Rules vs. discretion: Impact of trading rules on market quality and trader behaviour

Nidhi Aggarwal, Surbhi Bhatia, Bhargavi Zaveri

Regulators worldwide undertake market surveillance measures to govern market conduct, protect investors and promote market efficiency. Academicians have conventionally debated the objective of such regulations and their benefits vis-à-vis the cost involved for exchanges, traders and firms. The empirical evidence examining the effects of surveillance measures on market quality and efficiency has thus far been mixed, thereby raising questions on the optimal level of such regulations to achieve the intended outcome.

Once such regulation introduced by the SEBI and exchanges jointly on February 23, 2017 was a new surveillance mechanism called Graded Surveillance Measure (GSM)[1], aimed at protecting investors by raising alerts on securities that witness abnormal price rise, not commensurate with the financial health and fundamentals of the firm. The framework is divided into seven stages. The stock exchanges are required to monitor and identify securities to be included or excluded under the GSM framework based on a detailed criterion in terms of net worth, net fixed assets and price-to-earnings (P/E) ratio as specified by the regulator. These securities get subjected to special trading rules depending on the stage in which the firm is placed, with consequences being severe for Stage 3 and above.

The study by Aggarwal, Bhatia and Zaveri (2019) examines the eligibility criteria of inclusion under the GSM framework as well as the impact of GSM on overall market quality, firms considered under the framework and investor confidence. The study's dataset includes 110 securities from the National Stock Exchange that have entered the GSM framework between March 2017 and March 2019.

The initial observations that the study has made are: 1) Nearly 45% (49 firms) of the securities entering the framework were placed in Stage 0 and 33% (36 firms) were able to exit out. 2) Most of the firms stayed in Stage 0, followed by Stage 1, 3) Age of the firms varied from 5 to 83 years, with the median age being 32 years, 4) Most firms entering the framework belong to manufacturing and trading categories such as fund-based financial services and wholesale trading, 5) Geographically, nearly 24% of the firms are located in Maharashtra, followed by Tamil Nadu, Telangana and New Delhi, 6) These securities have low liquidity. 7) There is a consistent ownership trend, with non-promoter non-institutions holding the largest share, implying higher share of individual investors in these firms.

The first part of the study examines the criteria based on which securities are considered into the GSM framework. As per the NSE circular, companies must jointly satisfy the following three criteria—net worth less than or equal to Rs 100mn, net fixed assets less than or equal to Rs 250mn and P/E being negative or greater than twice the P/E ratio of Nifty 500)—for trading restrictions to be applicable. The study shows that only 35% of the firms satisfied the inclusion criteria, implying that 65% of the firms were included not by rule but probably based on other factors not specified in the circular.

The second part of the study empirically examines the impact of the GSM framework on stock returns and liquidity by using an event-study methodology and difference-in-differences (DiD) approach respectively. In the event-study analysis, the returns and market quality of firms that entered the GSM framework (*treated firms*) are compared with that of a matched set of firms (control firms) that were like the treated firms in terms of specific characteristics prior to their entry into the framework. The event-study analysis is conducted separately for the announcement as well as the effective date based on a window of five and 10 days. The analysis shows that when the event date is the announcement date, the cumulative abnormal returns (CAR) of treated as well as control firms move

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[1] Please refer to the link below for details regarding the *Graded Surveillance Measure (GSM)* and criteria for shortlisting and review of securities under the GSM Framework.
https://www.nseindia.com/invest/content/equities_surv_actions.htm

together, prior to and post the announcement, up to five days but the divergence between the two groups starts becoming visible after five days of the announcement date. However, when the event date is effective date, i.e. the date on which the firm enters the GSM framework, divergence between CAR of treated as well as control firms is seen across both the event windows, with the divergence increasing as the number of days post the entry increases. The results show that firms which enter the GSM mechanism experience a decline in prices after the event of entry into the GSM framework, indicating a significant impact of GSM mechanism on stock returns. The DiD methodology to analyse the impact of GSM framework on liquidity shows that the treated firms, on average, experience a decline in liquidity relative to control firms in terms of number of transactions and turnover ratio.

Furthering this study, the authors aim to do a more rigorous analysis to support the inferences of the current study by applying more measures of market quality by using higher frequency data for liquidity and inclusion of measures for price efficiency. The authors also aim to examine the impact of trader behaviour and changes in trader composition, if any, for firms included in the GSM framework. Finally, the future work will also include an estimation of the impact of the GSM mechanism using regression discontinuity design (RDD) technique.