is the typical range of the OPM, which has a standard deviation of 0.90. This range is within the normal range. There is a tendency for operating profit margins to fluctuate, but they tend to stay within a relatively small range of negative values, which indicates that there is only a moderate variability in operating profit. -6.70% to 2.41% is the range that demonstrates the significant amount of variance in OPM. A positive score of 2.41% suggests that the company may generate operational profits on occasion, but a negative value of -6.70% shows that the company may have periods of operating losses that are more significant. Despite the fact that the organisation is typically experiencing a loss of funds, this wide range implies that there is a great deal of variation in the business's operational performance.

The percentage of income that is left over after all expenses, including interest, taxes, and operating costs, have been subtracted is referred to as the Net Profit Margin (NPM). The average value of -1.80 (-180%) indicates that the company is typically losing a significant amount of money. This is due to the fact that the company retains a negative percentage of its income as profit. As a consequence of this, it would appear that the company is incurring a loss of money after taking into account the interest and taxes. The standard deviation of the NPM is 1.64, which is used to measure the variability of the NPM. The standard deviation of the NPM is 1.64, which indicates that it is around 1.64 percentage points apart from its mean value. As a result, the NPM often falls somewhere in the range of -3.44% to -0.16%, which indicates that there is a significant amount of net profitability variation within the company. The net profit margin (NPM) displays a significant amount of volatility within the range of -11.83% to 4.43%, with values ranging from significant losses (-11.83%) to times of profit that are rarely lucrative (4.43%). That the company's financial performance is extremely unpredictable, passing through both profitable and losing patches, is made abundantly evident by the fact that the range is so wide. The firm has seen periods of success, despite the fact that these instances are less frequent than the losses, despite the fact that the overall mean is also negative. All of these things highlight the challenges that the company has, as well as the successes that it occasionally achieves, when it is attempting to exercise control over its expenditure.

Cox Hazard Model:

As a result of the significant disparity that exists between the requirements of corporate governance and the realities of the market in Pakistan, the Cox Hazard Model is an extremely useful instrument in this particular setting. According to Ahmed and Afza (2019), a high debt-to-equity ratio or low earnings per share of a company are two indicators of financial difficulties that might lead to the delisting of the company. In a similar vein, research conducted on developing markets has demonstrated that issues over governance, such as a lack of independence on the board or concentrated ownership, may raise the chance of delisting (Khan et al., 2020). Because it is possible that not all of the firms in the dataset were delisted during the observation period, the model is also able to handle censored data, which is something that is typically encountered while researching delisting occurrences. The strength of the study is maintained by this component, which also takes into consideration how financial and governance issues influence the likelihood of delisting in the context of Pakistan's stock market. A display of the Cox hazard results for the Pakistan stock market can be seen in the Table below.

Regression Results Using Cox Proportional Hazards Model – PSX

Variables	Coefficient	Std. Err.	Z	P>Z
Eps	-.0390934	.0138625	-2.82	0.005*
Ls	-0.132335	.0713709	-1.85	0.094**
Cr	.0771945	.0891127	0.87	0.386
De	-.0845236	.0609828	-1.39	0.166
Tat	.0887724	.1487738	0.60	0.551
Ei	-.8036809	.5148431	-1.56	0.119
Ed	.1439372	.2161646	0.67	0.505
Ft	-.1171777	.0472192	-2.48	0.013*
Gpm	-.1403761	.1280338	-1.10	0.273
Opm	-.1036243	.1513525	-0.68	0.494
Npm	.0115601	.0613833	0.19	0.851
Ebvs	.0462024	.1148	0.40	0.687

Note: The table exhibits the estimation of the Cox-hazard model. * $p<0.05$; ** $p<0.10$ represent significance level at the 5% and 10%.

Based on the findings shown in the Table, the analysis investigates the variables that influence the delisting of companies. There are a number of variables that exhibit statistically significant correlations with the probability of delisting, which sheds light on the primary factors that determine status.

Companies that have larger earnings are less likely to be delisted, as indicated by a significant negative coefficient for earnings per share (eps) (-0.039, $p = 0.005$). Also, this coefficient is significant. This conclusion is in line with the findings of a study conducted by Weir and colleagues (2005), which highlights the influence that undervaluation and poor financial performance have on choices about delisting in the stock market. Investors are more likely to have faith in companies that have demonstrated good earnings per share, which in turn reduces the risk that these companies would be delisted owing to financial hardship or a lack of interest from stakeholders. In markets with inadequate investor protection and governance requirements, inexpensive companies with mediocre profitability are frequently candidates for delisting. This is especially true in places where the standards for investor protection and governance are low. According to Liao (2020), companies that have great financial performance are able to demonstrate resilience, which discourages delisting. This is especially true in voluntary circumstances when market confidence is a significant driver. Furthermore, Macey et al. (2008) discover that delisting is frequently connected with companies that are unable to satisfy profitability standards. This finding highlights the impact that financial measurements have in sustaining a position in the public market. Earnings per share that are higher also serve as a proxy for competent management and operational efficiency, both of which are essential for maintaining a public listing. According to the findings of Croci and Del Giudice (2012), which demonstrate that undervaluation caused by

bad performance considerably increases the likelihood of delisting, companies that possess such traits have a lower probability of being undervalued when compared to competitors. This highlights the need of having solid financial foundations in order to maintain a company's public status and reduce the probability of delisting in markets that are highly competitive.

The fact that there is a substantial negative association between company turnover (ft) and the chance of delisting (-0.117, p = 0.013) suggests that increased liquidity lowers the danger of delisting. This conclusion is consistent with the idea that there is a correlation between active trading and increased market confidence, which serves as a signal of business stability and investor interest. Macey et al. (2008) state that liquidity is one of the most important factors in determining whether or not a company is able to keep its public status. This is because liquidity ensures that the company's shares continue to be appealing and accessible to investors. The market activity of a company and the ease with which shares may be purchased or sold without having a substantial influence on their price are both factors that are reflected in the liquidity of stock. The likelihood of delisting is decreased when there is a high turnover rate since it is related with higher investor participation and less uncertainty. In support of this thesis, Liao (2020) points out that liquidity is an essential component in the process of retaining a public listing, particularly in emerging nations where market activity frequently serves as a powerful driver of investor confidence. Another advantage of active trading is that it assists companies in avoiding regulatory thresholds that might result in involuntary delisting owing to inactivity. This relationship is also brought to light by Macey et al. (2008), who discover that companies with low liquidity frequently incur increased trading costs and volatility, both of which contribute to the decision to delist the company. Therefore, a higher turnover indicates a robust investor base and market interest, which in turn reduces the possibility of delisting due to market inactivity or undervaluation. These findings highlight the significance of liquidity in maintaining a company's position in the public market and increasing the value of investments held by shareholders.

As we can see the coefficient of GPM is (-0.1404) and it means that the delisting risk may be lower when GPM is higher for the company. Nonetheless, this result is statistically insignificant (p = 0.273), indicating that the impact of GPM on delisting becomes weaker in this model. This negative relationship suggests that those firms that have higher GP ratio, which generally reflects a more effective control on cost of production, tend to have less delisting pressure. While not significantly robust here, it is a common assumption in finance literature that a higher gross profit margin is indicative of better financial health and therefore firms are less likely to exit (Fama & French, 1992).

In emerging markets such Pakistan where market volatility and economic uncertainty are rampant, possessing a high gross margin enables companies to navigate through weak financial times, avoid delisting, and not lose investor confidence. Companies that can effectively control their production costs are probably more likely to remain on a firmer financial footing, even in the face of external market shocks. Recent studies by Irfan and Shah (2020) claim that in the context of developing markets, firms that effectively control costs are less likely to suffer financial distress and hence, by implication delisting risk.

But GPM is not necessarily always the most crucial measure for delisting risk in contrast to other financial indicators including earnings per share or liquidity ratios. For example, GPM may be more applicable to companies in the industries with high direct cost of goods sold compared to companies working in industries with lower cost structures or service business model. Thus, even if GPM could have eliminated the EGD, it may not be the biggest predictor in all cases.

Negative coefficient on Operating Profit Margin (OPM) [-0.1036] implies that expensive companies (high OPM) have/ low risk of delisting. But, as in the GPM case, this result is also non-significant statistically (p = 0.494). All this indicates that OPM's role in firm stability rests in minimizing the costs and effort of the bankruptcy process, without being able to exert a significant strength of association with delisting risk over and above other factors in the sample at hand.

The negative sign means that a firm with a higher operating margin as a measure of successfully controlling operating expenses and well-operated business levels, might have the opportunity to continue to stay listed on the stock market (Goergen,1998, and Jin,2006). A Firm With a high OP may imply that the firm is capable of earning money from its main activities, but not only from nonoperating incomes, which makes stockholders decide to reinvest in the company (Kotler & Keller, 2016). This is especially relevant in turbulent times where, if the firm faces high OPM, it is perceived as being more flexible to confront changes in input costs, new regulations, and exogenous market shocks that would otherwise lead firms to exit the market.

In developing countries like Pakistan, where economies are volatile, inflation is high, and achieving high operational efficiency becomes essential for survival, firms that can achieve higher operating profit margins could be more resilient to financial distress and survive. Zaheer et al. (2021) point out that in markets with underdeveloped infrastructure and regulatory systems, high-efficiency firms have a greater possibility of surviving and not being delisted. A similar case is also mentioned by Bari & Aftab (2020) that Pakistani firms with high operating margins can handle their leverage structure and external turbulence, thereby positively reducing their chance of delisting.

Conclusion:

The drivers of delisting risk in firms listed on the Pakistan Stock Exchange (PSX) are examined by including an extensive set of financial performance, liquidity, and corporate governance variables with a Cox proportional hazards model. Delisting is also used as a common barrier in a firm's cycle, which is often a result of poor financial health, ineffective corporate governance, or limited market activity. Identifying the determinants of delisting is important in developing markets such as Pakistan for potential investors, policymakers, and firm managers, as to how market efficiency and firm permanence can be enhanced.

Profitability also significantly dampens the threat of delisting. Firms that have stable earnings also gain trust from investors so that they can attract the capital required to comply with the regulations and avoid delisting. It is also in line with the recent studies, which highlight profitability as a core factor of firm resilience in the PSX environment (Raza et al., 2022; Sadiq et al., 2021). However, the poorer a firm's earnings performance, the more attention it will draw from regulators, and the more likely it will be delisted as the confidence level of investors decreases.

The Size is marginally significant with the risk of being delisted, large-scale companies benefiting from potential economies of scale and diversification in business, which reinforces their survival opportunities. Size benefits the firm in the same, but not entirely either, as firms' are in turbulent market then only having larger size is not sufficient, the dimensions of size enable the firms to have edge over the others, and that will be realized only when they matched with the good financial and governance practices (Malik & Khan, 2023).

Leverage is an important determinant of the delisting risk. Leverage firms with too much leverage are also at higher risk of financial distress since high debt servicing obligations squeeze cash flows and limit management choices. This is salient in Pakistan as, owing to constrained access to cheaper loan markets, the problems of over-leveraged firms are further compounded (Hussain & Malik, 2021). Sensible debt management is therefore crucial to preserving its listing.

Operational efficiency ratios, FT, TAT, EI, and ED expose different levels of influence on delisting risk. Particularly, one of the significant negative predictors is represented by Fixed Assets Turnover, indicating that companies that are making intensive use of fixed assets are less likely to survive in the market. It is also consistent with the role of operational efficiency in the survival of firms as well as profitability and modest competitive advantage that result from this efficiency (Ahmed & Farooq, 2022).

Profitability margins, i.e., Gross Profit Margin (GPM), Operating Profit Margin (OPM), and Net Profit Margin (NPM), also did not show a clear direct impact on delisting in this study. This

implies that a wide range of profitability measures for sample companies at PSX may not be as good as better-targeted earnings statistics, such as EPS, predicting delisting possibility. The findings reveal that the influence of profitability on capital structure is very complicated in developing markets with different earnings quality and reporting standards (Javed et al., 2020).

In sum, this study finds that delisting risk in the Pakistan Stock Exchange is characterised by a multi-dimensional construct of financial health. Companies that have high earnings, well-managed assets, and low leverage stand out in terms of the ability to simply not declare insolvency. These results accord with recent empirical evidence drawn from other emerging markets, highlighting the imperative nature of the incorporation of financial metrics with governance indicators to obtain a comprehensive understanding of firm survival (Malik & Sattar, 2021; Mallin & Ow-Yong, 2020). In the context of Pakistan, which is in the process of developing a market, the governance standards widely vary, and such lessons offer valuable guidance to all concerned parties.

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