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Monopoly Fostered by Regulation: The Case of Pakistan Stock Exchange

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Abstract: *Pakistan Stock Exchange (previously known as Karachi Stock Exchange) has been the main player, capturing most of the business share in the securities market through manipulation, leading to prevalence of monopoly. This monopoly element got strengthened in 2016 with de-licensing of the other two stock exchanges, Islamabad Stock Exchange and Lahore Stock Exchange, hampering the potential growth of securities market in Pakistan. We do an extensive literature review about sentimental values and behaviour dynamics in a securities market and relate this discussion to the abuse of dominance by Karachi Stock Exchange that discouraged trading in platforms provided by Islamabad Stock Exchange and Lahore Stock Exchange. This anomaly is incorporated in a uniquely devised theoretically framework to incorporate the effects of manipulation and monopoly behaviour on the overall growth of securities market. The trends observed of securities market activity indicators for the time period 2000-2023 suggest that Karachi Stock Exchange was the dominant player in the pre-delicensing period while the business of brokers from the manipulated stock exchanges remained shrunken. The trends also suggest that the delicensing of the two stock exchanges, did not contribute towards the growth of securities market. Therefore, while there is only one player in the market, this study provides extensive and specific policy implications for the Securities and Exchange Commission Pakistan.*

Keywords: Bond market, financial market, securities, stock market, role and effects of psychological and emotional factors on decision making in financial markets.

JEL Classification: G1, G2, G4.

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1. Introduction

Securities market plays the vital role of mobilizing and allocating resources, benefitting investors and issuers who seek to expand their investment portfolios and to establish corporate identities. The stock market is a platform, very much similar to banking in its element of being a financial intermediary and facilitates the issuance and trading of publicly held shares through stock exchanges. The availability of well-operating financial markets and viable alternative investment networks may as well enhance entrepreneurial morale attracting foreign investment, potentially enabling businesses to invest in innovative strategies, accelerating the pace of overall technological progress desired in today's world for global competitiveness in terms of sustainable economic advancement. Therefore, stock market performance continues to remain the extensive focus of vast literature.

The stock market activity (trading of shares) thrives on information and provides opportunities of arbitrage (Geng et al., 2014). Investors consider asset prices as an important factor while they make their final decisions but they do not always and necessarily take rational decisions and would rather rely on intuition (Mahmood et al., 2020). They show irrational behaviour in the stock market, for instance, by trading extensively in stocks their acquaintances are associated with, overlooking their fundamental value and eventually leading to market inefficiencies (Zulfiqar et al., 2018). Investment decisions are also often influenced by tacit knowledge, historical performance, personal experience, circumstances, and expectations (Cohen et al., 2012). All in all, an investor's decision is a result of interactions between, the investor's psychology (shaped by personal factors such as past experiences, historic knowledge, expectations, personal biases, and investment capacity) and, the alterations in the stock market system, communicated to them through announcements and news (Moueed & Hunjra, 2020). Behavioral finance associates weightage to these interactions and suggests that investors, being human beings, do not behave as rationally as economists assume. The presence of such intangible anomalies due to personal biases and friendships, in an emerging stock market, provides the stakeholders in the stock market i.e. the investors and the brokers, an exclusive access to some of the confidential information to execute their trades to earn abnormal returns in the stock market business and this is often referred to as an insider trading phenomenon (Sagheer Uddin & Azam, 2020). Similarly, in Pakistan's securities market, with the dominance of KSE, a group of brokers overtime became powerful with access to insider information within their circle, influencing the business of other stock exchanges and the growth of overall stock market activity (Bashir & Mirza, 2022).

The existing policy framework of Pakistan in terms of legal, economic and institutional capacities has not contributed towards the growth of Pakistan's security market with the prevalent manipulation and abuse exercised by market participants (Fayyaz Munir et al., 2020). Extending this discussion, this papers talks about the behavior of Karachi Stock Exchange as a monopoly player with its dominance over the stock market operations leaving lesser room of trading over the platforms provided by Lahore Stock Exchange (LSE) and Islamabad Stock Exchange (ISE) in the pre-delicensing time period. The de-licensing of LSE and ISE eliminated the potential inter-exchange competition, hampering the securities market growth and no significant positive outcomes have been observed. This paper contributes to the literature by offering, a uniquely devised theoretical framework that incorporates abuse of dominance and hampered growth of stock market in Pakistan and a detailed set of specific policies needed for the growth of stock market in future.

This study advances this discussion by introducing to merger of stock exchanges and abuse of dominance by Karachi Stock Exchange (KSE) and how this lead to a lack of competition in the securities market of Pakistan in subsequent sections (1.1,1.2,1.3,1.4) followed by the conceptual model in section 2, theoretical framework in section 3, data analysis and discussion in section 4 and an extensive discussion about policy implications in section 5.

1.1. Demutualization and Merger of Stock Exchanges

Stock exchanges originally operated as mutual organizations, being effectively, co-operatives or associations of market players. However, the globally competitive environment and technological advancement have led to structural changes in the exchanges and consequent modifications in operational modalities as necessary and self-evident. In recent years, stock exchanges have engaged in alliances, mergers and takeovers and most importantly, demutualization. The latter entails transition of an exchange from being a non-profit, mutual organization owned by the brokers to a profit-oriented public listed company limited by shares. In essence, demutualization entails the separation of stock exchange ownership from the right to trade (or intermediate) on the exchange, while in a mutual exchange these two aspects are bundled in the same economic agent i.e. the brokers. Demutualization, *inter alia*, results in greater transparency and accountability in terms of trading rights and stock exchange operations (Hammad et al., 2015; Islam & Hossain, 2016).

Further it is believed that the liquidity of stocks increases as the potential investor base expands along with lower transaction costs amidst economies of scale (Masood & Campus, 2017). Some of the drivers for stock exchange mergers are economic gains, reduction in costs due to operational scale efficiencies and synergies. A merger of exchanges is expected to, attract new investors in the merged entities enabling investment in improved stock exchange operating facilities with more transparency while retaining separation of ownership and trading rights (Ahsan et al., 2016) and thus bring about economic development through development of the financial market (Dorodnykh, 2012). However, the literature also highlights that combining the stock exchanges may add to transaction costs, lowering the incentive to follow regulatory compliance suppressing the capital market growth. The merger of stock exchanges wipes out inter-exchange competition and the emergent monopolistic environment may adversely impact country's capital markets via "*higher transaction costs, less incentive for regulatory compliance and less incentive for the exchanges to play an active role in capital market development*" (Y. Uppal, 2009).

1.2. Background of PSX merger

The Enactment of the Stock Exchanges Act (Corporatization, Demutualization and Integration) in 2012 stipulated demutualization of Karachi Stock Exchange (KSE), Lahore Stock Exchange (LSE) and Islamabad Stock Exchange (ISE) and they were re-registered under the Companies Ordinance 1984 as; Karachi Stock Exchange Limited, Lahore Stock Exchange Limited and Islamabad Stock Exchange Limited. In the case of each exchange, 40 per cent of the paid up capital was allocated equally to the members of the exchange (i.e. the brokers) along with a Trading Rights Entitlement Certificate (TREC). It was conceived that the board of each stock exchange would, in due course and with the approval of the regulator (SECP), proceed to allot a further 40 per cent of the share capital to a strategic investor/financial institution (foreign or local) while the remaining 20 percent of the paid-up capital would be retained for the public subscription via an Initial Public Offering (IPO). Subsequently, the rules of the game that were put in place provided that, under the aegis of SECP, a Regulatory Affairs Committee, formed by the board of each exchange would appropriately address any conflict between the commercial functions of an exchange and its front-line regulatory responsibilities. As it happened, about four years after demutualization, in January (2016), the two stock exchanges, viz. LSE and ISE, were de-licensed by SECP, and KSE was renamed as Pakistan Stock Exchange (PSX). Effectively, the PSX has been the only stock exchange in Pakistan comprising the entire stock market from then on. The trading rights of the brokers of LSE and ISE were transferred to PSX and this is often called a 'merger' of LSE and ISE into KSE to become PSX although this was not a merger in a substantive corporate sense.

Prior to this, the three stock exchanges in Pakistan were essentially in the business of attracting and sourcing trades in commonly listed securities via the market platforms provided by them. While the three stock exchanges added to the flow of transactions, they contributed to enhancing the size of the overall national market. Notwithstanding the fact that competitive strengths of LSE and ISE were to some extent different, their operational scope were broadly national in character.

1.3. Abuse of dominance by KSE

Stock markets provide opportunities for investors to put money into a number of investment options, that align with their objectives and receive returns on those investments. Provided this, an investment decision is complicated by a number of factors, mainly, the exposure to market information and decisiveness of the investor (Akhtar & Das, 2019). Investors' reactions to public revelation of information and issues in the securities market, are driven by investors' biases, over-confidence and the combination of positive and negative feelings (Goodell et al., 2023). The literature suggests that an investor's behaviour may be explained through the *Theory of planned behaviour* (TPB), consisting of three determinants of investor behaviour; attitude (the amount of positive or negative outcome of an investment derived by an investor), norms (societal approval of engagement in a particular behaviour) and "*perceived* *behavioral control*" [16]. The literature similarly uses the concept of *herd behaviour* to explain an investor's behaviour in Pakistan's stock market and suggests that an investor's perception about the amount of market information with other investors may affect an investment decision (Hussain et al., 2022). Thus, we may say that stock market is an emotionally driven market (Roux, 2002; Shafqat & Mohti, 2022) and the investor's behaviour and sentiments eventually influence stock returns and trading activity indicated by trading value and companies (Rahman et al., 2022). Such sentiments of market participants (such as investors and brokers), also encourage manipulative behaviour, to damage other investors and brokers, called as *market abuse*. (Barnes, 2011). Subsequently, the fear in investors as a result of manipulation or market abuse, may hamper the growth of securities market and the manipulative investors acquire abnormal profits as a result of collusion such as in the case of PSX (previously known KSE).

Ordinarily the way securities business has evolved in most jurisdictions, there is a central trading platform (exchange) as well as other exchanges and/or alternative trading systems. The transactions left unexecuted in the latter, peripheral platforms, are passed on for execution to the central platform (exchange) thereby ensuring the stock market's integrity and execution of transactions at the most competitive prices. However, in Pakistan, unexecuted transactions that were passed on to KSE for execution were turned away, thereby, forcing ISE and LSE brokers to route their unexecuted orders through KSE brokers. This meant double commissions and/or wider bid-ask spread because relative trading speed of an exchange in the stock market determines the trading profits and trading speed refers to the aggregate duration of "*trader decision making, order routing and exchange order processing*" (Baron et al., 2019). In doing so, KSE being the dominant player with over 80 per cent of the market share clearly abused its dominance (Atter et al., n.d.). KSE violated Section 3 of the Competition Ordinance of 2007 by refusing to share its trading platform with its competitors thus acting irresponsibly by distorting competition. Consequently, in November 2007, ISE filed a complaint with the Competition Commission Pakistan (CCP) which was subsequently supported by LSE, and was eventually successful. To succeed in a case of abuse of dominance, KSE's relative market share had to be shown to exceed 40 per cent so that it qualifies as a dominant entity according to Section 2 of the Competition Ordinance 2007. The Counsel of ISE was able to show that KSE accounted for 85 per cent of all the securities trades whereas only 15 per cent of the trading volumes were handled by ISE and LSE, collectively (Personal & Archive, 2008). CCP maintained that KSE was involved in discrimination, application of different conditions on equivalent transactions and price disparity (making the best price inaccessible for ISE and LSE members). The best (highest) price for the seller and the best (lowest) price for the buyer of a share were mostly found only on KSE (Ryu et al., 2020).

1.4. Competition in the stock market

Stock exchanges are expected to compete in terms of immediacy, transparency, price discovery, volatility, liquidity, spread, commissions and other transactional costs. A higher degree of competition and the benefits accruing to investors therefrom is a harbinger of greater investors' confidence. In Pakistan's case, there were often instances when investors were deprived of the best price executions due to the distortion in competition caused by KSE's refusal to share its trading platform. Without any rational basis a wider bid-offer gap and lack of market depth was artificially created in LSE and ISE (Atter et al., n.d.). Investors of LSE and ISE were discouraged and adversely affected by the distortion of competition among exchanges as a consequence of KSE abusing its position of dominance via price disparity and exclusive access to best price discovery without any business justification. This contributed towards significant competitive disadvantage for investors of ISE and LSE, indicating overall market inefficiency. Also, it is noteworthy that the refusal by KSE to share its trading platform, was neither beneficial for KSE nor for the securities market as a whole. It solely served the narrow vested interests of KSE brokers who benefitted from the additional commission charged on unexecuted LSE and ISE orders routed through them.

Undeniably, the way the Pakistan stock market was engineered, KSE's platform was the market's "essential" facility without any viable substitute. KSE's turnover was much higher than that of the other stock exchanges combined, because it was the oldest exchange enjoying a first mover advantage and had initiated the practice of *Badla*; a local term referring to a repo-based forward trading facility that was extant in the market (Uppal & Mangla, 2006).

Effectively, *Badla* trading was discontinued as a result of regulatory measures taken prior to demutualization. Since the proportion of *Badla* transactions was higher in LSE, the volume of stock trading transactions in

LSE went down consequently. All in all, amalgamation of all the three exchanges was not a merger but a delicensing of ISE and LSE and with KSE emerging as PSX being the sole stock exchange. This breach of competition norms and the adverse effects thereof is the central theme of this paper. Pakistan's stock market now comprises of only one stock exchange, Pakistan Stock Exchange (PSX), whose transactions represent the operations and growth of the entire stock market. However, to what extent the activity of only one stock exchange i.e. KSE turned PSX, represents the potential of the country in terms of economy and securities market growth is questionable (Personal & Archive, 2023).

2. Conceptual Model

Since independence, Pakistan's stock market has, through trials and vicissitudes, grown to its present state largely due to the efforts of the stock brokerage community as well as the impetus provided by reform packages occasionally implemented by regulatory authorities over the years. However, the development of the stock market has lagged behind regional markets in terms of growth (in market size and depth), product diversification, trading volumes, and integrity of price discovery (Said et al., 2021; Studies, 2018). Furthermore, the market's capacity to address the capital funding needs of commercial enterprises through a range of equity instruments designed to suit varying investor risk profiles leaves a lot to be desired. There is a history of Pakistan's stock market deviating from established free market mechanisms that ordinarily facilitate the most willing seller to transact with the most willing buyer, due to KSE's abuse of dominant position by not sharing its trading platform for transacting unexecuted ISE and LSE orders.

The young and diminutive Pakistani stock market has been studied mostly for its subsisting anomalies. Rarely has any academic work been done pertaining to the presence of monopoly elements in the stock market and there has not been any study that has proposed a theoretically designed model that addresses KSE's abuse of dominance (reason for the stunted growth of Pakistan's stock market). The overall aim is to prepare a manifesto formulated to transform Pakistan's underperforming stock market and realize its full potential to become a viable and efficient market. Within the compass of relevant observable trends since the turn of the millennium (i.e. the year 2000), this paper seeks to offer steps that should be taken, in sequence, to, *inter alia*, enable the market to catch up with regional markets and become an efficacious economic agent for the mobilization and allocation of resources on a risk adjusted basis thereby significantly contributing to private sector growth and economic development.

Figure 1: Stock market transformation into a pure monopoly

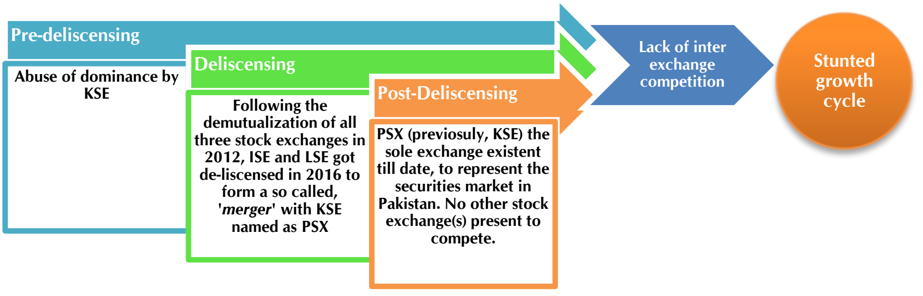
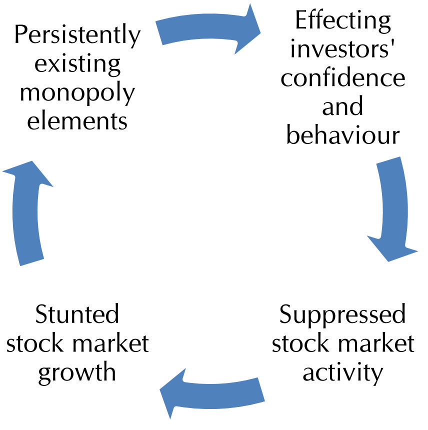


Figure 2: Stock market transformation into a pure monopoly



3. Theoretical Framework

The theoretical framework in this study discusses that market manipulation indicates prevalence of monopoly element and acknowledges such behaviour as a part of KSE's system (Yan et al., 2011). The available literature acknowledges multiple theories of mergers in product markets and the reasons and effects associated with consolidation (Paltrinieri, 2015). The *efficiency theory*, for instance, calls mergers as a rational approach for attaining managerial, operational and financial synergies while the *raider theory* highlights shareholders' interest in transferring wealth to themselves at the time of bidding as a motive behind mergers. Furthermore, mergers may be in the best interest of managers aiming to maximize their own utility instead of shareholder value according to the *empire-building theory*, also because of having access to information more than the rest of the stock market proposed by *valuation theory*.

Additionally, the *process theory* views merger as a strategic initiative and the *disturbance theory* views it as a strategy to cope up with the changing expectations and rising uncertainties amidst macro-economic disturbances. However, this study is based on a combination of two theories of merger; the *monopoly theory* and the *resource based theory*. It is based on the view that the market power of a single stock exchange is unassailable: it enjoys the privilege of being the sole platform for transactions in shares within the same registered community of brokers. If formed by a corporate merger, it would have resources from multiple stock exchanges combined albeit this is seldom a lasting benefit. In other words, if stock market activity is amalgamated in a single body or a platform (in whatever shape it takes and in whatever manner it is done), this would effectively mean that market power is concentrated and unchallenged in that single body with little incentive to grow the market or to improve operationally leading to inefficiencies.

The structure of a stock exchange is explained as a firm model in this theoretical framework (Ben Slimane, 2012). Since this paper highlights the impediments in developing Pakistan's stock market due to its monopolistic practices at the KSE (later turned PSX), a monopoly producer (KSE in this case) has the following demand function (Dai & Guo, 2020):

$x(p)$ such that $x(p) > 0$ and p is price of the product (securities)

A stock exchange performs the functions of organizing the listing and trading of securities, improving the marketability of financial instruments and providing financial information and market data. After fulfilling its roles, a monopoly stock exchange has the following output:

$$Y = f(Market\ Capitalization, bids\ and\ offers, trading\ volume)$$

With the cost of production as follows:

$$C(Y) = f(Salaries\ and\ benefits, administration, IT,$$
$$Cost\ of\ regulation\ and\ verification\ for\ listings)$$

The optimization problem is based on what price P can maximize the interest of the business, which involves transposing the demand function as follows:

$$P(y) = X - L(y)$$

Hence the optimal decision can be written as:

$$\max P(y)y - c(y) \text{subject to } y > 0$$

($y > 0$ In this case means that the stock exchange is actively playing its role in the securities market)

$$P(Y^m) = C'(Y^m) - P'(Y^m)Y^m$$

Given that the business entity is a monopoly, with the monopoly output Y_m , for any point where $y > 0$, the monopoly price $P(Y^m) > C'(Y^m)$ (marginal cost) and $P'(Y^m) < 0$.

This leads to the optimal monopoly output being lower than the competitive output level:

$$Y^m < Y^C$$

The price being distorted by the abuse of dominance in terms of factors like non-provision of trading platform as a consequence and information dissemination, unlike the circumstances in a competitive stock market, leading to a stock market inefficiency in the long run while following the profit maximization rationale:

$$P^m > P^C$$

In addition to direct services, stock exchanges protect different parties by establishing adequate regulations and reliable trading systems. These services affect the reputation of markets and directly influence different players (Ben Slimane, 2012).

Studying the role of exchanges leads us to distinguish two types of players, or clients. The first category—direct clients— includes issuers, who generally pay fees to be listed, intermediaries and information providers, such as the media and consulting firms. The latter generally pay fees to have access to financial information, and for the rights to disclose this information. The second type of client includes all financial actors who cannot directly access to the market and are obliged to go through certified securities traders to place their orders. In particular, there is a distinction that needs to be made between institutional investors and independent investors (individuals and corporations). Once orders are placed by intermediaries, the stock exchange becomes responsible for collecting, matching and execution. Note that to ensure a well-functioning market, exchanges have to be fair and make sure that no investor has an advantage over other participants.

However, the abuse of dominance of KSE during the presence of the other two exchanges needs to be theoretically acknowledged. In a typical product market, cheating enhances current turnover and revenues (Eigruber & Wirl, 2020). Let's say that the abuse of dominance by KSE dynamically evolved as follows:

$$\dot{A}_{KSE} = q_{KSE} - \tau A_{KSE}$$

Given that q_{KSE} is a result of characteristics and reputation being the stock market pioneer and τ being the time constant.

Higher values of A_{KSE} (abuse of dominance) lower the returns but being the stock market pioneer with strong external influences, increases the returns as the abuse of dominance dynamically evolves. Stock market is the perfect setup, in which abuse of dominance is acknowledged only slowly due to information asymmetries but the true picture may stay hidden only temporarily. The passage of time uncovers disruptions in the market and increases the cost for the egregious market player in terms of reputational costs and legal complications leading to the following payoff function for a monopoly stock exchange:

$$Payoff_m = Benefit_A - loss_A - Cost_A$$

However, in its abuse of dominance, the position of competitors (the other stock exchanges) also matters and in the presence of other stock exchanges, say LSE and ISE the three market segments could be assumed to have the following linear inverse demand functions:

$$P_{KSE} = 1 + \alpha q_{KSE} - \beta q_{LSE} - \gamma q_{ISE} - aB_{KSE} + bB_{LSE} + cB_{ISE} - (x_{KSE} + x_{LSE} + x_{ISE})$$

$$P_{LSE} = 1 + \alpha q_{LSE} - \beta q_{KSE} - \gamma q_{ISE} - aB_{LSE} + bB_{KSE} + cB_{ISE} - (x_{LSE} + x_{KSE} + x_{ISE})$$

$$P_{ISE} = 1 + \alpha q_{ISE} - \beta q_{LSE} - \gamma q_{KSE} - aB_{ISE} + bB_{LSE} + cB_{IKSE} - (x_{ISE} + x_{LSE} + x_{KSE})$$

Where $x_i$denotes the share turnovers in their respective exchanges and a, B, α, β and γ are positive constants

In the absence of market dominance abuse and monopoly practices, willingness to pay (invest) comes to unity assuming the goods (securities) are homogenous. However, from the investors point of view the securities differ due to perceptions and the segments catered by LSE and ISE becomes more susceptible to the abuse of dominance by KSE.

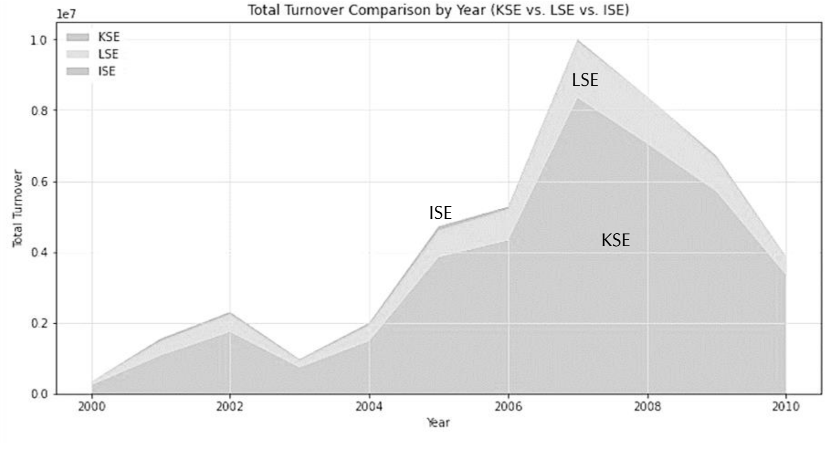
Hence, KSE's abuse of dominance, $A_{KSE} > 0$, artificially created wider bid-offer gap and lack of market depth in LSE and ISE, discouraging investors by the market inefficiencies to short run gains for a few vested interests and long run damage to the whole sector naturally giving lower than potential growth in the stock market.

4. Data Analysis, Discussion and Conclusion

Our discussion of data trends is structured into two sections according to the time period of analysis: (1) pre-delicensing time period and (2) post delicensing time period. The values pertaining to each variable analyzed for this research are subjective to data availability and the total time period of 2000-2023 has been considered for this analysis. CEIC and PSX websites have been used to acquire the data of all variables. For a preliminary overview of Pakistan's stock market, the analyzed trend of market capitalization (Figure 3) shows no significant growth and shows in-fact a declining trend. This trend goes in line with the literature suggesting that the manipulative behaviour of PSX (formerly known as KSE) "*restricted the growth of market capitalization*" (Fayyaz Munir et al., 2020).

Figure 3: Annual Market Capitalization

Figure 4: Turnover



The stock exchange turnover is often used as an indicator of investment environment particularly as an indicator of investors' sentiments (Shah et al., 2022). Turnover shows trading volume of shares and also helps in indicating the investor sentiments and investors' confidence since trading volume is linked with liquidity signaling about ease of trading (Rahman et al., 2022). The turnover data shows that ISE had the lowest share of turnover while LSE was following KSE in the total amount of turnover indicating that KSE was dominantly performing in trading shares. The growth however was declining towards the demutualization period of 2012 as indicated in Figure 4. The trading activity is also analyzed using the number of trading companies and Figure 5 suggests that KSE had the most of the trading companies, followed by LSE and ISE. The trend shows that number of trading companies (Figure 6) was declining for all exchanges with a significant different between the numbers of KSE and the two other exchanges combined. ISE's performance in terms of trading companies was the poorest.

Figure 5: Trading Companies

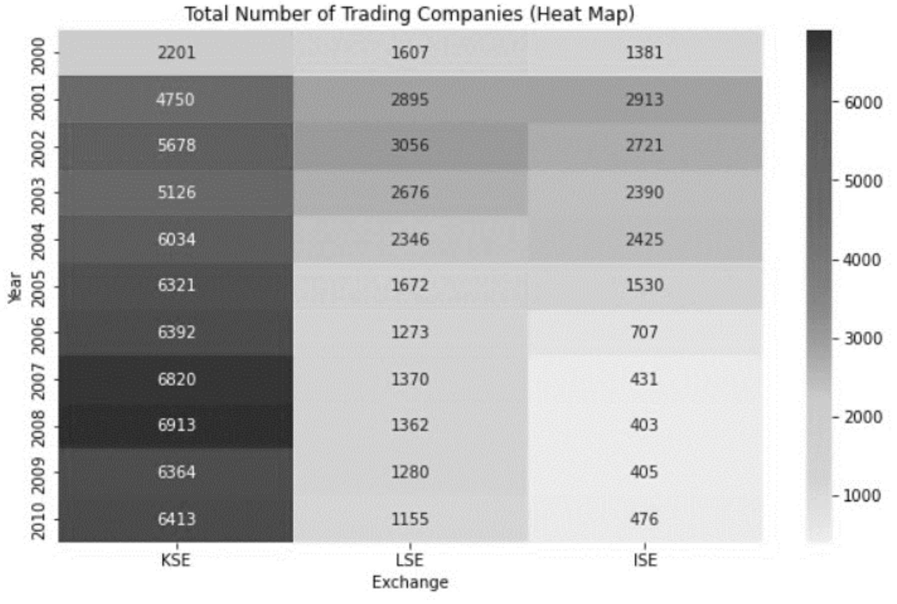
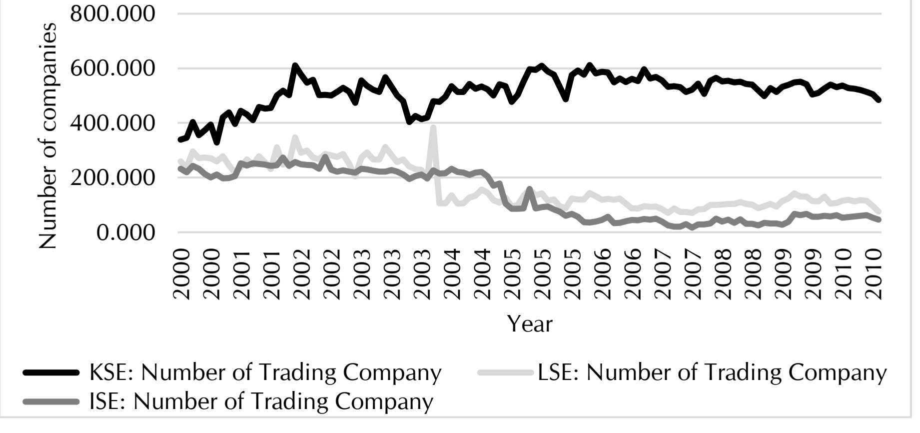
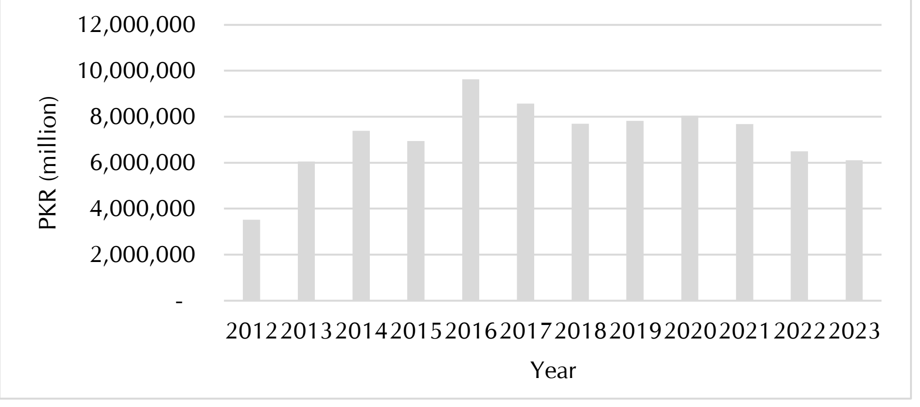


Figure 6: Trend of Trading companies (Bi-annual)



Market capitalization is either driven by quantity of securities issued or the prices (Kuvshinov & Zimmermann, 2022). Stock market capitalization in the literature has been often considered, as a substitute or a complimentary factor of financial development. Therefore, market capitalization is a significant signal of the financial sector development and following the demutualization, the equity market in Pakistan was expected to face volatility in terms of market capitalization (Shahbaz et al., 2016). We find that before up to the year 2013, market capitalization increased by more than 70 per cent and beyond 2014, the change in market capitalization kept shifting between, either a smaller increase or a decrease until it started falling consistently from 2020 onwards by up to 15 per cent.

Figure 7: Market Capitalization (PSX)



The exchanges' mergers are to attract new listings with better recognition on international and domestic levels. The report published by SECP (2016) acknowledged that centralization of trading activities after the merger reduced the cost of trade for investors, increasing the liquidity performance. However, the unified exchange lead to inadequate regulatory accountability (Masood & Campus, 2017). For example, PSX merger relaxing the listing standards for maximizing listing revenues and fresh listings. The secondary data analysis shows that the annual listings post demutualization decreased by 5 per cent in 2013 followed by a stream of insignificant increases, no changes and a continuous fall till 2023. The number of listings has remained stagnant due to reasons including, *predatory taxation* and *corporate government* requirements such as disclosures and so they use banking platform to acquire capital(Mehmood & Fraz, 2022).

Stock markets may be significant in size due to large listings but a lack of trading may make a stock market shallow (Dorodnykh, 2012). Increasing trading volumes results in improved market efficiencies but trading activity in a stock market is determined by investor's biases (Anderson et al., 2005). The secondary data shows that post demutualization, the average daily trading value increased by; 43 percent in 2013, 52 per cent in 2014, 27 percent in 2015 followed by a stream of significant increases till 2021 leading to persistent decline till 2023. The increase in trading volume during 2012-2014 period is often attributed to the regulation introduced by government in 2012 about not investigating the source of cash when people buy shares with the intention to bring black money into the tax brackets (https://www.reuters.com/article/pakistan-stockmarket-idINL3N0CW7B220130409). The data shows that PSX experiences high volatility as the market is known for its highly volatile nature (Rashid et al., 2022).

Figure 8: Annual Listings (PSX)

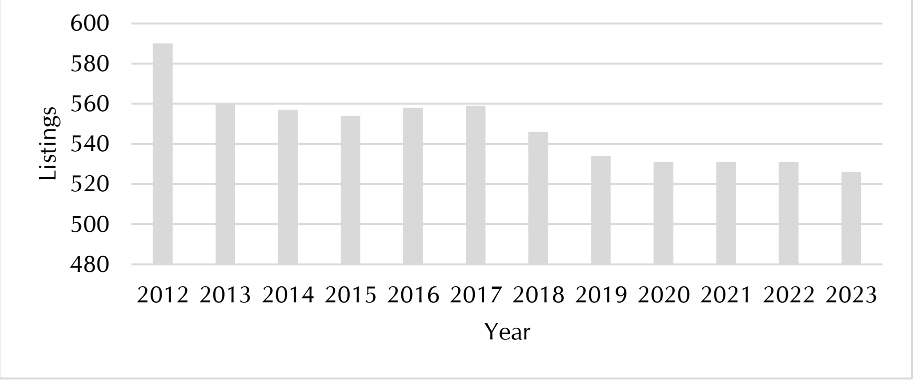
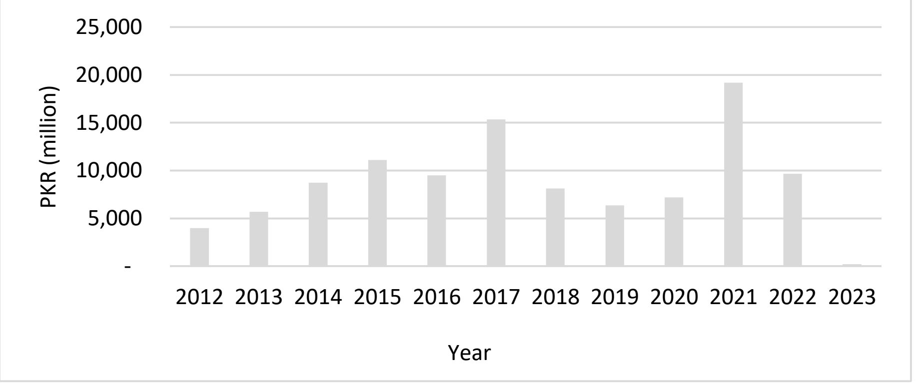


Figure 9: Average Trading Value (PSX)



The cyclicality of IPOs has been often studies by the literature and it suggests that pattern of IPOs movement is determined by market conditions and firms behaviour. The first IPO in Pakistan was issued by Karachi Electric Supply corporation in 1949 and later on the issuance of IPOs was restricted due to the inconsistencies in the business environment (Mumtaz & Smith, 2021). In order to strengthen the Pakistani stock market, SECP was established in 1997 and it formally started functioning in 2000. The issuance of IPOs depends on the extent to which trading activity is promoted by the regulator. Since the trading activity has remained suppressed throughout due to the lack of competition, the capital raised by IPOs (Figure 10) and subscription to IPOs (

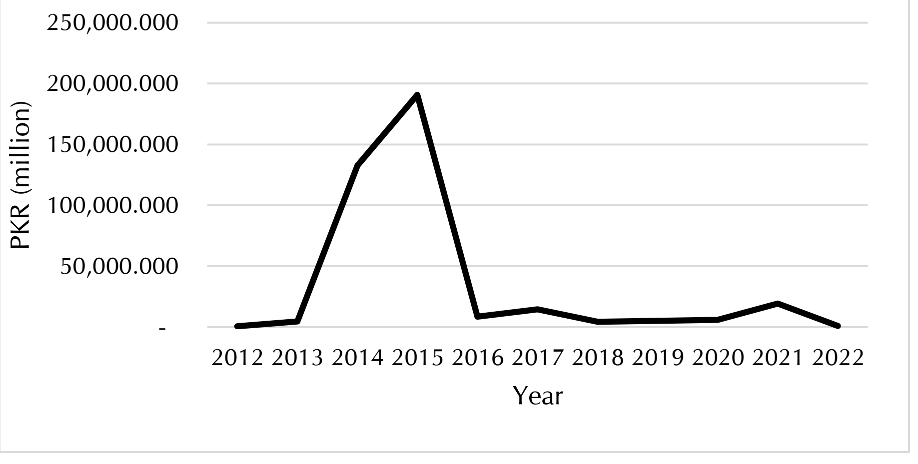


Figure 11) both show inconsistency and a falling trend in recent years.

Involvement in rights issues by firms is with the purpose of generating more capital to access additional finance and already existent shareholders get access to these secondary additional equities and these type of equities indicate the investment environment as their announcements spur different responses among the community of investors (Duncan Otieno & Elly Ochieng, 2015). The data of equity shares ( ) shows a declining trend of rights issues indicating a dull investment environment. The investors participating in stock market do not constitute even a one percent of the population of 220 million in Pakistan and the trends show no significant growth in the number of investors (Figure 13) and the number is still restricted under 300 thousand only while in other countries such as China and Iran, the number of investors is 100 million and 8 million (Mehmood & Fraz, 2022).

Figure 10: Capital Raised by IPOs (PSX)

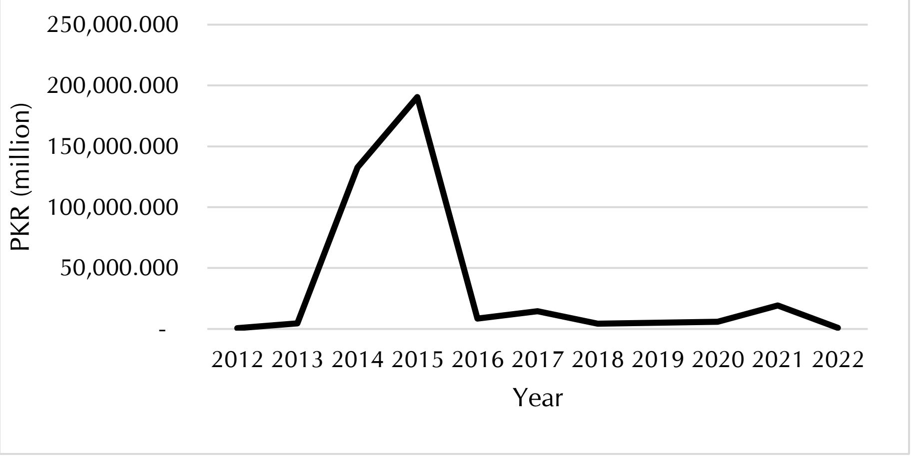


Figure 11: Subscription to IPOs

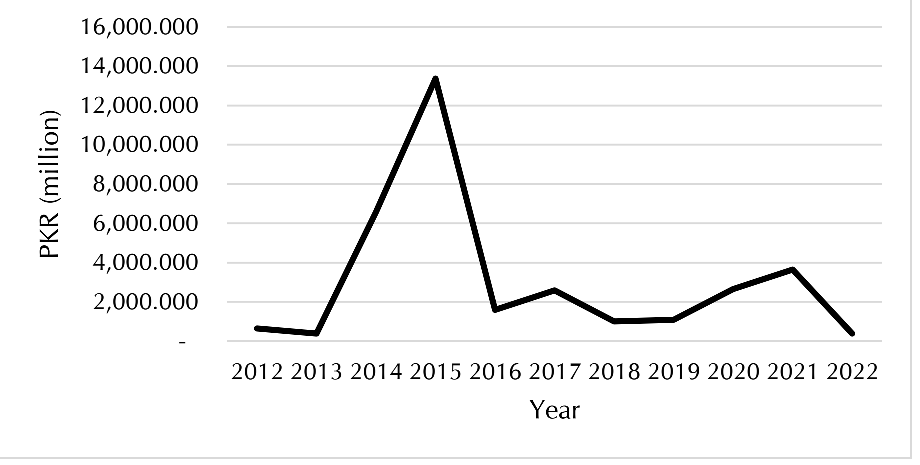
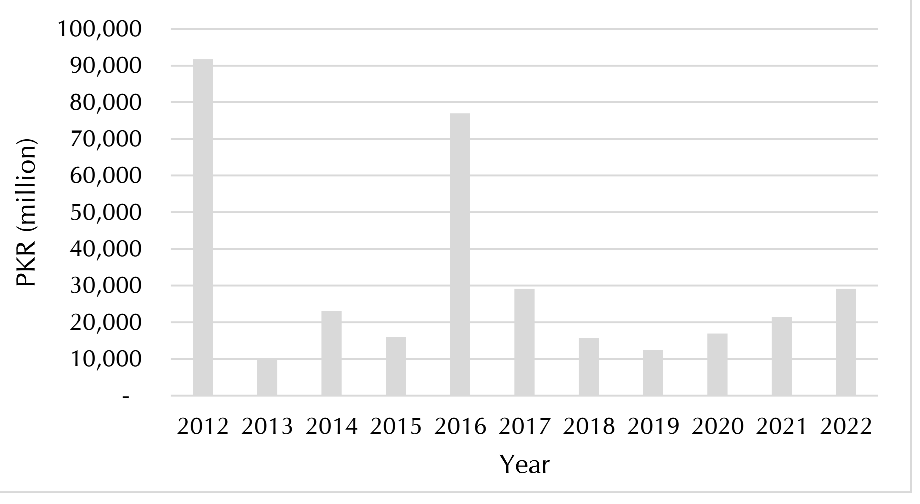


Figure 12: Rights equity issues



The members of the stock exchange, the broker, were issued Trading Rights Entitlement Certificates (TREC) and the data regarding brokers show no signs of significant increase in brokers. In-fact the dominance of few brokers contributed towards the stunted growth of the stock market's performance over the years as it acted as a barrier for entry of new participants. The lack of competition and strong influence of brokers pose a threat to investors through information asymmetries (Mehmood & Fraz, 2022). The three Chinese Exchanges play a role of anchor investors, with a contribution of 40 percent in PSX contributing towards a slight rise in UINs/ investors shown in Figure 13. NCCPL offers a centralized mechanism for the registration of investors by assigning them UIN with the purpose of *"maintaining a traceable link for each trade and transaction, executed in the stock market"* (https://www.nccpl.com.pk/en/products-services/unique-identification-number-uin). The increasing trend of investors may also be due to the reorganization of PSX and a significant effect on influence and dominance of the PSX brokers in the recent years (Petry, 2023). However, a substantial increase in number of investors is needed for the stock market to move ahead.

Figure 13: Investors/ UINs

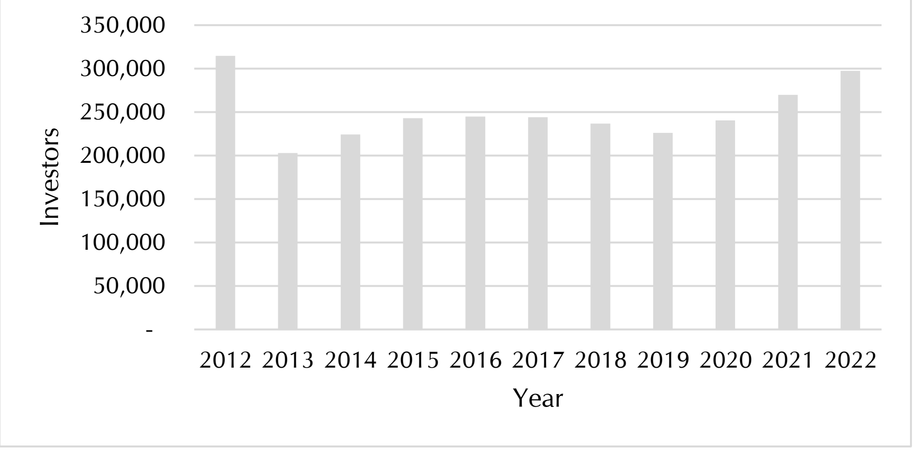
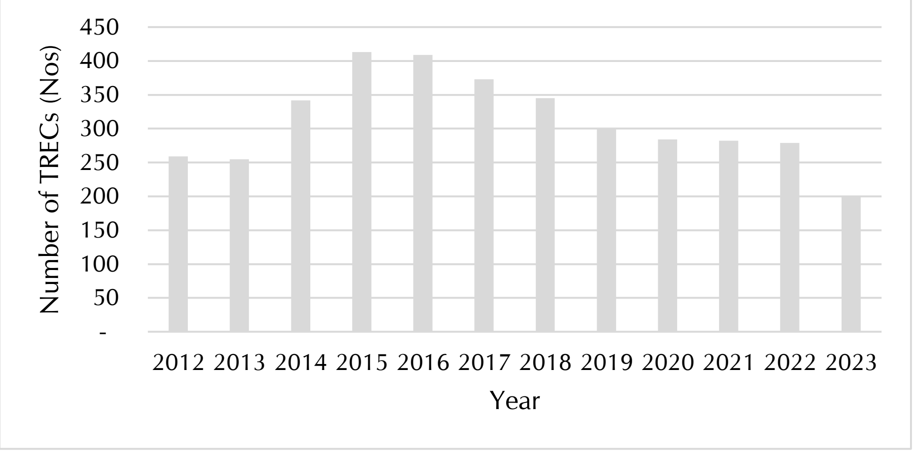


Figure 14: Broker / TRECs (PSX)



The trading activity is analyzed as it indicates the investors perception and investment environment and the analyses suggest that the securities market in Pakistan has performed poorly and it is plagued by monopoly elements leading to stunted growth (Mehmood & Fraz, 2022; RUBEENA TASHFEEN, 2023). It is clear that the development of the capital market in Pakistan has been bedeviled by the structured inequities and impediments which could not be addressed adequately by the subsisting regulatory framework as it lacked the required scope and depth. In fact, the securities market regulatory apparatus had neither the capacity nor the vision to provide the required optimal solutions in order to support and facilitate essential stock market functionalities, namely stock issuance and trading, depository/custody/dematerialization and settlements/clearing, the inadequacies of the securities regulatory establishment can be seen reflected in the inappropriate use of the regulatory imperative in the form of inadequate and onerous regulations and questionable interpretation thereof. Relative to the size of the economy, the data shows that the stock market has suffered from stunted growth in the matter of market capitalization, number of investors, transactions volume and active trading.

5. Policy Implications and Conclusion

The policy implications provided in this research study are an extended version of the discussion done earlier in the literature (Bashir & Sufi, 2021) and mainly by Mr. Khalid Mirza (https://doi.org/10.1177/09728201221074983) former Chairman, Securities and Exchange Commission of Pakistan (SECP).

There is only one securities issuance and trading platform being the Pakistan stock exchange (PSX), only one depository company being the central depository company (CDC) and only one clearing house being National Clearing Company of Pakistan (NCCPL). All these three institutions are commercially oriented but the anomaly is that they are total monopolies (not merely dominant) and they do not compete with any rivals, large or small players. They tend to charge fees for their services that can be essentially regarded as reflecting monopoly rents and they do not have any incentive to improve or grow. For the size of the economy and as compared to regional peers, the stock market remains small and stunted in the matter of market capitalization, number of investors, transactions volume, actively traded issues, number of new issues, capital raised, and number and strength of brokers/ intermediaries. Assuming from the overall broad view of the stock markets perceived, short comings expressed in the preceding para and the certain specific aspects touched upon in the previous sections, the following policy measures (The policy measures are an extension to the already existing legal framework of PSX formulated by SECP accessible online at: https://www.psx.com.pk/psx/regulations/legal-framework) are self-evident.

The SECP must seek applications and after due consideration, including possibly public hearings and based on internationally recognized criteria, license one or two modern state of the art demutualized stock exchange(s) sponsored preferably by both public and private sector financial institutions including foreign strategic and technical partners. These stock exchanges would be authorized to provide platforms for the issuance and trading of debt, equity and securities including hybrids and derivatives, and be operational, simultaneously in physical form and digitally. The operational scope of these stock exchanges, including location or facilities and offices, could be anywhere and could spread all over Pakistan and conceivably even abroad.

In addition, the regulator would encourage and facilitate the setting up of one or two alternative trading networks connected with stock exchanges. Electronic communication networks (ECNs) that run books to match purchase and sales orders, the transactions thus taking place being recorded on the connected stock exchange. Occasionally, the network grows to a size that it becomes feasible for it to be converted into an independent stock trading facility and exchange. As a matter of policy as long as the prescribed criteria (which must be reasonable and aligned with recognized accepted practice) is fulfilled, there should be no limit on the number of stock exchanges/ ECNs licensed and facilitated. The idea here is to induce stock exchanges/ alternative networks to vie, with each other, for listings and transactions thereby spurring the size of stock market to grow in size and depth.

Similar to stock exchanges, the monopolies of the sole depository and the sole clearing house must not be held sacrosanct as is the case at present. It is incumbent upon the regulator to entertain and objectively consider based on established recognized criteria, applications for the setting up of such institutions to compete with the existing monopoly institutions. Depository and clearing functionalities are significant services that would be a boon to the stock market if provided to investors efficaciously and at reasonable, competitively determined prices. It is note-worthily that PSX is a significant investor (not majority) in both CDC and NCCPL and in order to allow for fair competition with the newly licensed stock exchanges, as a policy matter PSX should be required to divert its shareholding in these institutions unless the new exchanges are permitted to setup their own depository and clearing/settlement and companies should they so wish to do so. It is important for a level playing to subsist *inter se* all the stock exchanges.

Patterned on a similar market with the same name as Hong Kong, the GEM market was setup by the PSX about four years ago with less stringent regulations designed to attract investors with substantial means to invest in closely held companies. The GEM market has floundered and found no attraction. There have been a total of four listings and two are now left. It appears that the reduced regulatory burden has not been sufficient and investors are unwilling to make any declaration regarding their net worth, much less expose their net worth for verification. From a stock market stand point it is not commercially sensible for a closely held security to be traded on an ordered-driven base as is the case on the main board of the most stock exchanges also in PSX. GEM might have had a better chance to succeed had it adopted the “quote driven” system with market makers (as in AQ). As a policy matter, GEM should be closed in view of its structured rigidities and other issues since it does not appear to be serving any purpose. On the other hand, the need for capital by a large number of medium scale (largely family owned) closely held companies can be addressed by setting up a “quote driven” OTC market operated by market makers with a comparatively light regulatory burden but without any structural restrictions. Whether an OTC market is setup as a departmental unit within PSX or promoted as a new OTC stock exchange and this would constitute a major policy initiative adding to the qualitative dimension of the securities market. With patience and nurturing many stocks listed on the OTC exchange may graduate to be listed on the main board of a stock exchange. Thus an OTC exchange would be the drip feed into main board listings.

An equally important policy measure would be the establishment of an "upper" or "premium" tier in each stock exchange wherein, only stocks would be listed that in terms of market capitalization, revenue, profitability etc. have exceeded certain pre-defined minimums and have also met certain specified governance and environmental standards. It would be natural for institutional investors and other stock market players to invest in "premium" tier stocks. This would represent an incentive for companies to do whatever can be done to be included in the "premium" tier.

It needs to be provided through carefully crafted regulations that all unexecuted trades are rolled over for execution to the other stock exchange (if there are only two stock exchanges) or to a pre-selected stock exchange (if there are more than two stock exchanges). This would ensure that stock exchange operates in a responsible manner in the interest of the market as a whole. In a subsequent policy initiative all stock exchanges can set up a common transaction execution facility and all orders received by them would be routed for implementation which would be carved out strictly in accordance with established rules. Both in the case of the roll-over for order execution scheme and in the common transactions execution facility scheme, a "ticker tape" would run for immediate display of all trades executed in timely fashion. Also, for each stock the three best bid-offer quotes would be electronically available on real time basis. All this would ensure much desired disclosure and transparency thereby allowing the investors in the market to avail of the best available price and smart order execution.

Recognizing that a stock market cannot function without an adequate system for the financing of stock trades that would allow sufficient transactions volume in order to achieve efficacious price discovery, it appears necessary to re-introduce "*Badla* financing" or carry on transactions (COT) in the form it existed in 2002 i.e. after a number of measures had been taken to remove the systematic vulnerabilities out of the instrument. It is obvious that the stock financing in vogue at present (that includes a mutilated form of *badla* and a form of margin financing that is mostly dysfunctional in Pakistan). A system for borrowing of securities to facilitate short selling has never really been introduced. This needs to be given consideration. In this connection, continuous net settlement system for stock market trades in vogue in many stock markets (which incidentally allows for the borrowing and lending of securities) has often been tabled but for some reason never seriously examined. This needs to be done.

Globally, ineffectual front line regulations by stock exchanges have been a matter of concern. In addition, de-mutualized exchanges like PSX, being have profit oriented and "self-listed" are obviously conflicted with respect to any regulatory responsibilities discharged by them. This anomaly has been dealt with in various ways none of which has been found to be entirely satisfactory. A US FINRA type institution funded by stock exchanges and stock markets intermediaries but independently run by a professional chief executive and an independent board under the aegis of the apex regulator would seem to be the answer. The SECP would do well to give serious consideration to this proposition.

On a general note, the pillars upon which the success of the securities market rests are: transparency, disclosure, reduction in information asymmetry, integrity and operational efficiency. Also, it must be noted that although the demand for securities is a significant factor, markets primarily grow by the supply of securities. All this means is that in addition to the measures outlined above and to complete the picture regarding the securities market, the following broad areas need to be addressed by SECP:

- A study needs to be undertaken in future to come up with concerted well thought measures to promote and nurture investment banks critically for the market's growth. Investment banks operate on both the demand and supply side of the market: importantly they are engaged in the issuing both debt and equity capital including the management and underwriting IPOs.
- Regulation at both apex and front line level needs to be lightened. It is far too heavy and onerous. Considerable simplification, rationalization and reduction in fees was done at the behest of the Securities and Exchange Policy Board during 2018 to 2020 but a lot

more needs to be done. This must be taken in hand and the work completed soon.

- Rationalization and re organization of SECP and the regulations that govern its *modus operandi* as well as reorientation of its staff is a priority. A competent regulator with integrity has the most beneficial impact on the investor confidence and on all aspects of stock market.
- At the present the Audit Oversight Board (AOB) is weak and is merely a super numeracy body that rests on the quality assurance program of ICAP. It needs to be strengthened on the lines of the US PCAOB if it is to be effective as the regulator of the audit profession in order to ensure that the duly audited accounting statements issued by limited companies substantially reflect a true and fair view of the state of affairs of each company. This would boost investor confidence and favorably impact on the operation of the securities market and operations.

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Ramsha Noor: Data acquisition, data curation, formal analysis, visualization and original draft preparation

Khalid Mirza: Conceptualization, data acquisition, supervision and review

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Appendix

Frequently used abbreviations

Symbol	Full form
PSX	Pakistan Stock Exchange
KSE	Karachi Stock Exchange
LSE	Lahore Stock Exchange
ISE	Islamabad Stock Exchange
IPO	Initial Public Offering
TREC	Trading Rights Entitlement Certificate
UIN	Unique Identification Number
SECP	Securities and Exchange Commission Pakistan
OTC	Over the Counter
NCCPL	National Clearing Company of Pakistan

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