



Quality In Governance of Demutualized Stock Exchanges Over Mutualized Stock Exchanges – A Case Study

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ABSTRACT

To determine the quality of administration of stock markets, organization structure of a stock exchange matters to a large extent. India has two major stock markets, the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE). These two exchanges adopt similar trading systems, trade essentially identical stocks, and follow the same trading hours. However, these exchanges have different organizational structures: BSE is mutualized whereas NSE is demutualized. This paper dwells on the comparison between the two structures and shows the better market quality of NSE, which ultimately propose that demutualized exchanges are superior to mutualized in governance.

KEYWORDS :

Introduction

In sharp contrast to the plethora of studies that examined the impact of corporate governance provisions adopted by manufacturing and service firms, there has been little research attention devoted to governance of stock exchanges. Traditionally, stock exchanges have been organized as non-profit, mutual/ membership associations. A recent trend has been conversion of mutualized exchanges into publicly owned corporations, which are themselves listed and traded on a stock exchange. There are several benefits of demutualized as compared to mutualized stock exchanges. The primary driver for such benefits is the favorable governance structure associated with demutualized exchanges. The members of mutualized stock exchanges have incentives to oppose innovations even if they increase the exchange value. Since traditional stock exchanges are mostly regional monopolies, they could, in the extreme case, even oppose enhancements to quality of services they provide if such improvements are thought to diminish the welfare of the respective exchange members. Our paper's primary focus is to examine using data from two competing stock exchanges in India, which differ in their governance structure – namely, the Bombay Stock Exchange and the National Stock Exchange. Direct comparisons of market quality in the two stock exchanges are facilitated by the simultaneous trading of at least 30 major stocks on both exchanges, with both utilizing similar trading systems. While prior studies have compared the quality of stock markets with different trading systems, reliable comparisons are, in fact, difficult to achieve. Our study makes unique contributions to the literature. First, unlike previous studies to date, using transaction cost as the proxy for market quality, we compare the quality of two stock exchanges, which are similar in most respects except for their governance structure. Second, since our study is conducted in an emerging market setting, it has policy implications for other emerging markets. Third, our paper describes how advances in trading technology have implications for competition in the stock market trading industry. In particular, we show the importance of information technology in breaking down barriers to entry.

Bombay Stock Exchange and the National Stock Exchange

Until the early 1990s, the Bombay Stock Exchange (BSE) was the premier stock exchange in India. At that time, BSE was plagued with a variety of problems, principal among them, outdated trading and settlement procedures, and poor regard for investor protection. The careless attitude of brokers and administration of BSE frustrated efforts of the regulator, namely, the Securities Exchange Board of India (SEBI), in pushing through critical reforms to bring the premier exchange of India on par with the best run exchanges in the world. The complacency of the BSE administration may be attributed to their overestimating the significance of barriers to entry in the provision of stock broking and trading services. BSE also underestimated the determination of the Government of India to reform the stock markets, who took the unprecedented step in creating a new stock exchange with the help of government owned and controlled financial institutions. Recent technological advances in communication and computing technologies aided the efforts of financial institutions that spearheaded the establishment of the new stock exchange. A new stock

exchange – the National Stock Exchange (NSE), emerged as a consequence of the government's efforts and initiatives. The ensuing competitive market structure in Indian stock markets, as an outcome of the reform process, is unique and without parallels. NSE dramatically altered the stock market landscape of the country within a short period of its inception, using current best practices in computing and network technology to provide state of the art trading services to Indian investors. In short, NSE dramatically improved the quality of trading services and thereby challenged the dominant position held by BSE.

Another significant difference between the two exchanges pertains to governance. BSE follows the mutual form of organization whereby stockbrokers own and operate the exchange. The president of the exchange is elected by broker members and, therefore, represents their interests; investors' interests are consequently relegated to a secondary position. On the other hand, NSE follows the corporate or demutualized form of organization, defined as the separation of ownership of the exchange from membership. NSE has incentives to adopt actions that increase the quality of its market, while BSE is more likely to resist such changes if they have a deleterious effect on brokerage profits. Thus, we expect the quality of NSE's market to be higher than that of BSE. Hence, market quality comparison between NSE and BSE forms the core motivation for our paper.

Differences between NSE and BSE

We begin by outlining the principal differences between the exchanges. This outline allows us to formulate appropriate expectations regarding quality differences. We use the following dimensions with which to make these comparisons: ownership, governance, trading systems, connectivity, and technology use.

Ownership

NSE has been incorporated as a tax paying company and is owned by a group of large developmental financial institutions. On the other hand, BSE is organized as a brokers association. Broker members own seats on the exchange and operate BSE.

Governance

NSE is professionally managed by a fulltime Managing Director who reports to a Board of Directors, and is, as such, managed by professionals who do not directly or indirectly trade on the exchange; ownership and management of the exchange are therefore, completely separated. Until NSE emerged, most stock exchanges in India were owned, controlled and managed by brokers who held seats on the various exchanges. For the BSE, one of the broker members is elected to administer the exchange and is designated as the president of BSE; the president continues to own a seat on the exchange.

Trading system

NSE uses the latest innovations in computing and network technologies to bring the best available trading system to its customers, and improves the quality of its trading system in its bid to attract and retain its customers. A fully automated screen based trading system, referred to as NEAT and developed by NSE, enables members from all over the country to trade with one another on a real-time basis with

ease and efficiency. NEAT is a completely automated system for order matching that is completely order driven and provides complete anonymity to its trading members. NEAT operates on a strict price time priority such that all buy orders received on the system are sorted with the best-priced order getting the first priority for computerized matching with an incoming market sell order. NEAT provides users with several time related orders such as Good-Till-Cancelled, Good-Till-Day, Immediate- or-Cancel. Moreover, traders are able to take advantage of price-related and volume-related orders that may be built into an order.

BSE has, however, been slow to adopt new technology. Floor trading was still the prevalent mode of transacting when NSE commenced operations in November 1994. Since then, a rapid erosion of market share forced BSE to establish its own computerized trading system. This move was a strategic response to a comparatively superior trading system established by NSE. By June 1995, BSE inaugurated its own electronic trading system known as BOLT. BOLT adopted many of the features that were built into NEAT. NSE is the originator of new initiatives. With BSE usually responding after a time lag, it appears as if it is merely trying to protect its market share rather than making a genuine effort to increase customer satisfaction.

Connectivity

NSE established a national network of terminals in over 300 towns and cities including those not served by any stock exchange. Network technology using satellite communications links all member terminals to its main computer located in Bombay. This equal access to traders all over the country sharply contrasts with BSE, which serves only the city of Bombay. BSE was initially operated as a regional monopoly with a charter allowing its trading members exclusive rights and access to its

trading floor in Bombay. Shortly after NSE commenced its trading operations, its runaway success seemed to threaten the livelihood of BSE brokers. The cost of a seat on BSE fell from about Rs. 40 million to about Rs. 10 million within a year of NSE's opening. To counter this, BSE quickly set up BOLT, which started operating from 1995, but was still restricted to the city of Bombay. As the first automated exchange in India, NSE had a freer hand in determining its reach. With no physical trading

floor limitation, it could logically argue that it is able to cover the entire country. BSE and all the other regional exchanges in India are regional monopolies, and according to their charter, are explicitly prohibited from setting up offices or providing their services in locations outside their respective jurisdictions. This explicit prohibition served to limit the connectivity and reach of BSE. NSE is unaffected by these limitations, has enjoyed much network externalities, at a cost to its most powerful rival, BSE. In this connection, the heavy role of the Indian government in establishing

NSE, greatly facilitated its success. Since BSE was not allowed to operate its terminals outside Bombay until late 1997, NSE had an important advantage. It appears that BSE and its members learnt a costly lesson that it does not pay to vehemently oppose the regulatory agencies of the Indian government.

Technology

Technology is another dimension on which the two exchanges had completely divergent attitudes. The expert committee report submitted by Mr. M.J. Pherwani to the government of India in 1991 strongly recommended complete automation in Indian stock exchanges. BSE could have taken the cue and set-up its own electronic exchange. The stance taken by BSE in rejecting a significant role for automation in its trading seems absolutely incredible. We conjecture that BSE's brokers perhaps viewed technology as a major threat to their rent seeking activities. In our opinion, technology served to provide two major advantages to NSE in dealing with the competition from BSE. First, it served to consolidate orders from various cities in the country which were previously fragmented. The second advantage is the network externality that a completely automated nation-wide network creates. NSE managed to accomplish large trading volumes within a short period of its functioning. Scale economies provided by high volume trading activity enabled NSE to reduce brokerage commissions from about 2% to 0.5%. This reduction in explicit transaction cost served to

break the monopoly of BSE.

Automation, governance and quality of markets

Although we identify five major differences between NSE and BSE, ownership structure is considered to be the distinguishing characteristic. We argue that it is the difference in ownership that determines the characteristics of each exchange. Everything that NSE has achieved since inception, BSE potentially could have accomplished in a superior manner. As the premier exchange in India, BSE had access to resources and the clout to maintain its dominant status. Had BSE adopted NSE's approach, it would have pre-empted the creation of NSE. BSE's adherence to its status quo in trading technology most likely stems from vested financial interests of its broker members. The brokers of BSE resisted automation and the attendant improvements in market quality as they perceived that automation would lead to market transparency. Unlike the automated system, a manual trading system would not easily detect the illegal activities of these brokers. It is with these considerations that the floor trading system continued in spite of alleged inefficiencies. This culture of pleasing the brokers at the cost of investors is very strong in BSE.

Data

The dataset used in this study comprises 30 pairs of common stocks that are simultaneously listed and traded on both BSE and NSE. All selected stocks are Indian index stocks that are observed to have large numbers of observations for each trading day and hence have higher liquidity as compared to other similar stocks. We specifically selected these stocks to minimize stock-specific effects; for example, stocks with larger market capitalization generally have lower trading costs. In this paper, the 30 pairs of stocks that are traded on both BSE and NSE are identical.

Why is the quality of market better on NSE?

Although transaction costs on NSE are lower than BSE, market structure differences may account for these results. The factors are related to ownership/governance. We argue that a demutualized ownership structure has enabled NSE to score higher on these governance variables: use of technology, internal control systems, transparency, regulation and investor protection. Small and medium investors would be attracted to NSE due to the perceived better quality of governance and protection. In addition, the geographical reach, which is not a governance factor, is likely to augment trading activity on NSE, and therefore have a beneficial effect on execution costs. While factors such as technology use and investor protection serve to enhance market quality by attracting liquidity traders, it is not obvious that a more transparent market with better internal control systems, transparency and regulation will enhance the quality of market as measured by execution costs (transaction costs). A market with fewer regulations and weak internal control systems would be attractive to traders who seek to exploit inside information. Such a market would be attractive to institutional traders if the exchange were negligent in enforcing regulations. In fact BSE would be more attractive to insiders and institutional traders on account of the perceived laxity of that exchange. Such a market can theoretically provide lower execution costs if some traders place limit orders of large sizes. Based on a comparison of the two exchanges, we expect NSE to have a higher degree of trading activity (number of trades) and BSE to have a larger trade size. Both these factors are expected to result in an improvement in market quality via a reduction in execution costs. Some governance factors for which we have no proxies, technology use and investor protection, may have an influence on market quality. To disaggregate the source of market quality differences a multivariate study is conducted.

Conclusion

The primary role of a stock exchange is to provide trading services to its ultimate clients. Prior studies have concentrated on comparing the quality of markets with different trading systems. Little attention has been paid to the critical issue of the quality of markets and stock exchange governance. The role played by technology in transforming Indian stock markets is particularly evident. Applying the latest technology, the National Stock Exchange was able to penetrate barriers to entry in the stock-broking industry, which had the consequent benefit of reducing the cost of providing these services. Being able to pass on lower trading costs to investors, the National Stock Exchange posed a serious threat to the existence of the oldest exchange in In-

dia, namely the Bombay Stock Exchange. That technology is responsible for breaking barriers to entry and for dramatically improving quality of markets in Indian stock exchanges is unequivocal.

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