A CRITICAL OVERVIEW OF THE TRANSPARENCY AND COMPETITIVENESS OF THE LONDON STOCK EXCHANGE

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How to cite this paper: Sanusi, M. S. (2018). A critical overview of the transparency and competitiveness of the London stock exchange. *Risk Governance and Control: Financial Markets & Institutions, 8(2),* 74-83. http://doi.org/10.22495/rgcv8i2p5

ISSN Online: 2077-4303
ISSN Print: 2077-429X

Received: 23.05.2018
Accepted: 24.07.2018

JEL Classification: D02, D21, G15
DOI: 10.22495/rgcv8i2p5

Abstract

This paper explores the operational activities of the London Stock Exchange in the 21st century to provide an overview of its operational transparency and competitiveness; the competition among its market participants and how it competes with other developed stock exchanges around the world. Evidence was found that suggests the manifestation of both competitive and uncompetitive practices in the London Stock Exchange. The presence of the key elements that enhance the competitiveness of the market, such as continued technology transformation, strategies that promote globalisation and regulatory flexibilities was observed. Simultaneously, signs of non-competitiveness such as high membership and annual fees, transaction costs and stamp duties were also observed.

Keywords: Competitive Forces, Transparency, London Stock Exchange, Settlement, Clearing, IPO's, Transaction Costs

1. INTRODUCTION

The existence of an effective financial system is one of the key determinants of economic development (Bayraktar, 2014). The link between the financial system and economic development is responsible for the special attention given to all financial markets, including stock exchanges. Since the greatest amount of capital is exchanged through stock exchanges around the world, national economic growth is undoubtedly the function of stock market performance (Rounaghi and Zadeh, 2016). Many studies have been undertaken to establish the extent of the relationship between stock exchange performance and economic development (see also Kothari, 2001; Pan and Mishra, 2018; Ngare et al., 2014; Nieuwerburgh et al., 2006). The important role played by stock markets in national economic development has been very obvious because of the wave of globalisation and competition among stock exchanges across the globe (Amira and Muzere, 2011). Due to the effect of globalisation and competition, the stock liquidity of stock markets has been improved (Holmstrom, 1982; Grossman and Hart, 1983). Scholars such as Chung et al. (2010) have gone further to suggest that effective competition leads to an increase in stock liquidity and good governance oversight. An alternative view is that competition decreases the stock liquidity of stock exchanges and may encourage the dealers to widen bid-ask spreads and thus, results in high transaction costs (Glosten and Milgrom, 1985).

The competitive forces in the London Stock Exchange were assessed to provide evidence of the mechanisms that dictate the operations and behaviour of the market. Competitive characteristics or elements such as pricing methods, level of transaction costs, transparency and regulatory bureaucracy are studied in the following subsections to determine the level of operational competitiveness in the London Stock Exchange. The perception of the meaning of 'competition' in an exchange has been described as ambiguous. It is seen in different ways. The common perception reckons it as the presence of fair rivalry between market participants in the same economic environment and of a market structure that enables fragmentation for the equal involvement of all participants. In addition, the market should be of sufficient size so that no single participant can influence the pricing of assets, there should be no differential laws and regulations controlling the participants and generally, it must be considered as a 'level playing ground'. It must also have free entry and exit and instant perfect information to all participants. Also, the equities traded must be homogenous in terms of risk and return assessment.

The emphasis of this paper is to examine competition from both within and outside the Exchange by focusing on the level of restrictions on market participants; regulatory flexibility; fair pricing; levels of transaction costs; activities of market makers, brokers and institutional investors; transparency and generally the equality of opportunity given to every participant. In relation to competition among the top stock exchanges in the world, the competitiveness of the London market will be viewed from the angle of its ability to attract new companies for listing, potential investors and other market participants.

The remaining part of the paper is organised as follows. Section 2 presents a review of the relevant literature. Section 3 explains the methodology adopted in the study. Section 4 discusses the findings of the study, including the discussion of the competitive attributes of the LSE. Section 5 presents the conclusion of the study, including the areas of further research.

2. LITERATURE REVIEW

Market transparency in stock exchanges can increase liquidity and enhance price efficiency (Biais, 1993). Madhavan (1995) has a contrary opinion on the relationship between market transparency and stock liquidity. This scholar has suggested that market participants avoid highly transparent markets because dealers and large traders benefit from systems that are not unified. According to Madhavan, this behaviour of the traders causes market illiquidity and an increase in market volatility. Madhavan's findings are contrary to the findings of many theoretical papers, such as that of Pagano and Röell (1996) that compared various trading systems, concluding that transparent systems provide protection to uninformed investors and create liquidity in the market. Frutos and Manzano (2014) added that transparency in stock exchanges increases market liquidity and reduces price volatility only if perfect competition exists. In assessing the transparency of stock exchanges, the ability of traders to access information in the trading process, for example, trading volumes and prices, order flows, bid-ask quotes and the activities of market participants among others are the key parameters to measure (Comerton-Rydge and Rydge, 2006). On disclosing the unexecuted orders of just five of the best bid and ask quotes, both the bid-ask spread and the standard deviation of returns in the Taiwan Stock Exchange decreased significantly, implying an increase in market quality (Ke et al., 2013). The degree of market transparency has been identified by Lescourret and Robert (2011) as one of the factors that determine the competitiveness of a stock market.

According to Lo (2013), the competitiveness of a stock exchange depends on factors such as the effectiveness of the listing process, level of transparency, regulatory framework, liquidity, price discovery, easy access and shareholders' protection. These factors were presented in a competition matrix that broadly recognised competition for listing by firms and competition for trading by investors on a given stock exchange as key information for measuring its competitiveness. Many scholars have the same viewpoint as Lo (2013). For example, on the regulatory framework, Coffee (2001) and Klein (2005) argue that large firms would be attracted by stock exchanges that have strong regulatory and accounting standards. On the listing process, Pagano et al. (2001) and Serifsoy (2007) believe that the effectiveness of the listing process in a stock exchange attracts large firms for greater visibility. Stock liquidity is also seen as a product of effective electronic trading systems that attract investors and thus, improve stock exchanges' competitiveness (Amihud and Mendelson, 1986). However, scholars like Madhavan (1995) have a contrary opinion on whether some of these factors determine the competitiveness of stock exchanges. For instance, he argued that if the level of transparency is high in a stock exchange, many traders would not be attracted to that market since their gain is limited.

3. METHODOLOGY

The study was conducted through a review of the operational activities of the London Stock Exchange using both internal and external desk research methods. Secondary information was collected and analysed from various published reports, journal articles, news releases, texts and publications of the London Stock Exchange. In general terms, the methodology of the study is entirely based on the principles of a qualitative research approach.

4. RESULTS AND DISCUSSION

4.1. London Stock Exchange and the UK economy

The London Stock Exchange (LSE) plays a significant role in the UK economy and its development. The UK economy is the world's fifth largest by nominal gross domestic product (GDP) at over US $2.85 trillion and is the world's eighth largest by purchasing power parity (PPP) at over US$ 2.64 trillion, (International Monetary Fund (IMF), 2015). It is also the fourth largest exporter and importer in the world. It has the second largest flow of inward foreign direct investment which directly reflects the role of the London Stock Exchange in attracting foreign capital. The economy is generally characterised as a free but partially controlled market and is considered to be among the most globalised in the world. As the first economy that witnessed the industrial revolution in the mid-18th century, it has a remarkable influence on the overall global economy with its capital city of London being one of the largest financial centres in the world. Unsurprisingly, the Exchange remains one of the largest security markets in the world, based on parameters such as market capitalisation, number of listed companies (both foreign and local) and incentives to small and growing companies seeking share quotations, (Lees, 2012). In 1986, the exchange undertook a major restructuring of its market structure in activities referred to as 'Big-Bang', which became a blueprint for other exchanges in the world. The key changes during the 'Big-Bang' era encompass the permission of 100% external ownership of the Exchange, abolition of fixed commissions and charges, distinction between the functions of stockbrokers and that of stock jobbers, introduction of the fully automated trading systems and changes in the regulatory framework of the Exchange. The Exchange also become a private limited company under the Companies Act (1985) and stopped individual members from having voting rights as part of the deregulation that took place during the period. It was reported that not long after the 'Big-Bang' deregulation, the New York Stock Exchange (NYSE) undertook a similar reorganisation. For this reason, the London Stock Exchange is also referred to as a 'pace-setter' in the operational or business model of global financial exchanges.

The London Stock Exchange had a market capitalisation of more than US $6.06 trillion (£4.09 (GBP) trillion) as at the end of December 2014 which was more than 200% of the country's nominal GDP (London Stock Exchange, 2015a). As of March 2015, there are 2,426 companies from over 100 countries that are listed on the exchange. Forty-four percent (or 1,088 companies) are listed on the Alternative Investment Market (AIM) and 1,338 companies are listed on the main market (London Stock Exchange, 2015b). According to the published Annual Report (2014) of the London Stock Exchange Group (LSEG), the capital market segment has generated revenues of more than £309 million, representing about 26% of the group's total income for the year ended March 2014. The income from the capital market is derived from the three segments of primary listing, secondary trading and other service activities. The primary segment generates income mainly from admission fees for new listings, for raising additional capital and from annual charges levied on all listed companies. From the secondary segment of the market, fees on transactions (value traded) in existing UK equities and bonds are the main source of income. Membership fees from firms and other market players, such as stock brokers, stock jobbers, market makers, clearing firms or houses, issuing security firms, advisers and underwriters who access the trading markets, constitute part of the other activities that generate income for the market. Pricing procedures and the level of other fees are among the attributes to be explored in order to assess the competitiveness of the Exchange.

LSE remains attractive to investors because of its dynamic nature, especially after the 1986 Big-Bang deregulation that created the automated trading system in which face-to-face trading was substituted for computer-based trading, the AIM for small and growing companies and the techMARK exchange for high-tech and healthcare companies. The extent of competitiveness in the London Stock Exchange would have a significant impact on its global financial position.

4.2. Competitive attributes of the London Stock Exchange

In the context of stock exchanges, the level of competition in their operations is determined by the characteristics of competitive elements which are considered to be a reflection of the transparency and effectiveness in policy formulations of the Exchange. The most influential elements considered in this section are discussed in the following subsections.

4.2.1. Pricing and trading volume information disclosure

Millennium IT (an information technology firm owned by the LSE), provides most of the trading facilities and services at the London Stock Exchange that are used in the pricing of listed securities. The trading services are designed to cover different segments of the market based on the nature of their trading activities. For instance, SETS (Stock Exchange Electronic Trading Service) provides a platform as an electronic order book giving executable price quotations for the constituents of the FTSE 100 (a share index that constitutes the top 100 companies that have the highest market capitalisation on the LSE), FTSE 250 (a share index that constitutes the 101st to 350th companies in market capitalisation on the LSE) and FTSE SmallCap (a share index that constitutes the 351st to 619th companies in market capitalisation on the LSE) indices, highly liquid AIM securities and Irish and London secondary listed securities. SETSqx (with the support of market makers) is a similar platform to SETS, but delivers non-electronically executable quotations and covers main market securities that are not traded by SETS. There is also SETSqx (without the support of market makers), which is an electronic order book auction for the main market securities that are not traded via SETS and not supported by market makers. Stock Exchange Automated Quotations or SEAQ is another trading platform or facility that provides non-electronically executable quotations for sterling bonds and convertibles with market maker support. There are numerous trading facilities, such as the ones listed above, in the Exchange that allow the execution of trading activities which directly deal with the pricing of securities.

The disclosure of information with regard to the pricing procedures and trading volume is a key element that signifies the extent of transparency and competitiveness of the Exchange. The information includes the details of the trading schedule with the timings, the basis of calculating both the opening and closing prices, price monitoring activities, market maker activities, settlement processes and trading volume. The rules of the London Stock Exchange contain a section that provides the requirements or standards for the disclosure of information. The standards in the rules have emphasised that market participants should ensure information disclosed or released in the Exchange is in all respects accurate, timely, complete and not misleading. The trading volume information also plays an important role in determining the market forces of demand and supply and thus, the security price. Presently, the Exchange also displays on its website the information on the five-day trading volume of every listed security and that enhances transparency. The turnover volume and value, including the number of trades undertaken, are also published on a daily, monthly and yearly basis on the Exchange's website. However, the monopolistic status of Millennium IT, which provides the facilities for trading services, may hinder the competitiveness that is expected from the market. The firm is the major provider of the automated trading facilities or platforms on the Exchange, and being without a competitor could affect the effectiveness of the services. Although appropriate rules exist, it is always difficult to ascertain if there is full and effective compliance.

4.2.2. Settlement and clearing processes

Member firms are expected by the 'Rules of the Exchange' to ensure that every transaction effected by them is duly cleared and settled at a reasonable time. It does not matter whether the member firm acted as a principal or an agent. Clearing member firms are expected to clear all trades after each transaction, provided they are part of a clearing membership agreement with any relevant central counterparty (a firm that takes the risk of being a selling party to a matched buyer and also being a buying party to a matched seller) in a given central counterparty security. It is a process that occurs after the electronic trading of matching buyers and sellers using trading facilities has taken place. After the matching of buyers and sellers (electronic trading), clearing firms would take the risk of being buyers and sellers and, if there is a default from any of the actual parties, the clearing firm must buy or sell the stock. Settlement occurs after clearance and it is the process of delivering the title of ownership of the financial instruments to the actual owner, which is usually after three days in terms of equity stocks. The settlement should comply with the terms agreed during the time of the trade or transaction. In both the clearing and settlement processes, participating members are expected to comply with the provisions of the rules in order to make sure the market is efficient. Since 2014, the Financial Conduct Authority (FCA) under which the LSE operates has placed an obligation on the Exchange to ensure adequate supervision of the activities of any member firm that uses its facilities. The efforts of the FCA are meant to provide equal opportunities to all market players, as well as enhance the competitiveness of the Exchange.

4.2.3. Pricing initial public offerings (IPOs) and transaction costs

The process of pricing and valuing IPOs is seen as a significant element in assessing the competitiveness of an exchange. An IPO is the first public issue of equity shares by a company seeking a quotation on a stock exchange. It is also referred to as a flotation in the UK markets and provides an opportunity to transform a private company (Ltd status) to a publicly listed company (Plc status). It is an important process that involves a number of participants, such as banks, accountants, underwriting firms, financial advisers, consultants and legal firms. London's IPO market has been very vibrant over the years compared to other world major stock exchanges. According to the LSE Group's Annual Report (2014), the exchange raised about £6.5 billion as equity capital for new companies from IPOs in the year ended 2014, thereby generating about £39.9 million in income for the Exchange. The Alternative Investment Market (AIM) is another segment of the LSE that showed evidence of high new share issue activity. In the year ended 2014, over 100 small and growing companies were floated on the market, contributing a significant proportion of the £39.9 million generated from IPOs by the exchange in 2014.

The concern of whether IPOs are traded at an issue price below or above the real value of companies, thereby giving undue benefits to some individuals and institutions, depends on the transparency in the exchange. Financial institutions acting as issue managers could over-value companies that are preparing IPOs in order to secure business deals from the firms. Similarly, company managers can also set the issue price of IPOs at less than the true value if they are also potential owners of the floated companies, so that they pay less for ownership. In a publication entitled *Leadership in a changing global economy: the future of London's IPO market* by the London Stock Exchange Group (2011), it was confirmed that there were comments on the lack of transparency in London's IPO market which gives an added advantage to some individuals and results in the sudden rise of share prices immediately after flotation. However, the report has concluded that the basis of those comments was unsubstantiated and opined that London's IPOs are more fairly priced compared to other international stock exchanges such as New York (NYSE) and Hong Kong (HKEx). On the same note, the report recommends a way forward by supporting the establishment of more avenues for pre-IPO engagement and research where stakeholders can have enough time to assess companies in the pipeline for an IPO. The fee structure of IPOs has been argued to be more dependent on the current financial position of companies than on their long-term stability. This has contributed to security issuing houses over-valuing company shares to maximise the fees paid to them. To improve fairness in the pricing of IPOs, the exchange should ensure transparency in all the processes of floating a company by involving investors (representation from investor clubs, unions or associations) in the valuation of companies.

Transaction costs such as brokerage commissions and other trading fees incurred when selling or buying shares in the secondary market, and stamp duties charged during the flotation of shares are considered to be high in the London Stock Exchange. According to Financial News (2015), LSE transaction costs are almost four times higher than that in some competitor exchanges such as BATS Europe (a recognised pan-European investment exchange in the UK and subsidiary of BATS Global Markets that is based in Kansas, United States). Hawkins and McCrae (2002) explain that the key components of transaction costs include the brokerage commission and bid-ask spread. The brokerage commission in the LSE ranges between 0%

for institutional investors and 5% for smallest private investors. The bid-ask spread varies according to the type of securities, market segments and method of trade (via order book, off-order book, electronically or non-electronically). According to the London Stock Exchange (2001), the total transaction costs in the Exchange in the first quarter of 2001 were 0.72% including stamp duty. The LSEG (2011) report on the future of London's IPO market also confirms that the stamp duty on the transaction value of shares (0.5% of the transaction value) in the LSE and in the South Korea Exchange has the highest rates in the world, exposing these markets to a competitive disadvantage. It is arguable that the competitiveness of an exchange is improved if trading costs are not set at a level that is too high. Hsieh et al (2018) have argued that well-functioning stock exchanges have low transaction costs, and that allows market participants to transact large amounts of stocks and thus, enhances market liquidity.

4.2.4. Membership and annual fees

On admission, new member firms (such as brokers, advisers, market makers and underwriters) of the London Stock Exchange are required to pay a fixed admission fee of £10,000 which entitles the firms to operate for the next 12 months without paying annual fees. Existing member firms pay a flat rate of £12,500 in annual fees, although an annual credit of £2,500 is given against the fees charged for the use of trading services for equities and exchange-traded products. The membership of the exchange allows the member firms to undertake various trading services under relevant regulations in the market. In its effort to improve the competitiveness of the exchange, LSE has made some changes to the membership structure of fees, which includes a payment of flat rate annual fees instead of using annual headcount declarations of activities to calculate yearly fees, the introduction of a 20% discount on annual fees and an annual credit of £2,500 on fees for the use of trading services. It is believed that these changes would enhance transparency and also reduce administrative bureaucracy. In contrast to LSE, the membership fees of the New York Stock Exchange (NYSE) are not fixed but are determined by the forces of demand and supply which range between $4,000 and $2,500,000 per annum. In the case of low demand for membership of the NYSE by potential member firms, the fee could be significantly lower than that of the London Stock Exchange. In the Tokyo Stock Exchange (TSE), basic annual fees for membership are JPY 400,000 (£2,200) per trading participant, which is also lower than that of the LSE. At the Frankfurt Stock Exchange (FSE), membership annual fees are between €2,500 (£1,800) and €6,000 (£4,312).

In the face of efforts by the LSE to reduce its membership fees and the level of administrative bureaucracy, the exchange's annual fees remain the highest among many top stock exchanges in the world. Based on the comparison of fees between LSE, NYSE, TSE and FSE made above, the LSE would have a competitive disadvantage because with the globalisation of stock exchange activity, competent market participants may seek membership on less expensive exchanges.

4.2.5. Member firms of the London Stock Exchange and their activities

Most of the activities of the LSE are undertaken by its member firms. The members of the Exchange (referred to as 'member firms') are firms that specialise in areas such as stockbroking, market making, trading services, underwriting, listing of securities, provision of investment advice, market making, clearing and settlement services, share issue activities and other legal services. These services are usually rendered to clients (companies seeking equity capital, plus individual and institutional investors) using trading facilities available at various platforms of the Exchange. The firms are admitted as members based on certain criteria and requirements of the Exchange. As of May 2015, the London Stock Exchange has over 800 registered members that are allowed to operate in various market segments, such as new equity capital market, fixed income market, derivatives markets and trading systems, based on their expertise. In carrying out their duties, the admitted members need to have access to real-time market data and trading facilities in order to render effective and competitive trading services. For their own part, the member firms ensure compliance with the 'London Stock Exchange Rules' and the timely payment of all applicable fees. In return, member firms are expected to operate in an environment characterised by offering fair treatment and equal opportunities to all members. For the Exchange to be competitive, there must be perfect, free and instant information, together with free entry and exit for all participants. However, the extent and strictness of the 'Rules', the different sizes and specialisms of member firms and the high admission and annual fees may negatively affect the competitiveness of the Exchange. The Exchange has been characterised as having high admission and annual fees compared to some of the top world's stock exchanges. Having fixed fees and stamp duties can also affect member firms that are small in size. The specialist or professional segments of the market, such as the Specialist Fund Market (SFM) and Professional Securities Market (PSM) where only member firms that possess the appropriate skills can operate, may bring unfairness to other participating members. For instance, the listing of Islamic bonds on the Exchange, which has raised over US$ 51 billion to date, may require only the services of member firms that have the knowledge of the Islamic legal system and that may put other members at a disadvantage. The Exchange should provide a platform where all members can acquire the basic knowledge of dealing in specialist securities in order to have an equal opportunity of participation. In addition, fixed admission fees that are irrespective of a firm's size should be abolished and replaced by a system that recognises the different sizes of participating member firms.

4.2.6. Activities of market makers, brokers and institutional investors

The activities of market makers, brokers, and institutional investors remain contentious when it comes to the issue of whether all member firms are given equal opportunities for participation. Market makers or liquidity providers are firms that quote both the buy and sell prices of a stock and are prepared to buy or sell at any time in order to make a profit from the bid-offer spread. Stockbrokers are known as agents or mediators that buy or sell stocks on behalf of individuals and institutional investors for a commission referred to as brokerage. Institutional investors are organisations that put together large funds for investment in securities and other assets. Pension funds administrators, unit trust and mutual funds managers, insurance companies and investment trust companies can all be institutional investors. Market makers, stockbrokers, and institutional investors are key players of every stock exchange and can equally be registered as members of that exchange. If a market lacks transparency, market makers can influence the price of securities to their advantage or that of institutional investors. On a similar note, institutional investors can gain an undue advantage by having access to any market information that is not available to other investors. Therefore, the activities of these players are supposed to be monitored for the purpose of ensuring fair competition among all the participants. Atawnah et al. (2018) are of the opinion that most managers are not transparent and are more likely to send the wrong signal to the market, especially when they are under competitive pressure. In the London Stock Exchange, there are established market making rules that are related to both order and off-order book trading. The rules contain the registration process of a member firm as a market maker, obligations such as the minimum size of quotes and any exceptions to those obligations. The contentious issue is whether the rules are effectively complied with by all market participants.

4.2.7. Regulatory framework

The structure of the financial market is mainly regulated by the Financial Services Act 1986 (FSA), which was superseded by the Financial Services and Markets Act 2000 (FSM) and also the Financial Conduct Authority (FCA) alongside the Prudential Regulatory Authority (PRA) in 2012. The Financial Conduct Authority (FCA) and the Prudential Regulatory Authority (PRA) are now responsible for the various statutory and regulatory provisions guiding the operations of the market. Formerly, this was undertaken by the Financial Services Authority (FSA). A new trading system or an exchange such as BATS Europe or the LSE itself has an option to choose between the various laws and regulations of operation in the United Kingdom. The choice depends on whether the trading system or the exchange is to conduct investment business or other financial services in the UK. For investment business, the exchange may select to either be authorised for operations or be exempted if it operates outside the UK under the former Financial Services Act. Before the introduction of the Financial Conduct Authority (FCA) and the Prudential Regulatory Authority (PRA), the authorisation could also be obtained directly from the Securities and Investment Board (SIB) (a body formed as a regulator to ensure compliance with most of the provisions of both the defunct Financial Services Act and Financial Services and Market Act) or indirectly by being a member of one of the Self-Regulating Organisations (SRO), such as the Securities and Futures Authority (SFA) and the London Stock Exchange (LSE). As a former self-regulating organisation, the Securities and Futures Authority (SFA) governs all firms, including issuing houses and banks operating in the UK securities and futures markets, with the primary role of protecting investors. Automated trading firms such as BEST, POSIT, TRADE and Instinet (firms that provided and managed automated trading systems in the Exchange before the acquisition of MillenniumIT by the London Stock Exchange Group) have chosen to be regulated indirectly by becoming members of both the Securities and Futures Authority (SFA) and the London Stock Exchange (LSE) as self-regulating organisations. A trading system can also select to be exempted from regulations under the Financial Services and Markets Act if it does not carry out investment business in the UK or outside the UK. The exemptions are obtained through becoming a member of any of the international securities SROs, such as the International Securities Market Association (ISMA) and Recognised Overseas Investment Exchanges, or Recognised Investment Exchanges such as the National Association of Securities Dealers Automated Quotation (NASDAQ). The new Financial Conduct Authority (FCA) and the Prudential Regulatory Authority (PRA) have taken over the functions of the SIB and the SFA as well as the supervision of SROs that were under the former Financial Services Act in order to streamline the financial regulations in the UK.

The London Stock Exchange is a Self-Regulating Organisation (SRO) that has specific rules and regulations, referred to as 'Rules of the Exchange', with which members must comply. The rules of the exchange provide the overall code of conduct on the London Stock Exchange and are the operational requirements for all member firms. Trading rules for both order and off-order books are also specified. An order book is an official list of both buy and sell orders from potential buyers and sellers of a security, while an off-order book refers to 'outside order book' or in other words, not recorded in the order book. In trading, member firms can decide to use an order book trading strategy where the Exchange's trading system or facility is used to record and match buy and sell orders. They also have the option to boycott the Exchange's trading facility in selling or buying a security. Guidelines for market makers (MM), who are member firms such as J.P. Morgan Securities Plc, trading settlements and clearing processes are also provided. It also has the details of compliance procedures and default consequences for any member firm that fails to comply with the rules. Companies that are listed on the exchange are deemed to have been complying with one of the most respected sets of admission and disclosure requirements, (London Stock

Exchange, 2015). Both potential and existing investors in those companies would also be expected to enjoy the benefit from the system that ensures the highest operational standards for investor confidence. The LSE admission and disclosure standards (rules and responsibilities with regard to the admission of companies for trading and continuing obligations of member firms and admitted companies in the disclosure of information) are provided for companies based on the route into the main market or the Alternative Investment Market (AIM). Larger companies comply with higher or strict standards compared to the admission and disclosure standards of growing companies. Subsequent to the successful admission and listing of a company's equity on the Exchange, there are also numerous continuing obligations for quoted firms, such as adherence to market guidance, payment of fees, compliance and appeals, timetabling for corporate actions, disciplinary procedures and compliance with changes in market procedures.

The assessment of the regulatory framework as a competitive element of the London Stock Exchange could indicate the strength of its competitiveness. The option to choose between various laws and regulations under which to operate by market participants could be seen as a flexibility that can improve competitiveness. However, the bureaucracy involved in the selection and administration processes could also hinder the attainment of that objective. As opined by Doidge et al. (2009), the enactment of numerous laws and regulations could also reduce the competitiveness of a stock exchange in a similar way to how foreign listings were obviously decreased on the NYSE after the passage of the Sarbanes-Oxley Act (SOX) in 2002. The introduction of both Financial Conduct Authority (FCA) and Prudential Regulatory Authority (PRA) has reduced some of the bureaucratic upheavals at least by becoming the key regulators of the financial services industry in the UK.

4.2.8. Market bureaucracy and ease of operations

According to reports by the London Stock Exchange, the management of the exchange has been undertaking a series of actions since the 1986 'Big-Bang' deregulation to reduce its level of bureaucracy and improve ease of operations. A technology roadmap project has been in the pipeline where significant resources are committed to transforming the LSE for ease of operations. Part of the project includes the establishment of the 'Infolect market data system', which has already increased the trading speed to 15 times faster than before. The system provides tick-by-tick (change of a price from one trade to another) real-time data that helps in the dissemination of pricing and other trading activities information. Ernst and Young (2009, p.12) stated that the former CEO of the LSE, Clara Fuse, had made a declaration that "the heightened speed is critical for the LSE to remain competitive globally". Other transformations that have been undertaken to minimise market bureaucracy and ensure ease of operations include the admission of various automated trading systems, such as Instinet, BEST, POSIT and TRADE in the market (Lee, 1998). The success of these trading systems has made LSE become one of the most automated exchanges in the world. Of course, these technological advances have significantly reduced trading costs and enhanced the operational efficiency of stock exchanges (Lee, 2002; Macey and O'Hara, 2002; Otchere and Abou-Zeid, 2008; Hsieh, 2018). Regulatory and corporate governance flexibility was also ensured by the founding of the Alternative Investment Market (AIM) segment of the Exchange. Small and growing companies seeking a listing now face less administrative bureaucracy and regulatory restrictions, which enhances ease of operations in the market. According to the London Stock Exchange Group's (LSEG) Annual Report (2014), there are almost 3,500 companies listed on AIM as of March 2014 and the market has raised over £85 billion of equity capital for small companies. Nevertheless, the Exchange has been described as having a complex regulatory and operational structure that consists of numerous requirements, standards and oversight functions.

4.2.9. Transparency and competitive practice

The disclosure of pricing procedures and quote information (allowing member firms to have access to the information and processes undertaken to match buy and sell orders such as access to order books) has been one of the key elements of transparency and competitive practice in stock exchanges. If the trading information is published (by sending the information to Infolect market data system) immediately to all stakeholders (member firms), a level playing ground that promotes competitiveness would be ensured. The London Stock Exchange has standards that are related to disclosure of information as part of the continuing obligations of all market participants, who are mainly the member firms. Some of the requirements include the disclosure of a timetable for corporate actions, such as business acquisition, that may affect the position of existing investors. The argument of whether there is transparency in the disclosure of pricing information in the LSE has not been resolved. There are claims that IPOs in the Exchange lack transparency and that gives an added advantage to some individuals and institutions (LSEG, 2011). Proposed actions, such as the time extension of pre-IPO engagements with investors and other stakeholders, could improve transparency in the Exchange. An important step was the implementation of a transparency directive effective from 20 January 2007 that was undertaken by the LSE to boost the level of transparency. The directive was designed by the European Commission to ensure that the same information disclosure framework exists between the European exchanges. It stipulates that firms should disclose information at regular intervals, such as annually or semi-annually, or where interim management reports are expected for the first and third quarters of the year, they should go through the same channels of communication as interim management reports to managers and directors together with annual or final reports to the shareholders. Stock exchanges have been claiming to act in a way that enhances transparency and competitive practice, but whether this actually happens is another question to be answered.

Table 1. Summary of the competitive attributes and the level of competitiveness in the London Stock Exchange

	Competitive attributes	*Features*	*Findings*
1	Pricing and trading information disclosure	MillenniumIT provides the numerous trading facilities in LSE that are used in the pricing of listed securities. Full disclosure of trading information is part of the requirements in the Rules of the Exchange and has always been a practice encouraged by the LSE.	The monopolistic status of MillenniumIT may be considered as a sign of uncompetitive practice in the LSE. However, the practice of ensuring full disclosure of trading information among market participants signifies a competitive practice.
2	Settlement and clearing processes	The Rules of the Exchange provide detailed requirements that must be adhered to by the member firms in settlement and clearing processes.	This practice is meant to protect all stakeholders and ensure a level playing field exists for fair competition.
3	Pricing initial public offerings and transaction costs	LSE's IPO market has been very vibrant over the years compared to other world major stock exchanges. Transaction costs for the LSE have been argued to be high compared to other stock exchanges, (Financial News, 2015).	The involvement of many financial institutions in this process may lead to some unethical behaviour due to selfish interests. High transaction costs are a strong indication of uncompetitive practice.
4	Membership and annual fees	LSE has made some changes to the membership structure of fees, which include payment of flat rate annual fees instead of using annual headcount declarations of activities to calculate yearly fees. Compared to stock exchanges like the NYSE, fees are not fixed but determined by the forces of demand and supply of membership.	Despite the effort of the LSE to reduce its membership fees and the administrative bureaucracy, the Exchange's annual fees remain the highest among many top stock exchanges in the world. This could result in a competitive disadvantage, which directly results in uncompetitive practice.
5	Member firms of the London Stock Exchange and their activities	As of May 2015, the LSE has over 800 registered member firms that are allowed to operate in various market segments.	The existence of numerous participants can enhance competition in the market. However, factors such as high membership fees and special segments that exist in the market may hinder the drive competitiveness in the market.
6	Activities of market makers, brokers and institutional investors	There are numerous rules guiding the operations of market makers and brokers in the LSE.	It is not easy to determine whether all member firms are given equal opportunities for participation, or whether the rules are effectively complied with by all market participants.
7	Regulatory framework	The Financial Conduct Authority (FCA) and the Prudential Regulatory Authority (PRA) are responsible for the various statutory and regulatory provisions guiding the operations of the LSE. The LSE is also a Self-Regulating Organisation (SRO) that has specific rules and regulations referred to as 'Rules of the Exchange' which provide the overall code of conduct in the Exchange and are the operational requirements for all member firms.	The assessment of the regulatory framework as a competitive element of the London Stock Exchange could indicate the strength of its competitiveness. However, the existence of several laws may result in a competitive disadvantage.
8	Market bureaucracy and ease of operations	The founding of the Infolect market data system, Alternative Investment Market and admission of various automated trading systems.	The success of these transformations has ensured ease of operations in LSE and improves competitiveness.
9	Transparency and competitive practice	The LSE has many standards, rules and regulations that are meant to promote transparency and competitive practice.	It is debatable whether the rules and regulations with regard to transparency and competitive practice are being fully complied with.

Note: Table 1 presents the summary of the competitive attributes of the LSE, and based on the features of those attributes, the transparency and effectiveness of the Exchange were evaluated, including a conclusion on its level of competitiveness

5. CONCLUSION

The ambiguity in determining the level of competitiveness in the operations of a given stock exchange has made it difficult to identify whether the London Stock Exchange is competitive. Despite the difficulty, this paper has assessed some competitive elements in the Exchange that may provide an idea of the market's strengths and weaknesses. In the assessment, the characteristics of both competitive and uncompetitive practices have been observed in the LSE. The key elements that enhance the competitiveness of the LSE are the continued technology transformation, globalisation and flexibilities in choosing the regulations under which market participants can operate. In technology transformation, the Exchange has ensured the successful implementation of various automated trading systems that facilitate competition among the systems, as well as provide an external competitive advantage. It was also found that the Exchange has programmes in place to extend its globalisation to countries such as China, India and Russia as markets for companies seeking new share listings similar to the Exchange's coverage in Italy. In contrast, signs of non-competitiveness were also observed and the most prominent are the high membership and annual fees, transaction costs and stamp duty on shares. The presence of these exorbitant charges may not provide a level playing ground for all market participants. The existence of numerous laws and regulations guiding every aspect of trading and other activities in the exchange is another indication that such regulations are set without consideration to the international competition facing the Exchange. The limitations of the study include the failure to interview some of the market participants on the LSE. Empirical analysis and results could have been used to support the findings of the paper. Areas such as empirically assessing the impact of trading information disclosure on pricing efficiency of the LSE would have been a perfect example. However, since the paper was meant to be qualitative, the quantitative method was not employed.

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