

## Do Stock Splits Affect Ownership Concentration of Firms Listed at the Nairobi Securities Exchange?

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### Abstract

Corporations split their shares in order to make them more affordable to the retail investors. Theoretically, increased buying of the stock post split by retail investors should be experienced. Existing literature on effect of stock splits are from studies conducted in developed markets, much of it focusing on market efficiency. The objective of this study was to analyze the effect of stock splits on ownership structure of listed firms in Kenya. Using a data collection sheet, secondary data was collected from the published financial statements of listed firms, which had conducted stock splits between 2004 and 2010. A Herfindahl- Hirschman Index was used to measure ownership concentration among the top ten shareholders before and after the split. The overall change in ownership structure was analyzed using the Wilcoxon Rank Sum Test at 95% confidence level. The results show that although the ownership structure for the companies in the study significantly changed, the change was generally not in favor of retail investors. Contrary to expectations, the holding by institutional investors significantly increased in most cases, implying that stock splits do not cause enough interest in the shares amongst retail investors to tilt the proportions owned in their favor. To the contrary, stock split encourages retail investors to off load their shares in a bid to lock in profits occasioned by the appreciation in the value of the shares after the split. An important recommendation for market regulators and corporate managers is that a stock split may not be a useful tool for dispersing firm ownership but rather only for improving stock liquidity. Investors looking to buy stocks that have announced a stock split should carefully analyze their information content, because during stock market bubble a split may not convey accurate future prospects for the company. Given the increased demand for stocks when a split is announced, it is an ample opportunity to lock in profits for investors looking to sell their shares.

**Keywords:** Controlling Shareholding; Ownership Concentration; Ownership Structure; Stock Splits; Nairobi Securities Exchange

### 1. INTRODUCTION

Advocates of stock splits argue that a split serves to bring down the prices of stock so that Kenyan retail investors with small savings can afford a round lot 100 shares minimum purchase volume. This may not apply to mutual funds, pension funds and other institutions that buy and sell in huge amounts where individual stock price is of little concern. Another view is that there exists an optimal price range in which the price-earnings ratio and hence the firm's value will be maximized. There is, however, little evidence to support this assertion. Stock splits are also used as a means of signaling, known as cheap talk. When a manager in a firm has private information about its future cash flows and wants to communicate it to the market, the manager may use stock splits to change stock prices since these stock splits affect the incentives of brokerage houses to provide earnings forecasts that reveal the managers private information. The management may use share splits to communicate to investors that the company is expected to earn higher profits in the future (Copeland et al. 2005; Jensen et al. 2004; Lease et al. 2000). Therefore, it is contended that any price increase that accompanies a dividend increase after a stock is split is not merely caused by the dividend itself, but by the expected earnings information, it transmits. This is the information content effect of stock splits.

Stock splits are a relatively new concept in the Kenyan market, only dating back to 2004 when the first firm conducted a split of its stock. Since then other listed firms have followed the same route. The first firms to do a stock split in 2004 include Kenya Oil Ltd (KENOL), which did a ten-for-one split in July, and East African Breweries Ltd (EABL), which did a five-for-one split in November of the same year. High prices of the stocks were the major driver for the splits, with the stocks trading at Ksh.478 and Ksh.372 per share (NSE 2004), respectively. Although 64 firms are listed at the Nairobi Securities Exchange (NSE), to date only ten (10) listed firms have performed stock splits.

Most studies on stock splits have been done in developed markets may not be generalized to the Kenyan situation. Empirical information is lacking in Kenya on how stock splits may affect the ownership structure of firms. It is not clear whether stock split may reduce or increase the ownership concentration of the listed companies at the NSE. The general objective of the study was to establish how stock splits affect the ownership structure for listed firms in Kenya. The study hypothesized that a stock split does not lead to a change in the

ownership structure of a firm since stock liquidity changes may only be associated with portfolio rebalancing stock liquidity for a firm.

Because stock splits are relatively new in Kenya, this study bridges the knowledge gap on the subject. Specifically, it sheds light on the effects of stock splits on ownership structure, and stock liquidity of listed firms. The paper therefore provides empirical evidence on the possible link between stock splits and ownership concentration and stock liquidity in the Kenyan context. The relationship between stock split and ownership concentration is crucial for issues of corporate control. One limitation is that the real effects of a stock split may be experienced many years after the split, thus only the short-term effects may be captured in such findings. However, results are useful to investors, investment managers and the academic fraternity.

The paper is structured as follows: the next section reviews the relevant literature on ownership structure, concentration and firm performance, and link between stock split and stock liquidity. Section three presents the methodology adopted, while section four discusses the results of the data analysis. Whereas, section five gives the conclusions of the study, section six finally, presents the possible policy recommendations.

## 2. LITERATURE REVIEW

### 2.1 Renewed Concerns for Corporate Governance

The past one decade(2000's) has witnessed significant transformations in corporate governance structures, leading to increased scholarly interest in the role of shareholders and board of directors in driving corporate performance (Oli 2001). Arising from many high profile corporate failures, coupled with generally low corporate profits across the globe, the credibility of the existing corporate governance structures has been put to question. This calls for an intensified focus on the existing corporate governance structures, and how they ensure accountability and responsibility.

The scandals at Enron, Adelphia, Health South, Tyco, Global Crossing, Cendant and WorldCom have repeatedly been put forward as typical scandals that justify corporate governance reform and the need for new mechanisms to counter the perceived abuse of power by top management (Onyuma 2011; Onyuma 2004). Therefore, the great corporate scandals of the recent past and the resulting push for legal reform have revived the role of the shareholder in the corporation as a subject of great debate. The shareholder rights to vote in the election of directors and to sell shares should be considered the fundamental rights of the shareholder (Onyuma, et al. 2007), and as such deserve a great deal of respect and protection by law.

### 2.2 Ownership Structure and Firm Performance

#### 2.2.1 Passivity of Shareholders

Black (1992) in describing the political model of corporate governance begins with the passivity model where each shareholder holds a small fraction of a company's stock. This creates severe collective action problems. Consider shareholder A, who owns 1 percent of firm X and is deciding whether to wage a proxy campaign to convince other shareholders to support a voting proposal. This shareholder must bear the full cost of that effort but will receive only 1 percent of the gains from success, while other shareholders can free ride on his efforts (Naes 2004). Moreover, any one shareholder's vote is unlikely to affect whether a proposal passes. Many shareholders therefore choose *rational apathy*; they don't vote at all, or adopt a crude rule of the thumb like *vote with management*. This makes A's proposal less likely to succeed, which further reduces the incentive to make a proposal in the first place. This means that a dispersed ownership structure for a firm will lead to increased passivity. This leaves managers to run the firm entirely at their discretion, leading to lower firm value.

Accordingly, this political theory contends that institutional investors and large-scale individual investors could overcome the incentive for passivity that arises because each holds a fraction of the shares in any one firm, become influential shareholders and monitor corporate managers. A large bank, insurer, mutual fund, or pension fund could hold sizable stakes in very large corporations and still be reasonably diversified. Shareholders will not always choose apathy. They will act when their private gain from monitoring exceeds their private cost. Thus any corporate actions or legal rules that prevent shareholders from owning large stakes all reduce oversight. Both shareholders gain from the preferred voting outcome, and the likelihood that his vote will be decisive increases in proportion to the number of shares owned. A shareholder who owns a thousand shares is more likely to cast a decisive vote than a shareholder who owns a single share.

This argument of shareholder apathy certainly has great rhetorical force as no one wants an apathetic decision maker. However, the argument establishes more that shareholders are rational than that they are apathetic. A rational shareholder will expand the effort necessary to make informed decisions whenever the expected benefits of doing so outweigh its costs. For very small investments, shareholders may rely upon the directors to manage the business – like the typical individual shareholder tends to do, while for very large investments, they may follow the business more closely – like controlling shareholders tend to do. For ordinary matters also, shareholders may trust the directors, while for very important matters requiring their approval, shareholders may become better informed (Page 2010). Such behaviour is perfectly logical (Velasco 2007): it is not that

shareholders do not care, but rather they find it inefficient to over-invest in monitoring behaviour. Thus, the negative connotation of the term apathy is unjustified. If shareholders are understood to be rational rather than apathetic, then entrusting them with voting rights seems much more sensible.

The rise of the institutional investor has the potential to change the conventional equation significantly (Young 2006). Investments in monitoring behaviour that do not make sense for the typical individual shareholder may be economical for institutional investors who have larger holdings and greater resources. Of course, no minority shareholder will have the incentive to engage in the ideal level of monitoring because the benefits of doing so are shared while the costs are not.

And there may be other reasons why many institutional investors may not want to become active in company affairs (Choi and Fisch 2003), for example, to preserve profitable relationships with their corporate clients. But the shareholder apathy argument that has so much intuitive appeal with respect to individual shareholders does not resonate quite so well vis-à-vis institutional investors. Additionally, the source of shareholder apathy can be questioned. Perhaps it is not a natural or inevitable state of affairs, but at least partly synthetic. Shareholder apathy may not be due solely to economic incentives, but also to a legal regime which – gives more powers to large shareholders – frustrates minority shareholder participation. There are significant obstacles to the effective exercise of the right to vote. A shareholder who is inclined to be involved might not bother if the law makes it too difficult or expensive. If shareholder apathy is due in part to legal restrictions, then elimination of those restrictions could enable minority shareholder participation to flourish.

In any event, shareholder apathy does not justify the elimination or evisceration of the right to vote. The fact that shareholders rarely want to oppose management does not suggest that they should never be able to do so. To the contrary, shareholder deference to the directors could be interpreted as a sign of responsible shareholder citizenship. Finally, if shareholders truly are rationally apathetic, then little harm could come from more meaningful voting rights: such rights simply would be disregarded. The fact that there is so much debate on the issue strongly suggests that neither side believes this to be the case: shareholder activists pursue enhanced voting rights because they believe shareholders would take advantage of them, and others oppose such changes because they fear the same.

Currently in Kenya, listed firms have grown larger and rely on many shareholders for capital, others even from across the border (Mugo and Onyuma 2011). The majority of shareholders own a small fraction of the stock in companies and even in the whole market. Therefore, shareholders are faced with severe collective action problems because each receives a fraction of the benefits of monitoring, but must bear the full cost of his/her own monitoring efforts. Thus passivity serves each shareholder's self interest, even if monitoring promises gains to shareholders as a group. The question is whether stock splits increase or decrease the incentives for shareholders' passivity by increasing or reducing ownership concentration.

### **2.2.2 The Fallacy of the Average Shareholder**

Berle and Means (1932) found that a substantial percentage of stock is held by a relatively small number of shareholders. This holds true in the firms listed at the NSE where institutions (both local and foreign) and a few individual investors dominate shareholding (Karuitha 2004). A case in point is the ownership structure of listed firms at the NSE where 86.2 percent of the shares traded are held by local institutions and foreign owners (both individual and institutional), as compared to the 13.8 percent held by local individuals (CMA 2011). In China, the vast majority of individual investors are small shareholders and few are in the list of the ten largest shareholders. For those individuals in the top ten, their holdings are so small, normally less than 0.5 percent, so that the companies do not even have to disclose their names. The state and legal persons as a group each owns approximately a 30 percent stake on average, 0.5 percent by a single individual is negligible. Almost no individual shareholders are on the board of directors or the supervisory committee. There are a few exceptions (about five) where individual shareholders have a board seat (Xu and Wang 1997). Thus share ownership concentration is generally skewed in favor of institutions. And because corporations are not run on the democratic principle of one man one vote but on the proprietary principle of one share one vote, what matters are not shareholders but shareholdings. Therefore where ownership concentration is skewed in favor of a few investors, an enquiry into the expectations of the "average shareholder" will have only sociological relevance, unless we have an ideal situation in which shareholders and shareholdings closely correlate. The concept of the average shareholder is therefore fallacious.

### **2.3 Ownership Concentration and Firm Performance**

Studies comparing profitability of manager-and owner-controlled companies, often categorized by the share of the largest owner, generally found a higher rate of return in companies with concentrated ownership. Traditionally, concentrated ownership has been thought to provide better monitoring incentives, and lead to superior performance (Leech and Leahy, 1991). It might also lead to extraction of private benefits by the controlling shareholders at the expense of the minority shareholders (Maher and Anderson 1999). The principal-agent model suggests that managers are less likely to engage in strictly profit maximizing behaviour in the

absence of strict monitoring by shareholders (Prowse 1992; Aggarwal and Knoeber 1996). Therefore, if owner-controlled firms are more profitable than manager-controlled firms, it would seem that concentrated ownership provides better monitoring which leads to better performance.

Gugler (1999) also provides a comprehensive survey of empirical studies of the effects of ownership concentration on corporate performance. Based on studies from the USA and UK, evidence show that firms with concentrated ownership tend to significantly outperform manager-controlled firms. Xiaonian Xu and Yan Wang (1997) found by applying regression analysis that first, there is a positive correlation between performance and ownership concentration. Second, the effect of ownership concentration is stronger for companies dominated by legal person (institutional) shareholders than for those dominated by the state. Third, firms' performance is positively and significantly correlated with the fraction of legal person shares, but it is either negatively correlated or uncorrelated with the fractions of state shares and tradable A-shares mostly held by individuals. These findings suggest that small individual shareholders in China do not monitor the management well, probably because of the free-rider problem. It also implies that any increase in shareholding by the state and individuals is likely to lower the value of a firm.

Kocenda and Svejnar (2003) have reported that concentrated foreign ownership improves economic performance, but domestic private ownership does not, relative to state ownership. Foreign firms engage in strategic restructuring by increasing profit and sales, while domestic firms reduce sales and labour cost without increasing profit. Ownership concentration is associated with superior performance, thus providing support to the agency theory and evidence against theories stressing the positive effects of managerial autonomy and initiative. Their finding is consistent with the thesis that the presence of a large domestic stockholder may not result in a superior performance if this shareholder "loots" the company. Ongore (2011) also found that ownership concentration and government ownership have significant negative relationships with firm performance. On the other hand, foreign ownership, diffuse ownership, corporation ownership, and manager ownership were found to have significant positive relationships with firm performance.

According to standard agency theory (Shleifer and Vishny 1997), the choice of a privately optimal ownership structure involves a tradeoff between risk and incentive efficiency. Larger owners will have a stronger incentive to monitor managers and more power to enforce their interests and this should increase the inclination of managers to maximize shareholder value. However, an increase in the owners' portfolio risk the larger the ownership share. To the extent that companies differ in terms of firm specific risk, the privately optimal share of the largest shareholder (owner) will therefore, vary. Furthermore, the nature and complexity of activities carried out by individual firms may also vary, and so may the marginal effect of monitoring on the shareholder value of individual firms (Demsetz and Lehn 1985).

Small shareholders may have an insufficient incentive to maximize total shareholder value because the control and monitoring gains from large block shareholdings are shared with other investors. And if a very small group of shareholders attempts to acquire a large ownership stake, the gains will largely be captured by the other shareholders who sell their shares at a premium reflecting increased demand for the shares and value of the firm. This in effect leads to a positive equilibrium effect of ownership concentration on company performance since companies with large owners will do better and since minority investors have insufficient incentives to change the ownership structure. However, with increasing ownership shareholding, improved incentives will have less of an effect on performance if the marginal effect of monitoring effort is decreasing (Jensen and Ruback 1983). Besides, a large ownership stake in a particular company indicates a less than fully diversified portfolio on the part of the owner so that the owner risk aversion may induce the company to trade off expected returns for lower risks. This is because a risk-averse investor, who has most of his investments in a particular line of assets, is always wary of the chances of his capital being substantially reduced or even wiped out in a hostile investment environment (Short 1994). Finally, the separation between ownership and management becomes blurred as ownership share increases with the added risk or owner "entrenchment" due to private benefits of control like information advantages or perks.

It appears that a stock split would improve a firm's value when it diffuses ownership (reduces overconcentration in ownership), and the residual inevitable skewness in ownership is in favor of foreign ownership (institutional and individual), local corporate/ institutional and manager shareholding, and away from government/public firms shareholding. The former appear to play a positive role in corporate governance by monitoring the management effectively through their control over the board of directors, over the selection of corporate officers and the compensation of chief corporate officers. This is largely consistent with previous studies; suggesting the importance of large institutional shareholders in corporate governance and performance.

Lastly, Karuitha and Onyuma (2011) have also assessed the relationship between stock split and stock liquidity and reported that stock splits by listed companies in Kenya are usually followed by a statistically significant increase in the liquidity of those stocks. Naes (2004) and Maug (1998) dealt explicitly with the relationship between liquidity and the efficiency of corporate governance mechanisms. Naes (2004) argued that a

liquid stock market is a hindrance to effective monitoring because it reduces the costs of “exit” by unhappy shareholders. From this argument, if a stock split leads to an increase in liquidity, then it weakens the corporate governance mechanism.

### 3. METHODOLOGY

#### 3.1 Population and Sample

The population of the study consisted of all firms listed at the NSE that had conducted stock splits at least a year (52 weeks). These firms include KENOL, EABL, EAC, BBK, KCB, CIL, CMC, Sasini, NMG, and EBL. Of these, KENOL and BBK have split their shares for a second time in 2010 and 2011, respectively. Listed firms were preferred since it was easier to obtain their ownership information as contained in their financial reports, copies of which must be sent to the shareholders and filed with the Capital Markets Authority (CMA).

Since out of the 59 listed firms only ten had split their Since ownership structure is fairly a long-term phenomenon, the study used data from the firms which have historically split their shares in Kenya. These firms together with their split dates are presented in Table 1 below.

**Table 1: NSE Listed Firms that Have Performed Stock Splits**

Company	Date Split Done
KENOL	05-07-04; 20-05-10
EABL	29-11-04
East African Cables (EAC)	05-09-06
Barclays Bank – Kenya (BBK)	30-11-06; 13-06-11
Kenya Commercial Bank (KCB)	03-04-07
Equity Bank Ltd (EQUITY)	12-02-09
Centum Investments Ltd (CIL)	05-01-07
Nation Media Group (NMG)	04-08-08
CMC Holdings (CMC)	26-02-07
Sasini Tea & Coffee (SASINI)	15-02-07

**Source:** *Authors Literature Compilation from Companies Websites (2011)*

#### 3.2 Data Collection

Secondary data for assessing the ownership structure and concentration was obtained from the published financial reports of the firms in the study, except for SASINI, whose data were not obtainable. A data collection sheet was used to record data. Although ten firms listed at the NSE had performed stock split, data for SASINI was not available. In addition, KENOL and BBK had undertaken second stock splits in 2010 and 2011, respectively. Their data was not available since they had not complete full financial year by the time of data collection.

#### 3.3 Data Analysis

The study first looks at proxies for ownership concentration, such as the fraction of the company owned by various categories of owners depending on size of shareholding, and a Herfindahl-Hirschman Index of ownership concentration. Such measures have also been applied in other studies (Naes, et al. 2011; Karuitha and Onyuma 2011).

Ownership structure was analyzed using two methods: The Wilcoxon signed Rank Test at 95% level of confidence, and a comparison of the Herfindahl-Hirschman Index (HHI) one year before and one year after the split. The basic premise of the Wilcoxon signed rank test is that while there will be changes in structure, the rankings of these changes will be random if there has been no overall change – since the positive and negative changes will cancel each other out. Where there has been an overall change, then the rankings of those who have moved in the positive direction will be different from the rankings of those who have moved in the negative direction (Curwin et al. 2002). The Wilcoxon signed rank test is chosen due to the nature of ownership concentration which is skewed towards large shareholders.

Firm ownership was clustered depending on the number of shares held (1 to 500; 501 to 5,000; 5,001 to 10,000; 10,001 to 100,000; 100,001 to 1,000,000, and over 1,000,000 shares). This clustering is also used by all listed companies at the NSE. Ownership concentration among the top ten shareholders was determined using Herfindahl-Hirschman Index (HHI). The HHI is a measure of how concentrated an industry is which can be used to determine how concentrated a firm’s shareholding is. A firm with few shareholders will have a high level of concentration, while many shareholders results in low concentration, and by inference the degree of a firm

control. Several scholars (Naes et al. 2011; Ongore, 2011) have used the Index to measure the link between ownership concentration and performance. In fact, the USA Department of Justice and The Federal Trade Commission usually use the HHI to assess mergers and acquisitions (Chin 2010).

Named after the economists who discovered it – Orris C. Herfindahl and Albert O. Hirschman, – the HHI measures concentration as the sum of the squared ownership state of each the top ten shareholders of each shareholder in the firm. As a general rule, HHI of between 0.18-1.0 means high concentration, 0.1-0.18 is medium concentration, whereas 0-0.1 signals low concentration. If all shareholders in a firm have equal shareholding, the reciprocal of the HHI ( $1 \div \text{HHI}$ ) will equal the number of shareholders in the firm. For a firm in which shareholders have unequal shareholding, the reciprocal of the HHI indicates the “equivalent” number of shareholders. If we assume, for example, that a firm has six shareholders, with 30 percent, 20 percent, 20 percent, 10 percent, 10 percent and 10 percent stakes respectively, the HHI will be:  $(0.3*0.3) + (0.2*0.2) + (0.2*0.2) + (0.1*0.1) + (0.1*0.1) + (0.1*0.1) = 0.2$ .

Therefore, a firm with six shareholders have the same level of ownership concentration as a firm with  $1/0.2 = 5$  shareholders with equal shareholding share. A zero HHI means that the number of shareholders is so large that the sum of the square of their shareholding is zero, that is, there is least firm control by a few shareholders. Compared to other methods like the N-Firm Concentration Ratio, the HHI offers greater discrimination as it includes all shareholders in the firm and weights the shareholders according to their shareholding.

#### 4. RESULTS AND DISCUSSIONS

Results for KENOL in Table 2 below reveals that the stock split undertaken by KENOL in 2004 affected the ownership structure of the firm by increasing the concentration. Therefore the null hypothesis that stock splits do not affect ownership structure was rejected. A look at the Herfindal-Hirschman index shows that the ownership concentration however increased by 9 percent (from 0.6263 to 0.7166). The ownership concentration tilted in favor of the large shareholders, especially those holding between 5,000 shares and 100,000 shares.

**Table 2: Results for the Wilcoxon Signed Rank Test for Change in Ownership Structure: KENOL**

	2003	2005	Diff	Abs. Diff.	Rank	Signed Rank
<500	0.01	0.02	-0.01	0.01	2	-2
501-5000	0.74	0.78	0.04	0.04	5	5
5001-10000	0.84	0.91	-0.07	0.07	6	-6
10001-100000	6.01	6.04	-0.03	0.03	4	-4
100001-1M	6.55	6.55	0	0	1	1
>1 Million	85.84	85.70	-0.02	0.02	3	-3
n=6	The absolute sum of the positive ranks:				6	
$\alpha=0.05$	The absolute sum of the negative ranks:				-14	
	14 is the calculated value in hypothesis testing					
Since 14 (Calculated) > 1 (Critical), we reject the null hypothesis.						
<b>Before</b>						<b>After</b>
Herfindahl-Hirschman Index	0.6263					0.7166

The stock split by EABL in 2004 led to a change in ownership concentration. The results in Table 3 below show that the ownership by all categories of shareholders, except those owning more than one million shares, did decrease. The stake for those holding over a million shares increased by 13.76 percent, from 69.15 percent to 82.91 percent. Overall, the concentration decreased by 1.8 percent (from 0.4210 to 0.4030), imply that the split led to a more dispersed shareholding.

**Table 3: Results for the Wilcoxon Signed Rank Test for Change in Ownership Structure: EABL**

	2003	2005	Diff	Abs. Diff.	Rank	Signed Rank
<500	2.95	0.34	2.61	2.61	4	4
501-5000	4.21	2.6	1.61	1.61	2	2
5001-10000	2.01	1.3	0.71	0.71	1	1
10001-100000	8.03	5.67	2.36	2.36	3	3
100001-1M	14.09	7.18	6.91	6.91	5	5
>1 Million	69.15	82.91	-13.76	13.76	6	-6
n=6	The absolute sum of the positive ranks:				15	
$\alpha=0.05$	The absolute sum of the negative ranks:				6	
	6 is the calculated value in hypothesis testing					
Since 6 (Calculated) > 1 (Critical), we reject the null hypothesis.						
<b>Before</b>					<b>After</b>	
Herfindahl-Hirschman Index					0.4210	0.4030

This trend still replicated itself in the EQUITY stock split in 2008, except for the overall ownership concentration which increased as revealed by Herfindal-Hirschman index in Table 4 below. This increase in ownership concentration was by 1.5 percent (from 0.2059 to 0.2209). However, the ownership by those holding over one million shares increased.

**Table 4: Results for the Wilcoxon Signed Rank Test for Change in Ownership Structure: EQUITY**

	2008	2009	Diff	Abs Diff	Rank	Signed rank
	%	%				
1 to 500	0.31	0.07	0.24	0.24	1	1
501 to 5,000	1.77	0.69	1.08	1.08	4	4
5,001 to 10,000	0.86	0.55	0.31	0.31	2	2
10,001 to 100,000	3.63	2.64	0.99	0.99	3	3
100,001 to 1,000,000	10.53	3.7	6.83	6.83	5	5
1,000,001 and above	82.9	92.35	-9.45	9.45	6	-6
	100	100				
n=6	Sum Positive Ranks		15			
$\alpha=0.05$	Sum Negative Ranks		6			
Calculated value=6	Critical value =1	We reject the null hypothesis				
				Before	After	
Herfindahl-Hirschman Index				0.2059	0.2209	

Ownership by all shareholder categories for CMC reduced following the split, except for those holding more than one million shares as evident in Table 5. But overall, the ownership concentration remained almost constant. This trend was not different from the stock split by NMG and BBK in Table 6 and table 7 below, respectively.

**Table 5: Results for the Wilcoxon Signed Rank Test for Change in Ownership Structure: CMC**

	2006	2007	Diff	Abs Diff	Rank	Signed rank
	%	%				
1 to 500	0.45	0.15	0.3	0.3	1	1
501 to 5,000	6.01	2.13	3.88	3.88	4	4
5,001 to 10,000	4.30	1.61	2.69	2.69	2	2
10,001 to 100,000	20.17	10.83	9.34	9.34	5	5
100,001 to 1,000,000	23.55	19.76	3.79	3.79	3	3
1,000,001 and above	45.52	65.52	-20	20	6	-6
	100.00	100.00				
n=6	Sum Positive Ranks		15			
$\alpha=0.05$	Sum Negative Ranks		-6			
Calculated value=6	Critical value =1		We reject the null hypothesis			
				<b>Before</b>	<b>After</b>	
Herfindahl-Hirschman Index				0.0427	0.0434	

**Table 6: Results for the Wilcoxon Signed Rank Test for Change in Ownership Structure: NMG**

	2007	2008	Diff	Abs Diff	Rank	Signed rank
	%	%				
1 to 500	0.94	0.45	0.49	0.49	1	1
501 to 5,000	10.36	7.09	3.27	3.27	6	6
5,001 to 10,000	5.27	3.95	1.32	1.32	2	2
10,001 to 100,000	13.12	14.7	-1.58	1.58	4	-4
100,001 to 1,000,000	11.36	13.54	-2.18	2.18	5	-5
1,000,001 and above	58.95	60.27	-1.32	1.32	3	-3
	100.00	100.00				
n=6	Sum Positive Ranks		9	Abs Positive ranks		9
$\alpha=0.05$	Sum Negative Ranks		12	Abs Negative Ranks		12
Calculated value=9	Critical value =1		We reject the null hypothesis			
				<b>Before</b>	<b>After</b>	
Herfindahl-Hirschman Index			0.2093	0.2093		



**Table 7: Results for the Wilcoxon Signed Rank Test for Change in Ownership Structure: BBK**

	2005	2007	Diff	Abs Diff	Rank	Signed rank
	%	%				
1 to 500	1.10	0.32	0.78	0.78	1	1
501 to 5,000	12.50	3	9.5	9.5	6	6
5,001 to 10,000	1.30	8.41	-7.11	7.11	5	-5
10,001 to 100,000	6.10	4.64	1.46	1.46	3	3
100,001 to 1,000,000	5.00	5.79	-0.79	0.79	2	-2
1,000,001 and above	74.00	77.84	-3.84	3.84	4	-4
	100.00	100.00				
n=6	Sum Positive Ranks=10			Abs Positive ranks		
$\alpha=0.05$	Sum Negative Ranks=-11			Abs Negative Ranks		
Calculated value=10	Critical value =1			We reject the null hypothesis		
			<b>Before</b>	<b>After</b>		
Herfindhal Index			0.4698	0.4697		

The results for stock splits by EAC in Table 8 and KCB in Table 9 in Table 10 show a peculiar change in the ownership concentration. In both cases, the shareholding by categories with more than one million shares decreased by about 3 percent for both firms. The other categories with shareholders holding less than one million shares show mixed results. Surprisingly, the overall ownership concentration shot up by 39.75 percent for EAC and 28.15 percent for KCB. Although the trend shown by stock split by CIL seems similar to that shown by EAC and KCB, the increase in ownership concentration in CIL was not as dramatic as in the other two.

**Table 8: Results for the Wilcoxon Signed Rank Test for Change in Ownership Structure: EAC**

	2005	2007	Diff	Abs Diff	Rank	Signed rank
	%	%				
1 to 500	0.320%	1.00%	-0.68%	0.68%	2	-2
501 to 5,000	5.210%	5.72%	-0.51%	0.51%	1	-1
5,001 to 10,000	2.930%	1.99%	0.94%	0.94%	4	4
10,001 to 100,000	8.360%	9.23%	-0.87%	0.87%	3	-3
100,001 to 1,000,000	7.560%	9.68%	-2.12%	2.12%	5	-5
1,000,001 and above	75.620%	72.39%	3.23%	3.23%	6	-6
	100.00	100.00				
n=6	Sum Positive Ranks=4			Abs Positive ranks=4		
$\alpha=0.05$	Sum Negative Ranks=-21			Abs Negative Ranks=21		
Calculated value=4	Critical value =1			We reject the null hypothesis		
			<b>Before</b>	<b>After</b>		
Herfindahl-Hirschman Index			0.1038	0.5013		

**Table 9: Results for the Wilcoxon Signed Rank Test for Change in Ownership Structure: KCB**

	2005	2007	Diff	Abs Diff	Rank	Signed rank
	%	%				
1 to 500	10.00	7.53	2.47	2.47	3	3
501 to 5,000	13.00	9.9	3.1	3.1	5	5
5,001 to 10,000	2.00	2.39	-0.39	0.39	2	-2
10,001 to 100,000	9.00	8.82	0.18	0.18	1	1
100,001 to 1,000,000	15.00	23.43	-8.43	8.43	6	-6
1,000,001 and above	51.00	47.93	3.07	3.07	4	4
	100.00	100.00				
n=6	Sum Positive Ranks=13			Abs Positive ranks		
$\alpha=0.05$	Sum Negative Ranks=-8			Abs Negative Ranks		
Calculated value=8	Critical value =1		We reject the null hypothesis			
				<b>Before</b>	<b>After</b>	
Herfindahl-Hirschman Index				0.0771	0.3586	

**Table 10: Results for the Wilcoxon Signed Rank Test for Change in Ownership Structure: CIL**

	2005	2007	Diff	Abs Diff	Rank	Signed rank
	%	%				
1 to 500	8.07%	1.58%	6.49%	6.49%	6	6
501 to 5,000	8.24%	6.16%	2.08%	2.08%	2	2
5,001 to 10,000	3.19%	4.67%	-1.48%	1.48%	1	-1
10,001 to 100,000	4.00%	10.24%	-6.23%	6.23%	5	-5
100,001 to 1,000,000	1.12%	4.32%	-3.20%	3.20%	4	4
1,000,001 and above	75.38%	73.04%	2.34%	2.34%	3	-3
	100.00	100.00				
n=6	Sum Positive Ranks=12			Abs Positive ranks=12		
$\alpha=0.05$	Sum Negative Ranks=-9			Abs Negative Ranks=9		
Calculated value=9	Critical value =1		We reject the null hypothesis			
				<b>Before</b>	<b>After</b>	
Herfindahl-Hirschman Index				0.2410	0.2578	

The results for the ownership structure in the analysis show that the ownership skewness which existed before the split continued even after the split. The percentage of shares held by the major shareholders (more than one million shares) in each firm before the split increased significantly for all firms with the exception of EAC and KCB. For EQUITY, the stake held by this group of investors also increased from 82.9% to 92.4%. CMC depicts a similar trend where the shareholding rose from 45.52% to 65.52%.

The hypothesis test for ownership concentration for all the firms leads to the rejection of the null hypothesis and to accept the alternative hypothesis that a stock split does lead to a change in the ownership structure of a firm. But what is the direction of the change in the ownership structure? To answer this question, the Herfindahl-Hirschman Index for each of the firms was computed. To start with, it is evident that ownership is heavily concentrated in favour of the top shareholders. For all the firms, with the exception of CMC, EAC, and KCB, the HHI is greater than 0.18 before the stock split implying that the ownership is heavily concentrated. Overall, all the firms in the analysis portray an increase in ownership concentration after the stock split. Particularly, the HHI for EAC significantly increased from 10.4% to 50.1%, and that for KCB increased rose from 7.8% to 35.9%. It is worth noting that in cases where the overall ownership concentration substantially increased, there was a corresponding decrease in the percentage ownership by those holding over one million shares. This implies that the other categories of the shareholders must have massively increased their shareholding in the split. In

addition, the largest shareholders may have also sold part of their shareholding.

These findings are corroborated by Dennis and Strickland (2002) found that the proportion of institutional shareholding increases after a stock split and that the greatest increase in post-split trading volume occurs in firms that have the lowest levels of institutional ownership prior to the split. A major limitation with these findings is that the real effects of a stock split may be experienced many years after the split, thus only the short-term effects may be captured in such findings. However, results are useful to investors, investment managers and the academic fraternity.

## 5. CONCLUSIONS

The results of the study have shown that changes in stock liquidity do coincide with a later movement into the stock by institutional investors, which is consistent with portfolio rebalancing. Second, although retail investors may be expected to take up the cheap stocks in the firm, that turns out not to be the case. They, on the contrary, tend to decrease their stake in stocks as institutional investors increase their holding.

A potential explanation for this result relates to funding problems. Included in the group of institutional investors are mutual funds like Old Mutual Asset managers, National Social Security Fund (NSSF), commercial banks, and insurance companies. Because these entities have a tendency to experience funds accumulation in readiness for such splits, as retail investors face a funding problem and have to sell off a part of their portfolios to fund consumption, institutional investors move in to buy more shares. To the extent that this is the case, it would be expected that ownership concentration should increase in favor of the majority shareholders. This finding is consistent with Naes, et al (2011) who have also shown that changes in liquidity coincide with changes in the portfolio composition of investors, and that investor participation is related to stock market liquidity. The study, therefore, finds evidence consistent with the hypothesis that stock liquidity changes are related to portfolio shifts caused by stock splits.

Although the ownership structure for the companies in the study significantly changed, the change was not in favour of retail investors. Contrary to expectations, the holding by institutional investors significantly increased, implying that stock split does not cause enough interest in the stock amongst retail investors to tilt the proportions owned in their favour. It appears that stock splits encourage retail investors to off load their shares in a bid to lock in profits occasioned by the appreciation in the value of the shares post split.

A possible explanation to this finding is that, given the surge in stock prices in response to split announcement, the institutional investors do take some time to reorganize their portfolios in order to buy the stocks from retail shareholders. The first phase in the increase in stock prices is due to the signaling-effect that the firm is likely to perform well into the future. And since institutional investors are long-term in focus, they will usually position themselves to buy stocks which have been split. The likely surge in stock price is due to the surge in demand from institutional investors. Furthermore, due to the fact that retail investors are usually short-term in nature, they would respond to the price increase by selling their holdings in order to lock in the profits.

## 6. POLICY CONSIDERATIONS

The study provides recommendations important to policy makers with an interest in promoting capital market development and firm managers considering restructuring of their balance sheets. Corporate managers concerned about the lack of liquidity on the shares of their firm should only split the stocks for that reason alone but not make the stocks affordable to retail investors. Furthermore, managers should be wary of conducting splits when they are uncertain about the prospects of the firm as it amounts to misleading the market given the information effects of stock splits. After all, if the securities markets are efficient, managers cannot use stock splits to fool the market. A decision to split stocks ought to be well thought out and not just made to merely fit in the herd. Herding towards stock splits is especially common when there is a stock market bubble, like was witnessed in Kenya between 2006 and 2007. And given that a stock split is usually followed by a less than proportionate decrease in dividend, the dividend policy of the firm ought to be taken into consideration when splitting shares. The utility of a stock split must therefore be considered by corporate managers wishing to use this strategy.

Regulators should bear in mind that stock splits may not be used as a tool for dispersing corporate ownership and control of listed firms. Therefore in reviewing applications for stock splits by listed firms, CMA approval should be granted knowing that the stock split may boost stock liquidity (which is desirable) but lead to increased ownership concentration. And given that most firms in Kenya already have a high ownership concentration, further concentration may not be desirable from the corporate governance perspective.

Investors should not be very excited by stock splits. They should also bear in mind that ownership concentration is likely to increase with a stock split. Investors should also assess the information content of stock splits carefully before bidding for or disposing off their stocks. Where we have a stock market bubble, a stock split may not serve as a sufficient indicator of the future prospects of a firm. Thus, a stock split cannot be used as a substitute for doing a fundamental analysis of a firm, especially for investors considering placing a bid for

shares. For investors looking to liquidate their holdings, a stock split presents an opportunity to quickly make a profit.

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