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Moving Averages, Market Regimes, and Speculative Dynamics in Bangladesh's Equity Market

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Moving Averages, Market Regimes, and Speculative Dynamics in Dhaka Stock Exchange

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Abstract

This paper investigates the uses of moving averages as market regime analyzers for the Dhaka Stock Exchange (DSE). This paper uses long-run index series data from 1993 to 2025, complemented by qualitative interviews with market participants. The purpose of this paper is to support the case, in the Bangladesh setting, that moving averages should be viewed as market regime classifiers, rather than tools of short-run forecasting.

This paper illustrates, using empirical data that the DSE displays extraordinarily prolonged periods of staying above or below the essential long-run moving averages, and that periods of speculation are followed by specific changes in the moving average framework, together with specific patterns of volatility. Moving averages are applied in the sense of institutional and behavioral approaches, as the analyses go beyond trading and focus on their institutional and behavioral implications for long-run investors, regulators, and policymakers.

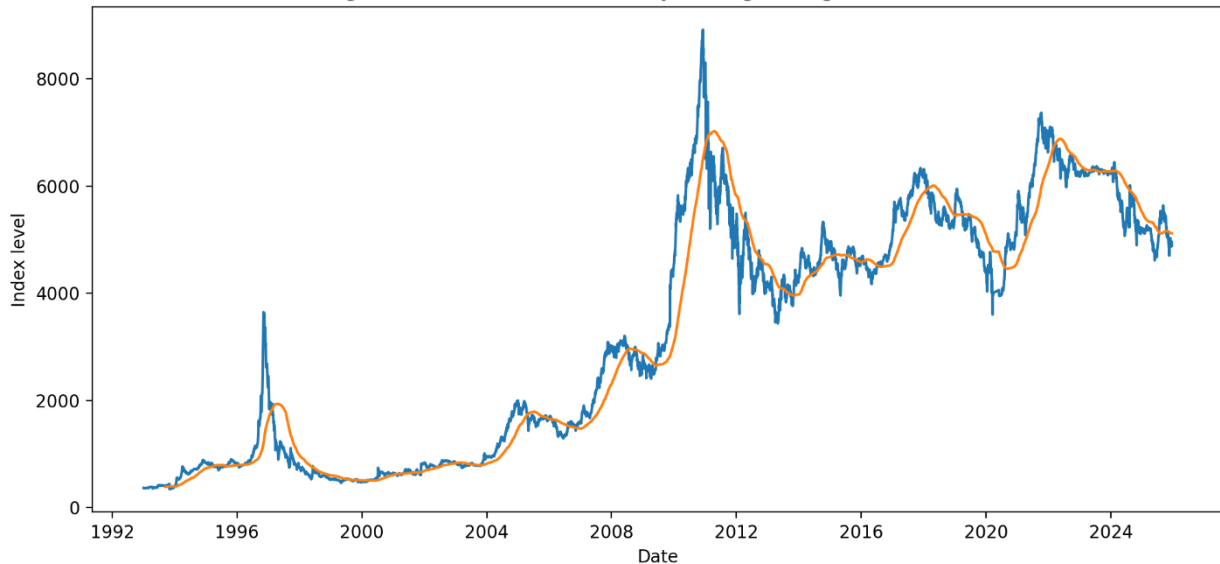
1. Introduction

Technical analysis occupies a complex and nuanced position in financial studies (Shiller, 2015; Thaler, 2015). While widely used by market practitioners, it is often viewed with skepticism in academic and policy circles (Fama & French, 1992; DeLong et al., 1990). At the same time, it is frequently dismissed as mechanical or untheoretical. Moving averages, among the most common technical tools, smooth price data over a defined window to highlight underlying trends. Although they are simple, moving averages continue to attract attention because they offer unusually consistent guidance on market direction in specific contexts (Brock et al., 1992).

The purpose of this paper is to demonstrate that the perceived performance of moving averages owes nothing to any forecasting prowess. Rather, it owes it all to their capacity to articulate market behavior for varying timescales. A short moving average corresponds to the performance of very short traders, while the medium moving average corresponds to the position taken by swing and momentum traders, and the long average corresponds to the performance of longer-period participants. When these differing "memories" agree or disagree, it offers market information, and not information related to actual prices.

This is particularly true in markets that feature long-term cyclical patterns. As illustrated in Figure 1, where the DSE index and its 200-day moving average are depicted over a period of more than thirty years, the crossings of the long-term average are not very frequent. After the market has crossed a certain threshold in the long term, it generally stays on the same side of the average for a long time. In this case, moving averages are more akin to classifiers than timers.

Figure 1. DSE Index and 200-Day Moving Average (1993-2025)



The Dhaka Stock Exchange offers a case study that specifically reveals how such processes function. Market structure is marked by uneven liquidity. It is also marked by sporadic participation by institutions and regulations that affect prices on a daily basis. With access to long-term indexes on stock market movements and insights from stock market players, this paper investigates how moving averages correlate to market structure and stock market volatility in Bangladesh.

2. Conceptual Background and Literature Context

The literature on moving averages and technical rules is complex and contradictory. Early studies, such as Brock et al. (1992), find that simple rules based on moving averages did generate excess returns in historical stock market data in the United States. This result was later extended to the emerging markets with less efficient information and more behavior-driven investing environments, where technical variables would carry even more weight.

Later work has led to the introduction of key qualifications. After considering the cost of transaction, data snooping bias, and regime dependence, the profitability of these rules became much weaker. One common result emerging from this literature is that the performance of the moving average rule is optimal during trending markets and suboptimal during sideways or volatile markets.

At the same time, work in the field of behavioral finance has highlighted the role of so-called technical analysis indicators as coordination mechanisms rather than predictive models. In

other words, it seems that moving averages are important simply because people believe they are important, and they provide a common level of reference in relation to which people’s expectations and decisions adjust in certain ways.

This behavioral and institutions-based explanation assumes particular importance in the context of emerging countries like Bangladesh, where ownership concentration, retail dominance, or official intervention make herding tendencies more pronounced. This study attempts to build upon this existing literature stream insofar as it specifically focuses on the aspect of regime persistence, along with contextualizing moving averages in the broader context of the Bangladesh stock market.

3. Data and Market Context

The quantitative analysis employs data related to the daily index DSE for the period ranging from 1993 to 2025. The selection of the period provides the analysis with exposure to several market cycles, including the 1996 speculative bubble, the 2010-11 boom and subsequent correction, and the post-pandemic rally and correction.

Figure 1. DSE Index and 200-Day Moving Average (1993–2025)

Long-run regime anchoring and persistence.

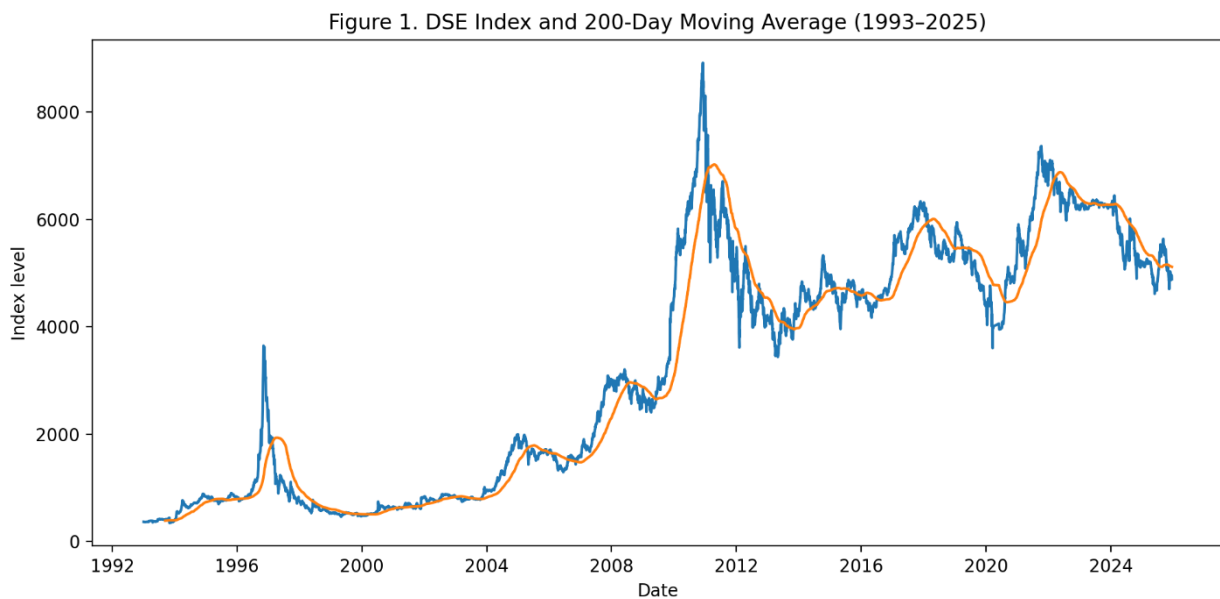


Figure 1 above shows the index series as well as the 200-day moving average. Two things are immediately apparent from this chart. On the first hand, notice the long periods where the index is above or below the long-run average. This is evidence of the presence of regime persistence. On the second hand, notice that the turning points are preceded by long periods where the price and the momentum are not moving in tandem.

The DSE functions in an environment which has rigid rules governing the overall behavior of share prices through daily pricing limits, influencing the pace and nature of adjustment. There

also exists a focus of trading activities in certain securities, and the participation levels have changed considerably from time to time. These factors result in share prices behaving differently than in other environments, resulting in the high degree of persistence in the regimes seen in the case of the DSE.

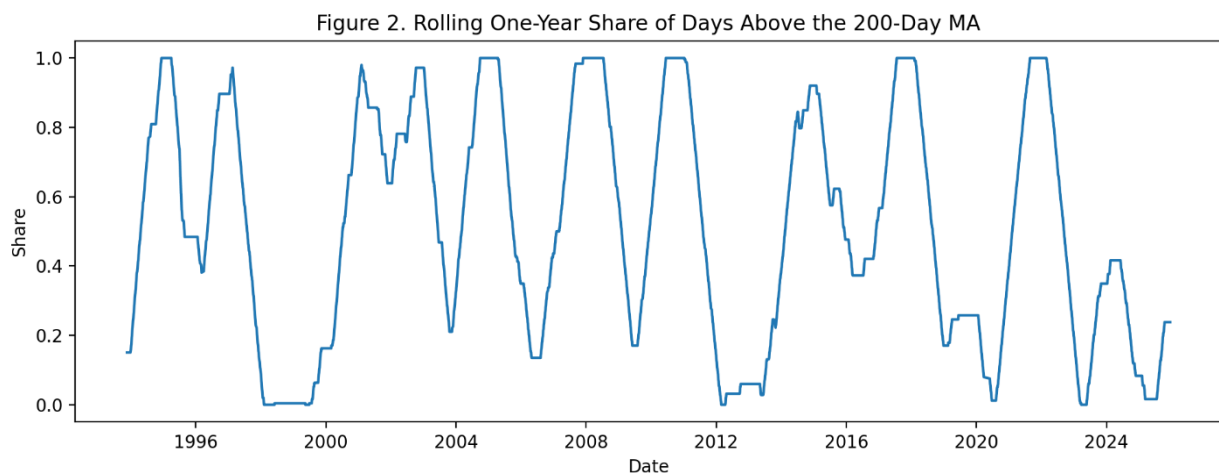
Contrary to the testing of trade strategies, the examination is placed on descriptive patterns in the following manner: the duration spent by the market in a particular regime.

4. Moving Averages as Regime Classifiers in the DSE

An examination of long-run DSE index data reveals pronounced regime persistence. Figure 2 plots the rolling one-year share of trading days during which the index remains above its 200-day moving average. The market clusters in extended risk-on and risk-off phases, with relatively few transitional periods.

Figure 2. Rolling One-Year Share of Days Above the 200-Day Moving Average

Illustrates clustering into extended risk-on and risk-off regimes.

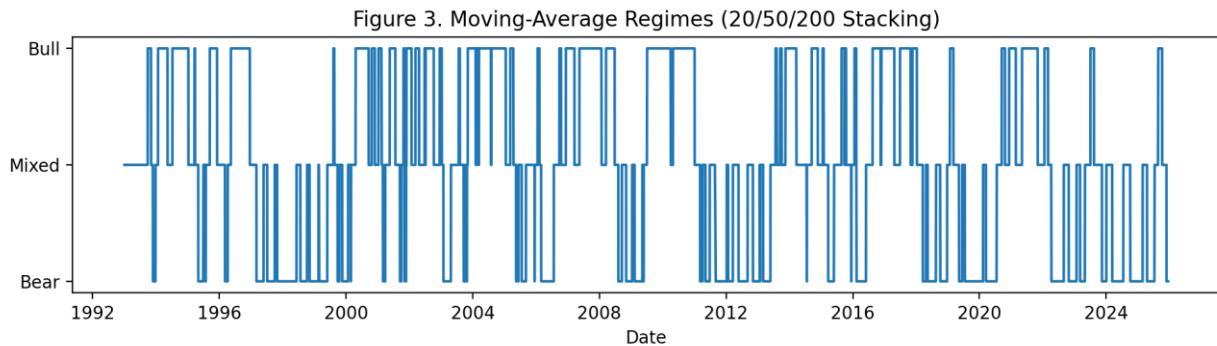


It implies that in the Bangladeshi scenario, the information value of moving averages lies not so much in the timing of the crossover but in the time spent on one side of the long-term reference. The 200-day moving average is essentially used more as a regime anchor rather than as a frequent trading signal.

Short- and medium-term moving averages have a complementary role. This relative ordering of the 20-day, 50-day, and 200-day averages provides a way in which market conditions may be classified into three regimes of bullish, bearish, and mixed or transitional. Figure 3 depicts this classification through time. Transitional regimes-where short-term momentum weakens but the long-term trend remains positive-are repetitive around major market peaks.

Figure 3. Moving-Average Regimes (20/50/200 Stacking)

Bull, bear, and mixed regimes over time.



These patterns appear repeatedly across cycles, indicating that they reflect systemic features of the market rather than idiosyncratic events or stock-specific dynamics.

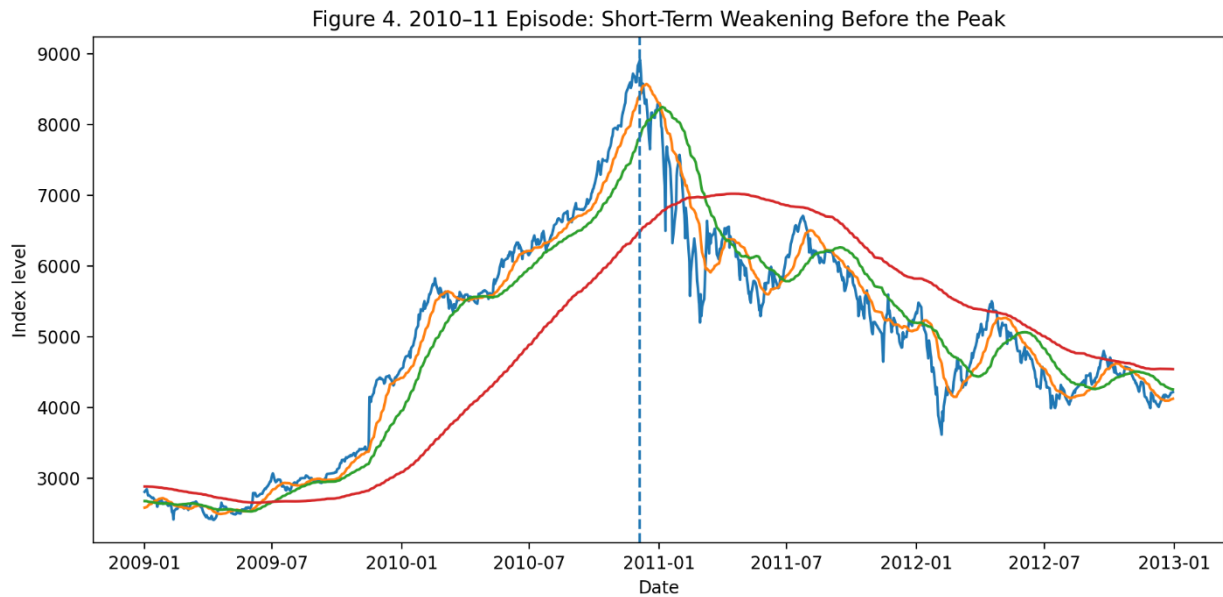
5. Moving Averages, Volatility, and Speculative Dynamics

Moving averages convey only partially the behavior of speculation in the stock market of the Dhaka Stock Exchange. Moving averages become even more valuable for interpretation with the help of volatility because the latter indicates the strength of market participation itself. In the Bangladeshi market environment, volatility indicates not only uncertainty but often reveals changes in market liquidity/sentiment and the levels of market speculation demand and supply.

Figure 4 depicts the moving volatility of returns on the DSE index during the entire sample period. The cycles reveal a distinct pattern of volatility over time. When periods of significant appreciation begin, volatility is known to increase to accommodate growing involvement, fast price discovery, and belief diversity in the marketplace. As speculative cycles mature, volatility is seen to contract, even while prices are still high in value. This lack of volatility is not necessarily indicative of a stable marketplace. In reality, synchronization of beliefs, and a smaller group of active participants are not substitutes for liquidity in such a marketplace.

Figure 4. Rolling 20-Day Volatility of DSE Index Returns (Annualized)

Early volatility expansion and late-stage compression.

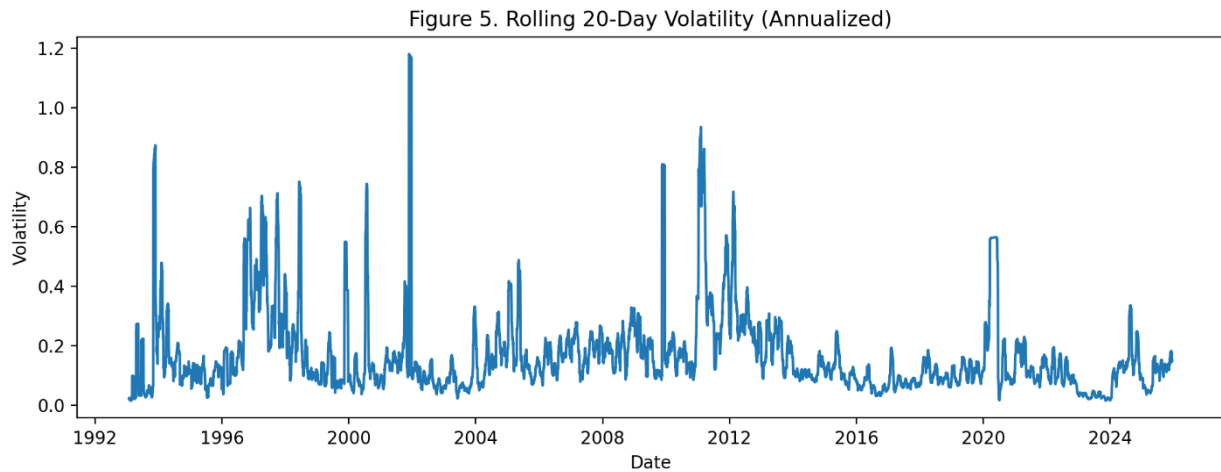


When these observations are evaluated in conjunction with moving average configurations, these trends can be seen in a more informative light. It can be seen from figure 3 that volatility compression tends to take place in a mixed or transitional phase of a moving average pattern where short-term averages start falling while long-term trends remain positive. This pattern points towards a reduction in marginal buying pressure despite a profoundly positive market story.

A look at episodes will further emphasize this pattern. Figure 5 examines the 2009-2012 time period around the 2010-11 peak.

Figure 5. 2010–11 Episode: Short-Term Weakening Before the Peak

Late-stage deterioration while the long-term trend still appears intact.



Within this episode, the short- and medium-term moving averages became flat and turned downward well in advance of the long-term moving average. During the same time, measures of volatility began to converge. A weakening in momentum and a convergence in volatility are mutually consistent with a transition from an accumulation to a distribution phase.

These factors are also partially responsible for why major corrections in Bangladesh have occurred in the form of stagnation or grinding declines rather than dramatic crashes. Price controls and liquidity issues inhibit sharp correction mechanisms in order for imbalances to be worked off over time. While moving averages are deceptive alone inasmuch as they suggest improvement when in fact deterioration has occurred, together with volatility they suggest weakness in the late stage that would be difficult to quantify otherwise.

What is important, though, is that they are in no way intended to suggest that spikes or compressions in either volatility or moving averages be viewed in isolation as predictive indicators. In a market in which persistence is a driving force and adjustment is gradual, a combination of momentum and volatility provides a much more nuanced understanding of speculative processes than would either measure individually.

6. Practitioner Perspectives and Behavioral Interpretation

As stressed by insights gained from market practitioners, more light has already been shed on moving averages not being strictly trading signals but behavioral indicators. Indeed, most personal interviews conducted with brokers, portfolio managers, or traders specifically indicated how moving averages affect behavior, especially in a setting whereby fundamental information is not balanced throughout and liquidity is not continuous.

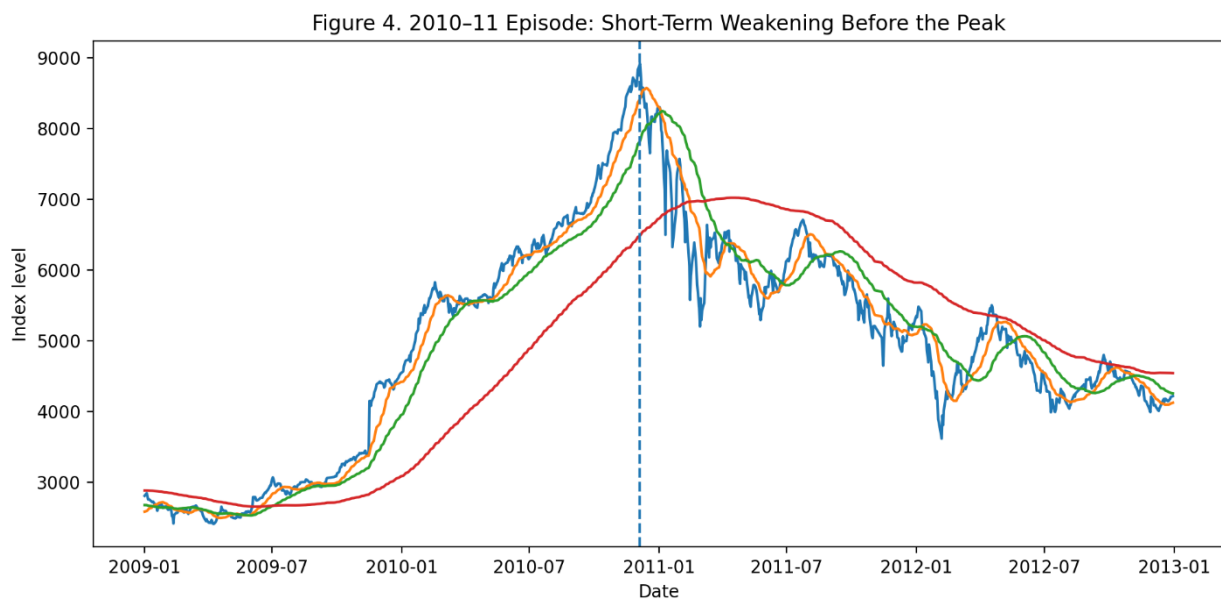
Some participants reported that long moving averages act as unofficial lines dividing ‘safe’ and ‘unsafe’ market regimes. A senior broker explained how, once above the long moving average, market sentiment shifts despite the lack of fundamentals, and risk tolerance expands, as the average holding period extends and the sentiment of purchasing during market downturns

becomes more widespread. This, on the other hand, is likely to minimize participation despite favorable valuations when below the long moving averages for an extended period of time.

Practitioners specifically picked up on the importance of short-term momentum. Many observers have found that warning flags appear first in the short-term moving averages, which begin to flatten out or turn down while the broader trend is still intact. Ironically, these warnings are frequently disregarded in anticipation of the prevailing message, which holds that strength persists. As one portfolio manager put it, “People know something is changing, but as long as the long-term trend looks okay, it is very hard to act on it.”

Such findings tend to match very closely with the transitional regimes as highlighted in Figure 3 and the event-level dynamics as illustrated in Figure 4. Such dynamics clearly indicate the role of mixed moving average configurations in reflecting the phase of dissonance, wherein the mechanisms of price and market beliefs start to move apart. Such market dynamics lead to the delay of market correction via coordinated levels, which act as reference points.

Volume and volatility are, moreover, constantly reiterated as essential supplementary information for moving averages by the interviewees. A high level of activity with little price movement was universally viewed as a distribution, as opposed to true strength, while low volatility with high prices was considered periods that are either “uneasy” or “fragile” and, by implication, lack true depth. Indeed, the views parallel the patterns illustrated in Figure 4 below.



Taken together, the practitioner views suggest a behavioral interpretation of moving averages in the Bangladeshi market. Moving averages are not signals that provide predictions of future prices. Rather, the use of moving averages allows traders to have a group reference point that helps in forming expectations regarding market outcomes. The effectiveness of the strategy is a function of the reference point that is central in molding the behavior of the traders within a market structure that is dominated by persistence.

7. Methodology and Research Ethics

This paper will employ a methodical combination of descriptive time-series analysis of the Dhaka Stock Exchange Index, along with qualitative observations from Dhaka Stock Exchange traders. The methodical part will be based on daily index data from 1993 until December 15, 2025. A simple moving average will be employed for a 20-day, 50-day, and 200-day time horizon, which have been standardized terms for short-term, medium-term, and long-term market cycles respectively. These moving averages will then be stacked to determine market conditions, which will be defined within the parameters of bullish, bearish, and mixed settings. The volatility indicator will employ a rolling 20-day standard deviation of the daily returns, standardized on an annual basis for a 252-trading-day year.

The style of analysis is descriptive and interpretive rather than predictive in nature. In addition, the analysis is not in the style of back tested trading strategies, nor is an estimate of risk-adjusted returns made. The objective is to describe the types of regimes and patterns surrounding significant episodes in the markets.

The qualitative method involves fifteen semi-structured interviews of market players in Bangladesh. The market players include brokers, portfolio managers, and traders. Participants in the study were chosen with the intention of having as much variability as possible. Participation in the interviews was voluntary, and everything was done to ensure confidentiality. Interviewees were informed of the purpose of the interviews, and no non-public, confidential, or price-sensitive information was sought. Data gathered will be used to interpret how market players make sense of reference levels.

The key limitations arise from the research design and the availability of data. The quantitative results are presented at the index level, so the cross-sectional variability or stock-level microstructure is not observed. Further, since the data set does not contain any volume or turnover variables, the commentary on volume dynamics is based on the interview findings and is labeled accordingly.

8. Discussion and Implications

The empirical regularities established in this paper indicate that the appearance of usefulness in the moving averages in the Bangladeshi stock market is more related to the classification of market states than the forecasting property. Over the extended period of more than three decades, the Dhaka Stock Exchange shows high persistence in its regime changes. The stock market index spends prolonged periods in either the upper or the lower region of the moving averages. Such a character is evident in Figure 1 and formally described in Figure 2. The duration of trading above the 200-day moving average is concentrated closer to the extremes.

These results have a number of implications where the interpretation of moving averages should be done. First, these results illustrate the danger of using the idea of crossing moving averages as a short-run trading tool. Because the long-run averages move slowly, the danger is that the break point will be recognized too late. Second, these results illustrate the need to pay attention to time. The information contained in the 200-day moving average is not contained

in the point of crossings but in the length of time during which the market is above or below the point of reference.

The model of the regime classification will become more understandable with the help of shorter-term moving averages. In the figure 3, the relative behavior of the 20-day, 50-day, and 200-day moving averages has been pointed out to identify the various types of regimes that result in a positive and negative market with the mixed type of regimes that often turn up near the major market turning points based on the trend of the shorter-term momentum with the positive trend of the longer-term trend.

This interpretation is further strengthened when considering the analysis of individual episodes. Figure 4, looking specifically at the phase in 2009-2012 in relation to the 2010-2011 market peak, reveals how the short and medium moving averages led in turning downward, well in advance of when the long moving average did so. This phase in particular indicated the market remained strong on any visual inspection of longer-term trends, yet on closer and longer-term inspection, marked the start of a distribution phase and consequent adjustment period rather than crash.

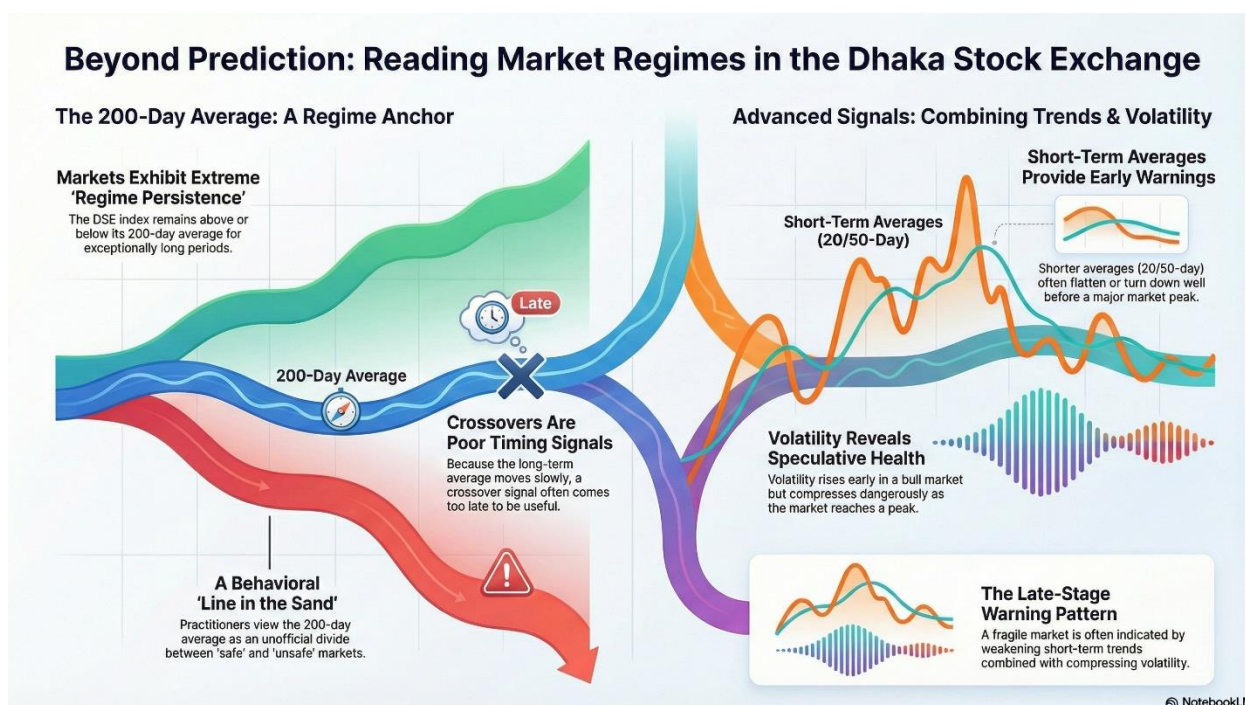
Volatility dynamics provide a helpful way of looking at the role in adding to the insights that are possible through the use of moving averages. As is clear from Figure 4, the volatility in the DSE increases in the initial phases of the speculative phases and compresses when the prices are close to the peaks in the business cycles. In markets where the markets can be classified as “deep markets,” the compression of the volatility is a sign of a stable market. However, in the case of the Bangladeshi markets, the compression of the volatility could be accompanied by decreased two-way liquidity and vulnerability in case the short-term momentum is decreased, as shown in Figure 4.

These results, taken together, indicate that moving averages are a matter of consideration within the overall toolkit of diagnostics, as opposed to just being individual indicators. The prime purpose of moving averages lies in the determination of the environment in which the investment activity has to be carried out. In conditions where there are well-defined regimes, illiquidity, as well as high levels of behavioral coordination, it could well have equal importance as the time of entry or exit.

Regarding the implications from the results among regulators and policymakers, they underscore the need to pay serious attention to market structure as far as speculative pressures are concerned. Market structure could be complicated by interlinkages involving price limits, liquidity conditions, as well as market-recognized technical levels, thereby causing market mispricing or the time it takes to correct. Regime or volatility metrics such as the ones shown in Fig. 2, 3, or 4 can be considered as inputs in market surveillance but not as predictive metrics.

For long-term investors, the results imply a paradigm shift in investment focus, moving away from signal-driven trading and toward a regime-conscious investment approach, where investors can potentially make more sense out of changing positions according to underlying periods of optimism and retrenchment in the markets, rather than focusing on cross-points and volatility trends for trades. An infograph outlining the situation below.

Infograph 1: Beyond Prediction



Source: Infograph made using NotebookLM

9. Conclusion

Moving averages have continued to be used in finance not for their capacity for making predictions with a high degree of accuracy but because of their role as a universally accepted form of communication that can easily capture the complexities of the market. The structural framework that enables persistence and coordination instead of correction is a factor that makes moving averages predisposed in the scenario of the Bangladesh equity market.

In this paper, we have demonstrated how the moving averages on the Dhaka Stock Exchange are exceptionally long, as seen in Figures 1 and 2 above. These features suggest the role of moving averages in Bangladesh is to define episodes rather than make predictions about trend reversals in the short term. When a shorter term is used, as in Figure 3, transitions for significant turns, even in the presence of a long-term trend, are identifiable. Furthermore, the identification of episodes, as in Figure 4, confirms trend weakness in momentum and volatility compression prior to reversals in long-term averages.

Taking all the above results together, it appears that it would be misleading to consider moving averages as a trading rule system and a set of prediction models. Instead, moving averages have been used here as a descriptive tool, which reflects the various behaviors of a group of agents under a particular set of institutional conditions, as well as a particular pattern of past prices. Moving averages, together with the study of volatility and human judgment, represent a rational method of interpreting speculation-correction cycles in the Dhaka Stock Market.

Speaking generally, it can be ascertained that technical analysis can also be researched in the context of an institutionally as well as behavioral paradigm that neither in theory has to deal with market inefficiency nor has any strategy for making trades on inefficiency signals. Talking

about the specific paradigm, they are able to demonstrate how markets can synchronize views, address risks, and adapt to change within markets. For policy design, it accentuates the importance of structure and communication for markets.

In a market that cycles slowly from one extended phase to another, as opposed to oscillating quickly, it may be more important to understand the market regime than to predict the next movement. The moving average, when approached with proper perspective, continues to offer a clear insight into market regime.

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