Rules vs. discretion in market surveillance: evidence from India

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Abstract

This paper examines the manner of implementation and the impact of a new surveillance measure, called the Graded Surveillance Measure (GSM) jointly implemented by the Indian securities exchanges and the Securities and Exchange Board of India (SEBI). Unique to the Indian securities market, the measure temporarily restricts trading activity in securities whose prices are not commensurate with the financial health of the firm, as pre-defined by the exchange. Using a unique hand compiled data-set of all the securities that were subjected to this surveillance action, we find that nearly a third of such securities did not satisfy the pre-specified criteria. More than half of the securities that exited the surveillance continued to exhibit the characteristics that subjected them to the restrictions in the first place, raising critical questions on the effectiveness of the measure. We find considerable ambiguity on the extent of trading restrictions imposed on such securities and the manner in which the restrictions are eased or tightened. We also find that securities which are subjected to this surveillance measure, experience a decline in stock prices and trading activity. Our paper contributes to a growing line of literature on the discretion applied by exchanges in surveillance practices and the quality of enforcement of rules.

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1 The context

In February 2017, the SEBI and the exchanges jointly introduced the GSM framework aimed at protecting investors by raising alerts on securities witnessing abnormal price rise not commensurate with the financial health and fundamentals of the firm (**NSE2017**). As per the circular published by the NSE, the main objectives of the GSM framework are to:

1. alert and advice investors to be extra cautious while dealing in these securities; and
2. advice market participants to carry out necessary due diligence while dealing in these securities.

Under the GSM framework, stock exchanges regularly monitor and identify securities that are then subjected to special trading rules, which include lower price bands, mandatory physical settlement, Additional Surveillance Deposit (ASD) ranging from 100% to 200% of the trade value and restrictions on the number of days on which the security can be traded (see Table **??**). The trading rules to be followed for a security depend upon the stage in which the security is placed. The framework is divided into seven stages, with Stage 6 being the most restrictive. In addition to these trading restrictions, the exchange's circular states that the members trading in the identified securities either on their own account or on behalf of clients shall be kept under close scrutiny by the exchange and any misconduct shall be viewed seriously.

The securities to be included into the GSM framework are identified based on a pre-defined criteria. This criteria is based on certain thresholds for net worth, net fixed assets, P/E or P/B ratio and market capitalisation. Once shortlisted for the GSM, the securities are placed in either Stage 0 or Stage 1 for atleast a quarter. After a quarter, the exchange reviews and updates the list of securities with revised stages, new entries, or exits. The intra-stage movement of securities is determined based on their price movements. If a security does not any longer meet the pre-defined criteria, it is moved out of the GSM framework.

2 Objective

Our paper seeks to evaluate the manner of implementation and impact of the GSM framework on the stocks that are subjected to it.

We first examine how many firms that were shortlisted in the GSM framework met the pre-defined criteria as laid out in the National Stock Exchange (NSE) circular. We evaluate this only at the time of entry and the exit of the stocks, as the criteria for intra-stage movement is based on price movements which is not available in public domain. This helps us determine the extent to which the security selection is done based on rules versus discretion.

Second, we examine the impact of the GSM framework on stock returns and trading activity.

3 Data

Our analysis focuses on publicly available data from the website of the NSE. We begin by compiling the list of securities that entered into the GSM framework over the two year period from March 2017[1] to March 2019.

For this purpose, we hand collect the information on GSM securities from the circulars published on the NSE website under the surveillance and investigation category. Each circular consists of an annexure which lists down the names, trading symbols and ISIN of securities entering, exiting or moving between various stages. Using this information, we curate a dataset of all securities which entered the surveillance mechanism since its introduction in February 2017, along with the date of inclusion, exclusion and movement within stages. We also record the announcement and implementation date for these securities.

We use the Prowess database maintained by the Centre for Monitoring Indian Economy (CMIE) to collect information on the financial and accounting variables for our sample set. Prowess provides information on financial statements, industry groups, ownership data based on the quarterly and annual reports for companies in India. It also provides daily data on financial market variables such as stock prices, floating stock, market capitalization, traded volumes for publicly listed companies. We collect data from Prowess for a period of one year prior to the inclusion of a firm into the GSM framework.

Table **??** gives an overview of our sample period and sample size.

Table 1 Overview of sample

Study period	March 2017-March 2019
No. of stocks that entered GSM	121
No. of unique firms	111
No. of firms suspended from trading	10
No. of stocks that exited GSM	47

During the study period, these 121 stocks experienced various inter-stage movements across the seven stages. Table **??** shows the stage-wise distribution of securities that were placed into GSM during the sample period from March 2017 and March 2019 and the corresponding broad trading restriction.

While a majority of the firms (40%) in the GSM were placed for atleast a quarter in Stage I implying mandatory physical settlement and a price band of 5% or lower, 23% of the firms were placed in Stage 0 in which the system generated a warning every time an order was sought to be placed in respect of these securities. About 17% stayed in Stage II, while about 11% of the firms stayed in Stage III for atleast a quarter. The remaining 9% saw more severe restrictions with trading in such permitted only once a week or once a month, along with an ASD of 200% of the traded value.

4 Research design

To understand the manner in which the GSM framework was implemented, we examine the stocks that were shortlisted in the GSM framework and the extent to which they

[1] The first list of GSM securities was released in March 2017.

Table 2 Stage-wise distribution of securities in the GSM framework

Stage	Restriction	No. of securities
Stage 0	Market participants are advised to be extra cautious and diligent when dealing in these securities.	55
Stage I	Physical settlement & price band of 5% or lower	96
Stage II	Physical settlement, price band of 5% or lower, ASD of 100%	40
Stage III	Trading permitted once a week, ASD of 100% of trade value	27
Stage IV	Trading permitted once a week, ASD of 200% of trade value	10
Stage V	Trading permitted once a month & ASD of 200% of trade value	7
Stage VI	Trading permitted once a month no upward price movement allowed & ASD of 200% of trade value	4

met the pre-defined criteria as laid out in **NSE2017**. We evaluate the characteristics of these stocks at the time of their entry into and exit from the GSM framework.[2] This helps us determine the extent to which the security selection is done based on rules versus discretion. High discretion in the enforcement of securities market regulation can have unintended consequences on firm liquidity, creates policy uncertainty and has the potential to raise the cost of capital for such firms.

In the second part, we analyse how the inclusion of stocks into GSM impacts a firm's stock price and its liquidity. Given the stringent conditions placed on trading, we expect trading members to reduce their trading activity on the securities placed in the GSM framework. We also expect a deterioration in the stock prices of the GSM firms as a result of inclusion in to the framework. A deterioration is likely to happen since investors would sell such securities given the uncertainty on the tradeability of these stocks. We examine this hypothesis using a difference-in-differences framework.

To eliminate the effect of confounding factors on stock prices and liquidity, we match the firms included in the GSM framework (*treated*) with firms with similar characteristics but not included in the framework (*control*). By comparing these two sets of firms using an event study[3] and difference-in-differences framework, we determine how the GSM framework impacts the stock prices and liquidity of the included firms.

Finally, we examine the stock prices and trading activity of firms that exit the framework.

[2]We do not examine the characteristics of these stocks during the intra-stage movement as these movements are based on price movements which is not available in public domain.

[3]We conduct the analysis on two event windows: five days and ten days.

5 Findings

5.1 Implementation of the framework

We find that about 30% of our sample firms did not meet the criteria required to be satisfied for the entry into the GSM framework Table **??** summarises our findings.

Table 3: Satifaction of criteria for entry into gsm

Stage of entry	Total	Yes	No	n.a.
Stage 0	55	37	9	9
Stage I	56	30	25	1

The last column represents the number of firms for which the data is missing.

We also find that a substantial number of firms that exit the GSM framework continue to exhibit the same characteristics at the time of exit that made them eligible for GSM to begin with. For example, more than half the exited firms continued to have a net worth equal to or less than Rs. 10 crores, net fixed assets equal to or less than Rs. 25 crores and market capitalisation equal to or less than Rs. 25 crores. More than three-fourth of the exiting firms had a negative PE ratio at the time of their exit.

5.2 Impact on stock prices

Our event study analysis on matched treated and control stocks indicate that securities that enter the GSM framework experience a decline in stock prices after the effective date of entering into Stage 1. On an average, these stocks experience a decline in returns to the extent of 3-5% more than the control stocks. We also find that stocks that enter GSM in Stage 0 do not have significant impacts on stock prices relative to the matched control stocks. This is likely because inclusion into GSM-Stage 0 only generates an alert for the trader to exercise due diligence while trading in such a stock, and does not have any implication in the form of trading restriction(s).

We also analyse the effect on stock prices after a security exits the GSM. We find that on average, these stocks experience significantly positive returns after they exit the framework. This is true for both the five day window, as well as the ten day window. The findings indicate positive investor interest in the stocks after from GSM.

5.3 Impact on liquidity

We examine the impact of the mechanism on the liquidity and trading activity of the stock. To assess the impact on the liquidity of the stock, we use three measures: Amihud's illiquidity ratio[4], traded volumes and number of transactions. While we do not find any effect of the announcement of the inclusion of a stock into the GSM framework, our findings suggest significant impacts on the liquidity of the stocks after they enter into the GSM framework. Relative to control stocks, we find that the matched treated stocks experience a deterioration in liquidity over a ten-day window (0.13 units on an average).

[4]The Amihud's illiquidity ratio is a measure of price impact and is calculated as the ratio of daily absolute returns to total trading value (**Amihud2002**).

We find similar impacts on trading activity measures. The average traded volumes as well as the number of trades on matched treated firms fall after they enter into the framework. However, we also observe a decline in traded volumes of the control stocks for the same time period. On the whole, we find that the decline in treated stocks is significantly higher than the control stocks after the first week of entry into the GSM framework. On an average, our estimates suggest a relative decline in average traded volume to the extent of 2,224 shares in the event window of three and five days.

We also find that the illiquidity ratio of the firms that exit the framework improves over the ten day window. This finding also holds for trading activity measures of the exited firms.

6 Summary

Our analysis of the framework suggests that there is considerable ambiguity in the manner of selection of firms into the GSM framework. Not all firms that were included in the framework satisfied the pre-defined criteria. Similarly, we find that half the firms that exited the GSM framework continued to exhibit characteristics that subjected them to the restrictions in the first place. This raises critical questions on the efficacy of the mechanism, and also the extent of discretion involved in terms of selecting firms into a framework which has severe consequences.

We also find that securities that are traded in the GSM framework have a significant adverse impact on stock prices as well as liquidity measures. Such impact is likely to raise the cost of capital of firms that enter the framework. If the framework is not well-targeted, this kind of surveillance action would adversely affect investor confidence (owing to policy uncertainty) as well as the reliance of firms to raise capital on equity markets.