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# The Impact of Stock Market Listing on the Financial Performance of Companies within the Rwanda Stock Exchange (RSE)

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**ABSTRACT**

The study, titled Stock Market Listing and Company Performance in Rwanda aimed to explore the connection between a company's stock market listing and its performance. Examined within were firms listed in the Rwanda Stock Exchange, specifically Bralirwa, KCB, and BK. Utilizing a quantitative research design, the study relied solely on secondary data, primarily the financial statements of the three companies that operated in Rwanda between 2008 and 2015. The scope included BK, Bralirwa, and KCB. Data gathered from 2010 to 2012 was structured in tables, with financial ratios computed and subsequent analysis conducted using SPSS to ascertain the relationship between stock listing and financial performance. The results demonstrated a positive yet statistically insignificant relationship between stock listing and the financial performance of the listed firms. Notably, the correlation between financial leverage and financial performance lacked statistical significance ($R = 0.303$, $P > 0.01$) and showed a negative correlation with market ratio (0.582, $P > 0.01$). Recommendations included a call for improved liquidity management, especially in working capital for firms like BK, to address the impact on liquidity levels while maintaining financial stability. Stakeholders were encouraged to recognize the linkage between stock listing and financial performance and adopt suitable measures to assess and analyze the financial status of companies. Moreover, the study revealed that companies in Rwanda tend to rely more on short-term debt than long-term debt, potentially due to the underdeveloped bonds market in the country. Liquidity ratios exhibited a negative relationship with financial leverage, indicating that highly profitable and well-performing companies in Rwanda tend to have less debt and rely more on internal financing sources, aligning with the pecking order theory. Furthermore, the study emphasized considering the market value of capital structure in evaluating stock listing, given its stronger connection to financial performance compared to the book value.

**Keywords:** Stock Market, Listing, Performance of Companies, Rwanda Stock Exchange, Liquidity.

## INTRODUCTION

In today's highly dynamic, competitive and vibrant business environment, where a plethora of stakeholders have an interest, in some form or another, in the progress of a certain company, the various metrics of financial performance for a company are arguably as important as ever to measure and monitor for the company's stakeholders [1]. Much of the research within business administration could be argued to be centered around what drives the financial performance of a firm and depending on one's interest, it could be said to be the company's strategies, its ability to see and capitalize on business opportunities and innovation, its

marketing and branding and so forth. However, looking past all of this, one could also take a narrower approach and study whether or not there are things in a company's financial statements that could be related to the company's performance and therefore be argued to be a driver of financial performance in itself [1]. It could however be argued what financial performance is, as there exists a great magnitude of ratios and other formulas for quantifying the financial performance of a company. These measures can be classified as financial ratios from balance sheet and income statements [2, 3] stock market returns and their volatility [4, 5] and Tobin's q, which mixes market values with accounting values. According to [5], looking at possible financial drivers of performance, the capital structure of the company i.e. the company's relationship between debt and equity capital, has in many studies been used as an independent variable when studying financial performance in different geographical contexts, years, company's size, and industries. The existence of a link between a firm's capital structure and its financial performance has been a hotly debated and researched topic overall several decades in finance research. The starting point of the debate could in many cases be found in the famous Miller and Modligani propositions from the 1950s, which claim that a firm's performance is independent of its capital structure and that capital structure is a non-dynamic, fixed figure that the company will not change or adapt over time. However, the Miller and Modigliani propositions are only valid in a certain theoretical context and have in research been found to have little empirical support. Instead, many studies have discovered that a company's capital structure and its relationship to performance, is highly dependent upon context-related issues, such as the company's industry, strategy, growth or country [6, 7, 8, 5]. Many studies has also pointed out, in opposite to the Miller and Modigliani propositions, that capital structure is an active choice or strategy undertaken by a company and that the choice is dynamic, not fixed over time [5]. The theory of the capital structure is an important reference theory in enterprise's financing policy. Whether or not an optimal capital structure exists is one of the most important and complex issues in corporate finance. How an organization's finance is of paramount importance to both the managers of firms and providers of funds. This is because if a wrong mix of finance is employed; the performance and survival of the business enterprise may be seriously affected. This study is to find out an optimum level of capital structure through which a firm can increase its financial performance more efficiently and effectively. Hence, the paper seeks to fill the gap in the literature as a result of limited studies that have been conducted so far in this area using Rwandan context. An attempt was made by [9] studying 10 Nigerian firm but lacked the empirical analysis hence, the call for the study of this nature. Capital structuring is mostly done by listing in stock exchange and the number of listings from emerging markets has grown significantly and [1] observes that more firms have increasingly listed their shares for trading on at least a stock exchange in a country. [10] report that about 3,000 firms had two or more listings in 2008 and highlight that managers' appetite for listings does not fade, despite increasing market integration. A company is said to be listed when it shares its equity on one or more stock exchange either in a domestic or foreign exchange.

Research to date has focused on diversified aspects of ownership structure. However, most studies have concentrated on the influence of ownership structure on firm performance, and there is limited research that explains the relationship between stock listing and financing performance [11 - 17]. Concretely, studies that link capital structure only attempt to identify the determinants of capital structure. [18, 19, 13, 16] have argued that more research should be required and that in-depth investigation of this relationship could provide important insights into capital structure decision, especially in developing economies. Several theories

and studies have examined capital structure; however, there is no single theory that can fully interpret the effect of stock listing on firm financial performance. Empirical evidence shows different and contradictory results on this relationship and indicates that it depends significantly on the specific circumstances. Additionally, most previous studies relating to capital structure, [20 – 24] have investigated the determinants of capital structure decisions. [24] argued that there is a lack of empirical evidence on the effect of stock listing on firm performance, especially in emerging markets. The above issues motivated new studies on the relationship between stock market listing and firm financial performance. Specifically, the current study focused on the impact of stock market listing on the financial performance of a listed firm on Rwanda Stock Exchange. Additionally, the current research aimed at filling in the knowledge gap existing in Rwandan context by examining the financial performance of the listed firms in the underdeveloped Rwanda stock exchange while using a quantitative design methodology.

## METHODOLOGY

### Research Design

This research adopted a quantitative strategy because it emphasizes quantification in the collection and analysis of data and used a deductive approach, which is suitable for quantification in the collection and analysis of data. In addition, correlational research design was selected it establishes the relationship between variables under investigation.

### Target Population

The target population for this study was all listed companies in the Rwanda Stock Exchange. The companies are KCB, BK, Bralirwa, Uchumi, Equity and Media Group.

### Sample Size

Since this study did not involve primary data collection, it did not find it useful to determine the sample size mathematically however inclusion and exclusion criteria was employed as explained in the sampling technique.

### Sampling Technique

The sample size determination was based on inclusion and exclusion criteria. Companies that had published data relevant for the study and the company should have been in existence from 2008 with consistent data publication. KCB, BK and Bralirwa listed in June of 2009 on the stock exchange but had operated in Rwanda much longer than this so as to merit inclusion into the study.

### Data Collection

The data for this study was gathered through reference to the review of different articles, papers and relevant previous studies. In addition, another source of data was through financial statements published by companies for the period of 2010 - 2012. The financial statements from Kenya Commercial Bank, Bralirwa and Bank of Kigali are published in print form and also on the respective company's websites.

### Administration of data collection tools

As a research procedure, the researcher obtained the audited financial statements for the three periods (2010, 2011, and 2012) of KCB, BK and Bralirwa from the Rwanda Stock Exchange website and also from the company published documents. Financial information necessary for financial ratios were derived from these firm's financial statements then summarized and processed to come up with comparative financial ratios that were used in the analysis phase. To provide a basis for analysis, for each financial ratio, the firm adjudged as the best one (using rule of thumb and ratio trends) was given three points, the next one, two points, and the last one, one point. The total points for each ratio category were then computed to arrive at an overall basis for analysis.

### Reliability and Validity

Reliability refers to random error in measurement. Reliability indicates the accuracy or precision of the measuring instrument [25]. The researcher used the test-retest reliability technique where a pilot test of two questionnaires were given to two senior managers from the excluded

firms so as to examine the appropriateness of responses given by respondents before applying the questionnaire to the entire population. This enabled the researcher to address any errors or irregularities that could appear during the research exercise. [26] define validity of results as a degree to which results obtained from the analysis actually represent the variables of study. Thus, validity refers to whether the findings accurately reflect the situation and are supported by evidence. Validity is established by correlating the scores with a similar instrument. The researcher used the content validity technique whereby items on the questionnaire relate to the construct being measured and gathered data from respondents who actually work in the planning department.

### Data Analysis Procedure

This study analyzed the financial statements of the firms included in the study and this was the main source of data. The collected data was tabularized after coding and editing, then financial ratios calculated. Also, multiple regression analysis was conducted so as to establish the relation between the variables. The analysis was done by SPSS version 22.0 as well as Ms. Excel 2013.

### Ethical Consideration

At the beginning of data collection, the researcher sought permission from the offices concerned in the firms and requested authorization for the research to proceed with data collection. All used materials were referenced so that the author was recognized. No data collected was used for other purposes other than for the academic intention as the respondents were assured [27].

## RESULTS

### Liquidity ratios

**Table 1: Current ratio of KCB, BK and Bralirwa**

**Current ratio = Current assets/Current liabilities (in times)**

| **KCB** | **June-10** | **June-11** | **June-12** |
|---|---|---|---|
| Current assets | 306,876,059 | 296,397,796 | 243,963,733 |
| Current liabilities | 251,921,836 | 294,309,935 | 318,772,595 |
| | **1.22** | **1.01** | **0.77** |
| **BK** | June-10 | June-11 | June-12 |
| Current assets | 2,484,545,494 | 2,192,111,046 | 2,823,401,644 |
| Current liabilities | 518,923,521 | 468,338,714 | 488,307,015 |
| | **4.79** | **4.68** | **5.78** |
| **Bralirwa** | June-10 | June-11 | June-12 |
| Current assets | 387,720,344 | 562,977,372 | 737,130,187 |
| Current liabilities | 666,007,801 | 659,920,106 | 631,938,682 |
| | **0.58** | **0.85** | **1.17** |

**Source: Primary data**

Table 1 presents the ratio and shows the current assets available to cover current liabilities at the balance sheet date. There should be a reasonable buffer of current assets over current liabilities as an indication of the ability of the firm to pay its debts as and when they fall due. As presented in Table 4.1, KCB current assets are steadily declining while that of BK's and Bralirwa's were steadily increasing. Using the rule of thumb minimum standard level of 2:1, only BK has consistently demonstrated this, though significantly beyond 2:1, which could mean more current assets may still be invested in other wealth-generating activities. This implies that BK has to revisit its capital budgeting initiatives as this may mean more room for high-yielding projects. But as a barometer of short-term liquidity, the current ratio is limited by the nature of its components. As balance sheets are prepared as of a particular date, the actual amount of liquid

assets may vary considerably from the date the balance sheets are prepared. Further, accounts receivable and inventory may not truly be liquid. A firm could have a relatively high current ratio but not be able to meet demands for cash because the accounts receivable are of inferior quality or the inventory is salable only at discounted prices. Overall, BK is given three points, and Bralirwa and KCB are given two points and one point, respectively.

**Table 2: Quick or acid-test ratio for the three listed firms**

**Quick or acid-test ratio = (Current Assets-Inventory)/Current liabilities (in times)**

| **KCB** | **June-10** | **June-11** | **June-12** |
|---|---|---|---|
| Quick assets Current liabilities | 298,468,890<br>251,921,836 | 289,660,298<br>294,309,935 | 236,508,412<br>318,772,595 |
| | **1.18** | **0.98** | **0.74** |
| **BK** | June-10 | June-11 | June-12 |
| Quick assets Current liabilities | 2,484,545,494<br>518,923,521 | 2,192,111,046<br>468,338,714 | 2,823,401,644<br>488,307,015 |
| | **4.79** | **4.68** | **5.78** |
| **Bralirwa** | June-10 | June-11 | June-12 |
| Quick assets Current liabilities | 383,470,724<br>666,007,801 | 558,935,204<br>659,920,106 | 733,974,393<br>631,938,682 |
| | **0.58** | **0.85** | **1.16** |

**Source: Primary**

As a supplement to current ratio, quick or acid-test ratio aims to show the more liquid current assets available to pay the more immediately payable liabilities. With reference to current assets, the results are not significantly affected since only inventories are not considered here. The three firms were less likely to carry material amounts of inventories according to Table 2. As such, BK is given three points, and Bralirwa and KCB are given two points and one point, respectively.

**Table 3: Cash flow Liquidity ratio for the three listed firms**

Cash flow liquidity ratio = Cash + Marketable securities + Cash flow from operating/ Current liabilities (in times)

| **KCB** | **June-10** | **June-11** | **June-12** |
|---|---|---|---|
| Numerator | 669,614,869 | 661,355,813 | 622,461,024 |
| Current liabilities | 251,921,836 | 294,309,935 | 318,772,595 |
| | **2.66** | **2.25** | **1.95** |
| **BK** | June-10 | June-11 | June-12 |
| Numerator | 956,815,716 | 1,504,635,334 | 1,103,929,542 |
| Current liabilities | 518,923,521 | 468,338,714 | 488,307,015 |
| | **1.84** | **3.21** | **2.26** |
| **Bralirwa** | Dec-09 | Dec-10 | Dec-11 |
| Numerator | 594,160,922 | 1,428,975,521 | 1,707,026,562 |
| Current liabilities | 666,007,801 | 659,920,106 | 631,938,682 |
| | **0.89** | **2.17** | **2.70** |

**Source: Primary data**

Further identifying the most liquid current assets and using them in determining firm's liquidity, Table 3 shows that KCB still is steadily declining and Bralirwa still steadily increasing. BK has become inconsistent with considerable decline in the liquidity ratio confirming the discussion presented in the current ratio portion that not all current assets of BK fall under the immediately realizable current assets when immediately needed to pay off immediately maturing debts. Moreover, the liquidity ratios of KCB and Bralirwa increased implying, more of their current assets were immediately realizable when needed. This finding now changes the

ranking, with Bralirwa getting three points, followed by BK getting two points, and KCB getting one point.

**Table 4: Average Collection Period for the three listed firms**

**Average collection period = Average accounts receivable/Average daily sales (in days)**

| **KCB** | **June-10** | **June-11** | **June-12** |
|---|---|---|---|
| Average AR | 16,380,785 | 17,735,682 | 21,309,590 |
| Average daily sales | 3,685,820 | 3,800,109 | 3,978,607 |
| | **4.44** | **4.67** | **5.36** |
| **BK** | June-10 | June-11 | June-12 |
| Average AR | 699,920,334 | 629,042,379 | 658,488,136 |
| Average daily sales | 5,123,685 | 5,485,917 | 5,671,709 |
| | **136.60** | **114.66** | **116.10** |
| **Bralirwa** | June-10 | June-11 | June-12 |
| Average AR | 113,651,966 | 109,607,843 | 114,812,787 |
| Average daily sales | 4,139,237 | 4,561,643 | 4,765,427 |
| | **27.46** | **24.03** | **24.09** |

**Source: Primary data**

The average collection period helps gauge the liquidity of accounts receivable, the ability of the firm to collect from customers. It may also provide information about a firm's credit policies. For instance, if the average collection period is increasing over time or is higher than the industry average, the firm's credit policies could be too lenient and accounts receivable not sufficiently liquid. The loosening of credit could be necessary at time to boost revenues, but an increasing cost to the firm. On the other hand, if credit policies are too restrictive, as reflected in the average collection period that is shortening and less than industry competitors, the firm may be losing qualified customers. Table 4 shows us that though shortening, BK has the longest average collection period. This is one of the main reasons why it has significantly higher current assets; it takes more than 100 days to collect its receivables. This bulk can be attributed to loans receivables that remain unpaid until the end of the period given for payment. Moreover, though increasing, KCB has the shortest average collection period. Among the three, only Bralirwa has demonstrated an improvement in average collection period with the number of days shortening. Overall, KCB is given three points, Bralirwa two points, and BK one point.

**Table 4: Accounts receivable turnover for the three listed firms**

Activity ratios Accounts receivable turnover = Net sales/Average AR (in times)

| **KCB** | **June-10** | **June-11** | **June-12** |
|---|---|---|---|
| Net sales Average AR | 1,326,895,164<br>16,380,785 | 1,368,039,079<br>17,735,682 | 1,432,298,612<br>21,309,590 |
| | **81.00** | **77.13** | **67.21** |
| **BK** | June-10 | June-11 | June-12 |
| Net sales Average AR | 1,844,526,747<br>699,920,334 | 1,974,930,193<br>629,042,379 | 2,041,815,173<br>658,488,136 |
| | **2.64** | **3.14** | **3.10** |
| **Bralirwa** | June-10 | June-11 | June-12 |
| Net sales Average AR | 1,490,125,362<br>113,651,966 | 1,642,191,363<br>109,607,843 | 1,715,553,833<br>114,812,787 |
| | **13.11** | **14.98** | **14.94** |

**Source: Primary data**

This ratio evaluates the effectiveness of the firm in managing its receivables. As a rule of thumb, the higher the ratio, the more effective is the firm's management. Based on Table 4.5, though the highest among the three, KCB's ratio is steadily decreasing. KCB's high ratio can be attributed to the way it keeps its receivables at a low level. BK's and Bralirwa's remain consistent but with four-basis-decline points in the most recent period. The dismal ratios of BK can be attributed to its poor collection initiative as discussed in the previous ratios. As such, for this financial ratio, KCB gets three points while Bralirwa and BK get two points and one point, respectively.

**Table 5: Accounts Payable turnover for the three listed firms**

Accounts payable turnover = Cost of sales/Average AP (in times)

| **KCB** | **June-10** | **June-11** | **June-12** |
|---|---|---|---|
| COS | 811,739,851 | 923,911,061 | 852,634,633 |
| Average AP | 135,160,681 | 156,354,202 | 179,949,922 |
| | **6.01** | **5.91** | **4.74** |
| **BK** | June-10 | June-11 | June-12 |
| COS | 1,322,781,293 | 1,451,911,734 | 1,501,971,010 |
| Average AP | 416,781,486 | 392,356,649 | 391,167,142 |
| | **3.17** | **3.70** | **3.84** |
| **Bralirwa** | June-10 | June-11 | June-12 |
| COS | 897,793,527 | 945,760,157 | 927,550,316 |
| Average AP | 308,992,628 | 298,403,534 | 275,263,469 |
| | **2.91** | **3.17** | **3.37** |

**Source: Primary data**

This ratio evaluates the effectiveness of the firm in managing its payables. As a rule of thumb, the lower payables turnover indicates that the firm is taking longer to repay payables. Based on Table 6, though the highest among the three, KCB's ratio is steadily decreasing which means its paying pattern is becoming longer every year. BK and Bralirwa, on the other hand, are steadily improving. As such, for this financial ratio, BK gets three points while Bralirwa and KCB get two points and one point, respectively.

**Table 6: Fixed assets turnover for the three listed firms**

**Fixed assets turnover = Net sales/Average net property, plant, and equipment (in times)**

| **KCB** | **June-10** | **June-11** | **June-12** |
|---|---|---|---|
| Net sales | 1,326,895,164 | 1,368,039,079 | 1,432,298,612 |
| Average net PPE | 2,934,467,902 | 2,929,931,306 | 2,909,021,789 |
| | **0.45** | **0.47** | **0.49** |
| **BK** | June-10 | June-11 | June-12 |
| Net sales | 1,844,526,747 | 1,974,930,193 | 2,041,815,173 |
| Average net PPE | 722,208,950 | 782,100,372 | 887,458,421 |
| | **2.55** | **2.53** | **2.30** |
| **Bralirwa** | June-10 | June-11 | June-12 |
| Net sales | 1,490,125,362 | 1,642,191,363 | 1,715,553,833 |
| Average net PPE | 2,980,662,646 | 2,993,261,610 | 3,023,250,191 |
| | **0.50** | **0.55** | **0.57** |

**Source: Primary data**

Generally, the higher this ratio is, the smaller is the investment required to generate revenues and thus the more profitable is the firm. In other words, this ratio evaluates the effectiveness of the firm in utilizing its property, plant, and equipment. As a rule of thumb, to be considered effective, it should be at least

0.30 times. Using this, Table 7 shows that all three firms kept an effective mechanism on utilizing their property, plant, and equipment to generate sales. Overall, for this financial ratio, BK gets three points, followed by Bralirwa getting two points, and KCB getting one point.

**Table 7: Total assets turnover for the three listed firms**
**Total assets turnover = Net sales/Average total assets (in times)**

| **KCB** | **June-10** | **June-11** | **June-12** |
|---|---|---|---|
| Net sales | 1,326,895,164 | 1,368,039,079 | 1,432,298,612 |
| Average total assets | 3,241,932,725 | 3,232,154,400 | 3,184,017,611 |
| | **0.41** | **0.42** | **0.45** |
| **BK** | June-10 | June-11 | June-12 |
| Net sales | 1,844,526,747 | 1,974,930,193 | 2,041,815,173 |
| Average total assets | 3,741,171,725 | 3,893,932,742 | 4,288,655,543 |
| | **0.49** | **0.51** | **0.48** |
| **Bralirwa** | Dec-09 | Dec-10 | Dec-11 |
| Net sales | 1,490,125,362 | 1,642,191,363 | 1,715,553,833 |
| Average total assets | 3,519,926,077 | 3,624,128,511 | 3,833,056,862 |
| | **0.42** | **0.45** | **0.45** |

**Source: Primary data**

Generally, the higher this ratio is the more effective. In other words, this ratio indicates the effectiveness of using total assets to generate revenues. Similar to the previous financial ratio, as a rule of thumb, to be considered effective, it should be at least 0.30 times. Using this, Table 8 shows that all three firms keep an effective mechanism on utilizing their total assets. Overall, for this financial ratio, KCB gets three points for being consistently increasing, followed by BK getting two points, and Bralirwa getting one point. Summing all the points up, in terms of activity, BK gets a total of nine points, followed by KCB with eight points, and Bralirwa with seven points.

**Leverage ratios**

**Table 8: Debt ratio for the three listed firms**
**Debt ratio = Total liabilities/Total assets (in percentage)**

| **KCB** | **June-10** | **June-11** | **June-12** |
|---|---|---|---|
| Total liabilities | 713,548,043 | 774,145,013 | 772,716,384 |
| Total assets | 3,241,932,725 | 3,222,376,074 | 3,145,659,147 |
| | **0.22** | **0.24** | **0.25** |
| **BK** | June-10 | June-11 | June-12 |
| Total liabilities | 518,923,521 | 468,338,714 | 488,307,015 |
| Total assets | 3,741,171,725 | 4,046,693,758 | 4,530,617,328 |
| | **0.14** | **0.12** | **0.11** |
| **Bralirwa** | June-10 | June-11 | June-12 |
| Total liabilities | 1,716,376,895 | 1,665,768,188 | 1,555,491,409 |
| Total assets | 3,519,926,077 | 3,728,330,945 | 3,937,782,779 |
| | **0.49** | **0.45** | **0.40** |

**Source: Primary data**

Total debt includes all current liabilities and long-term debt. Creditors prefer low debt ratios because the lower the ratio, the greater the cushion against creditors' losses in the event of liquidation. Shareholders, on the other hand, may want more leverage because it can magnify expected earnings. Using the perspective of the creditor, Table 9 predicts that BK was highly favored. On the other hand, using the perspective of the shareholders, it seems like Bralirwa was highly favored.

Striking the balance between two perspectives and using 0.70 as the basis, Bralirwa was highly favored. As such, for this financial ratio, Bralirwa get three points while KCB and BK getting two points and one point, respectively.

**Table 9: Debt to equity ratio for the three listed firms**
**Debt to equity = Total liabilities/Total stockholders' equity (in times)**

| **KCB** | **June-10** | **June-11** | **June-12** |
|---|---|---|---|
| Total liabilities | 713,548,043 | 774,145,013 | 772,716,384 |
| Total SHE | 2,528,384,682 | 2,448,231,061 | 2,372,942,763 |
| | **0.28** | **0.32** | **0.33** |
| **BK** | June-10 | June-11 | June-12 |
| Total liabilities | 518,923,521 | 468,338,714 | 488,307,015 |
| Total SHE | 3,222,248,204 | 3,578,355,044 | 4,042,310,313 |
| | **0.16** | **0.13** | **0.12** |
| **Bralirwa** | June-10 | June-11 | June-12 |
| Total liabilities | 1,716,376,895 | 1,665,768,188 | 1,555,491,409 |
| Total SHE | 1,803,549,182 | 2,062,562,757 | 2,382,291,370 |
| | **0.95** | **0.81** | **0.65** |

**Source: Primary data**

This ratio shows the dependence on debt (borrowing) finance compared with equity funding. The greater the reliance on debt financing, the greater the level of interest and the greater the risk from exposure to rising interest rates. Firms listed on the stock exchange tend to follow a pattern of raising additional finance through borrowing for a number of years and then raise equity though issuing new shares. Equity is used more when the interest rate is too high, the share market perceives certain levels of debt funding to be bad, or market conditions favor a share issue just like in the case of rising share prices. As a rule of thumb, the ratio must be 1:1 for the stakes to be balanced. In this regard, Table 10 indicates that BK needed an improvement with Bralirwa relatively hitting the rule of thumb with a decent ratio of debt and equity in its capital structure. The only problem with Bralirwa is that its ratios are steadily declining with KCB the most consistent and stable. Nevertheless, for this financial ratio, Bralirwa gets three points while KCB and BK getting two points and one point, respectively.

**Financial Performance of the listed firms**

**Table 10: Operating profit margin for the three listed firms**

**Operating profit Margin = Operating profit/Net sales (in percentage)**

| **KCB** | **June-10** | **June-11** | **June-12** |
|---|---|---|---|
| Operating profit (EBIT) Net sales | 337,916,129<br>1,326,895,164 | 239,676,626<br>1,368,039,079 | 347,351,719<br>1,432,298,612 |
| | **0.25** | **0.18** | **0.24** |
| **BK** | June-10 | June-11 | June-12 |
| Operating profit (EBIT) Net sales | 696,645,774<br>1,844,526,747 | 766,335,726<br>1,974,930,193 | 884,564,498<br>2,041,815,173 |
| | **0.38** | **0.39** | **0.43** |
| **Bralirwa** | June-10 | June-11 | June-12 |
| Operating profit (EBIT) Net sales | 430,426,250<br>1,490,125,362 | 517,676,137<br>1,642,191,363 | 608,765,754<br>1,715,553,833 |
| | **0.29** | **0.32** | **0.35** |

**Source: Primary data**

This measures operating income relative to peso revenue. As a rule of thumb, a higher operating margin is preferred since lower operating margin (as compared with similar firm) may mean higher operating costs. Referring to Table 11, BK consistently showed the highest ratio, followed by Bralirwa, and lastly KCB. As such, for this financial ratio, BK gets three points, Bralirwa gets two points, and KCB gets one point. Ratio.

**Table 11: Net Profit Margin for the three listed firms**

**Net profit Margin = Net income/Net sales (in percentage)**

| **KCB** | **June-10** | **June-11** | **June-12** |
|---|---|---|---|
| Net income<br>Net sales | 654,545,815<br>1,326,895,164 | 199,157,179<br>1,368,039,079 | 297,126,102<br>1,432,298,612 |
| | **0.49** | **0.15** | **0.21** |
| **BK** | June-10 | June-11 | June-12 |
| Net income<br>Net sales | 611,812,394<br>1,844,526,747 | 650,360,280<br>1,974,930,193 | 775,910,045<br>2,041,815,173 |
| | **0.33** | **0.33** | **0.38** |
| **Bralirwa** | June-10 | June-11 | June-12 |
| Net income<br>Net sales | 335,443,693<br>1,490,125,362 | 408,180,799<br>1,642,191,363 | 518,446,745<br>1,715,553,833 |
| | **0.23** | **0.25** | **0.30** |

**Source: Primary data**

This ratio measures net income relative to peso revenue. As a rule of thumb, a higher profit margin is preferred since lower profit margin (as compared with similar firm) may mean higher interest charges because of higher debt. Referring to Table 12, BK consistently showed the highest ratio, followed by Bralirwa, and lastly KCB. As regards KCB, the high 49% ratio was caused by a revaluation increment on land which is deemed to be extraordinary, it doesn't happen every period. As such, for this financial ratio, BK gets three points, Bralirwa gets two points, and KCB gets one point.

**Table 12: Return on total assets for the three listed firms**

**Return on total assets = Net income/Average total assets (in percentage)**

| KCB | June-10 | June-11 | June-12 |
|---|---|---|---|
| Net income | 654,545,815 | 199,157,179 | 297,126,102 |
| Average total assets | 3,241,932,725 | 3,232,154,400 | 3,184,017,611 |
| | **0.20** | **0.06** | **0.09** |
| **BK** | June-10 | June-11 | June-12 |
| Net income | 611,812,394 | 650,360,280 | 775,910,045 |
| Average total assets | 3,741,171,725 | 3,893,932,742 | 4,288,655,543 |
| | **0.16** | **0.17** | **0.18** |
| **Bralirwa** | June-10 | June-11 | June-12 |
| Net income | 335,443,693 | 408,180,799 | 518,446,745 |
| Average total assets | 3,519,926,077 | 3,624,128,511 | 3,833,056,862 |
| | **0.10** | **0.11** | **0.14** |

**Source: Primary data**

This ratio measures efficiency with which assets are used to operate the firm. As a rule of thumb, a higher return on total assets is preferred since lower ROA (as compared with similar firm) may mean higher degree of leverage (more debt), therefore higher interest expense and lower net income. Referring to Table 13, BK consistently showed the highest ratio, followed by Bralirwa, and lastly KCB. In the same manner, as regards KCB, the high 20% ratio was caused by a revaluation increment on land which is deemed to be extraordinary, it doesn't happen every period. As such, for this financial ratio, BK gets three points, Bralirwa gets two points, and KCB gets one point.

**Table 13: Return on equity for the three listed firms**

**Return on equity = Net income/Average common SHE (in percentage)**

| KCB | June-10 | June-11 | June-12 |
|---|---|---|---|
| Net income | 654,545,815 | 199,157,179 | 297,126,102 |
| Average common SHE | 2,528,384,682 | 2,488,307,872 | 2,410,586,912 |
| | **0.26** | **0.08** | **0.12** |
| **BK** | June-10 | June-11 | June-12 |
| Net income | 611,812,394 | 650,360,280 | 775,910,045 |
| Average common SHE | 3,222,248,204 | 3,400,301,624 | 3,810,332,679 |
| | **0.19** | **0.19** | **0.20** |
| **Bralirwa** | June-10 | June-11 | June-12 |
| Net income | 335,443,693 | 408,180,799 | 518,446,745 |
| Average common SHE | 1,803,549,182 | 1,933,055,970 | 2,222,427,064 |
| | **0.19** | **0.21** | **0.23** |

**Source: Primary data**

The ratio in Table 14 measures the rate of return on common shareholders' investment. This is considered as the most important accounting ratio as this has something to do with the DuPont equation. As a rule of thumb, the higher the ROE, the better since low ROE but high ROA (as compared with similar firm) may mean that the firm is using greater debt. As depicted in Table 14, Bralirwa consistently showed the highest ratio, followed by BK, and lastly KCB. In the same manner, as regards KCB, the high 26% ratio was caused by a revaluation increment on land which is deemed to be extraordinary, it doesn't happen every period. As such, for this financial ratio, Bralirwa gets three points, BK gets two points, and KCB gets one point.

**Table 14: Basic earning power ratio for the three listed firms**

**Basic earning power ratio = Earnings before interest and taxes/Average total assets (in percentage)**

| KCB | June-10 | June-11 | June-12 |
|---|---|---|---|
| EBIT | 337,916,129 | 239,676,626 | 347,351,719 |
| Average total assets | 3,241,932,725 | 3,232,154,400 | 3,184,017,611 |
| | **0.10** | **0.07** | **0.11** |
| **BK** | June-10 | June-11 | June-12 |
| EBIT | 696,645,774 | 766,335,726 | 884,564,498 |
| Average total assets | 3,741,171,725 | 3,893,932,742 | 4,288,655,543 |
| | **0.19** | **0.20** | **0.21** |
| **Bralirwa** | June-10 | June-11 | June-12 |
| EBIT | 430,426,250 | 517,676,137 | 608,765,754 |
| Average total assets | 3,519,926,077 | 3,624,128,511 | 3,833,056,862 |
| | **0.12** | **0.14** | **0.16** |

**Source: Primary data**

This ratio indicates the ability of the firm's assets to generate operating income. As a rule of thumb, the higher this ratio is the better. As depicted in Table 4.15, BK and Bralirwa demonstrated steadily increasing ratio. KCB, on the other hand, has been inconsistent. The highest ratios were observed in BK, followed by Bralirwa, then KCB. Because of this, BK gets three points while Bralirwa and KCB get two points and one point, respectively. Summing all the points up, in terms of profitability, BK gets a total of 14 points, followed by Bralirwa with 11 points, and KCB with five points.

**Market value ratios**

**Table 15: Price/earnings ratio for the three listed firms**

**Price/Earnings ratio = Price per share/Earnings per share (in times)**

| KCB | June-10 | June-11 | June-12 |
|---|---|---|---|
| Price per share | 9.30 | 9.00 | 9.90 |
| EPS | 0.77 | 0.53 | 0.80 |
| | **12.08** | **16.98** | **12.38** |
| **BK** | June-10 | June-11 | June-12 |
| Price per share | 755.00 | 770.00 | 960.00 |
| EPS | 43.29 | 46.43 | 51.93 |
| | **17.44** | **16.58** | **18.49** |
| **Bralirwa** | June-10 | June-11 | June-12 |
| Price per share | 3.60 | 4.00 | 4.40 |
| EPS | 0.3912 | 0.5005 | 0.6374 |
| | **9.20** | **7.99** | **6.90** |

**Source: Primary data**

This ratio shows how much investors are willing to pay per peso of reported profits. Among the three, BK seems to be the firm of choice of the investors as shown by Table 16. This ratio is relatively high for firms with strong growth prospects and little risk but low for slowly growing and risky firms. In this financial ratio, BK gets three points while KCB and Bralirwa getting two points and one point, respectively.

**Table 16: Market/Book ratio for the three listed firms**
**Market/Book ratio = Price per share/Book value per share (in times)**

| KCB | June-10 | June-11 | June-12 |
|---|---|---|---|
| Price per share | 9.30 | 9.00 | 9.90 |
| BVPS | 6.79 | 6.57 | 6.37 |
| | **1.37** | **1.37** | **1.55** |
| **BK** | June-10 | June-11 | June-12 |
| Price per share | 755.00 | 770.00 | 960.00 |
| BVPS | 328.52 | 364.82 | 294.39 |
| | **2.30** | **2.11** | **3.26** |
| **Bralirwa** | June-10 | June-11 | June-12 |
| Price per share | 3.60 | 4.00 | 4.40 |
| BVPS | 2.42 | 2.75 | 3.18 |
| | **1.49** | **1.45** | **1.38** |

**Source: Primary data**

This ratio gives another indication of how investors regard the firm. As a rule of thumb, highly regarded firms have high market-book ratios which mean they are low-risk and high-growth firms. In this regard, market-book ratios have to be at least 1.0. Using this, it appears that the three firms have inviting ratios. And among the three, an investor has to get three folds when investing in BK, and at most two folds when investing in KCB and Bralirwa, though Bralirwa's ratios are declining as shown in Table 17. Overall, for this financial ratio, BK gets three points, KCB gets two points, and Bralirwa gets one point.

**Table 17: Dividend yield for the three listed firms**
**Dividend yield = Dividend per share/Price per share (in percentage)**

| KCB | June-10 | June-11 | June-12 |
|---|---|---|---|
| DPS | 1.00 | 0.75 | 1.00 |
| Price per share | 9.30 | 9.00 | 9.90 |
| | **10.75** | **8.33** | **10.10** |
| **BK** | June-10 | June-11 | June-12 |
| DPS | 30.00 | 30.00 | 22.72 |
| Price per share | 755.00 | 770.00 | 960.00 |
| | **3.97** | **3.90** | **2.37** |
| **Bralirwa** | June-10 | June-11 | June-12 |
| DPS | 0.24 | 0.22 | 0.26 |
| Price per share | 3.60 | 4.00 | 4.40 |
| | **6.57** | **5.42** | **5.84** |

**Source: Primary data**

It is important to realize that this ratio shows the return shareholders are actually achieving on their investment, using current market value for listed shares. As a rule of thumb, a yield of three percent to five percent is considered enticing. As depicted in Table 18, at an average, all the three firms fairly meet the standard as shown in Table 18. Similar to the preceding ratio, investors may be expected to invest anywhere among the three firms. As such, choosing the highest percentage, KCB gets three points, Bralirwa gets two points, and BK gets one point. Summing all the points up, in terms of market value, KCB and BK both get a total of seven points while Bralirwa gets a total of four points.

**Table 18: DuPont equation for the three listed firms**

**DuPont equation**

| **KCB** | | **June-10** | **June-11** | **June-12** |
|---|---|---|---|---|
| Profit margin | Net income Sales | 654,545,815<br>1,326,895,164 | 199,157,179<br>1,368,039,079 | 297,126,102<br>1,432,298,612 |
| | | **0.49** | **0.15** | **0.21** |
| | | June-10 | June-11 | June-12 |
| Total assets turnover | Sales<br>Average total assets | 1,326,895,164<br>3,241,932,725 | 1,368,039,079<br>3,232,154,400 | 1,432,298,612<br>3,184,017,611 |
| | | **0.41** | **0.42** | **0.45** |
| | | June-10 | June-11 | June-12 |
| Equity multiplier | Average total assets<br>Average common SHE | 3,241,932,725<br>2,528,384,682 | 3,232,154,400<br>2,488,307,872 | 3,184,017,611<br>2,410,586,912 |
| | | **1.28** | **1.30** | **1.32** |
| **ROE – KCB** | | **0.26** | **0.08** | **0.12** |
| **BK** | | June-10 | June-11 | June-12 |
| Profit Margin | Net income Sales | 611,812,394<br>1,844,526,747 | 650,360,280<br>1,974,930,193 | 775,910,045<br>2,041,815,173 |
| | | **0.33** | **0.33** | **0.38** |
| | | June-10 | June-11 | June-12 |
| Total assets turnover | Sales<br>Average total assets | 1,844,526,747<br>3,741,171,725 | 1,974,930,193<br>3,893,932,742 | 2,041,815,173<br>4,288,655,543 |
| | | **0.49** | **0.51** | **0.48** |
| | | June-10 | June-11 | June-12 |
| Equity multiplier | Average total assets<br>Average common SHE | 3,741,171,725<br>3,222,248,204 | 3,893,932,742<br>3,400,301,624 | 4,288,655,543<br>3,810,332,679 |
| | | **1.16** | **1.15** | **1.13** |
| **ROE – BK** | | **0.19** | **0.19** | **0.20** |
| **Bralirwa** | | June-10 | June-11 | June-12 |
| Profit Margin | Net income Sales | 335,443,693<br>1,490,125,362 | 408,180,799<br>1,642,191,363 | 518,446,745<br>1,715,553,833 |
| | | **0.23** | **0.25** | **0.30** |
| | | June-10 | June-11 | June-12 |
| Total assets turnover | Sales<br>Average total assets | 1,490,125,362<br>3,519,926,077 | 1,642,191,363<br>3,624,128,511 | 1,715,553,833<br>3,833,056,862 |
| | | **0.42** | **0.45** | **0.45** |
| | | June-10 | June-11 | June-12 |
| Equity multiplier | Average total assets<br>Average common SHE | 3,519,926,077<br>1,803,549,182 | 3,624,128,511<br>1,933,055,970 | 3,833,056,862<br>2,222,427,064 |
| | | **1.95** | **1.87** | **1.72** |
| **ROE - Bralirwa** | | **0.19** | **0.21** | **0.23** |

**Source: Primary**

Having considered individual financial ratios as well as groups of financial ratios measuring short-term liquidity, operating efficiency, capital structure and long-term solvency, and profitability, it is helpful to complete the evaluation of a firm by considering the interrelationship among the individual ratios. The DuPont equation ends up with ROE which is considered as the most important accounting ratio.

**Relationship between Stock Listing and firm financial performance**

The third objective of this study was to establish the relationship between stock listing and the financial performance of the firms that are listed. This section discusses the partial correlation (Table 20), the correlation (Table 21) and the regression model (Table 22).

**Table 19: Partial correlation between the independent and dependent variables**

| Correlations | | | | | |
|---|---|---|---|---|---|
| Control Variables | | | Leverage | Financial performance | Market ratio |
| Liquidity Ratio | Leverage | Correlation | 1.000 | .303 | -.582 |
| | | Significance (2-tailed) | . | .466 | .130 |
| | | df | 0 | 2 | 2 |
| | Financial performance | Correlation | .303 | 1.000 | -.731 |
| | | Significance (2-tailed) | .466 | . | .039 |
| | | df | 2 | 0 | 2 |
| | Market ratio | Correlation | -.582 | -.731 | 1.000 |
| | | Significance (2-tailed) | .130 | .039 | . |
| | | df | 2 | 2 | 0 |

**Source: Primary data**

According to Table 21, the liquidity ratio was used as an intervening variable. With the intervening variable controlled, the correlation between leverage and financial performance was not statistically significant (R = 0.303, P>0.01), and negative with market ratio (0.582, P>0.01). This implies that leverage which the firms seek through listing in stock exchange causes financial performance. The liquidity ratio had strong influence and therefore the relationship was weak though positive.

**Table 20: Correlation between Stock Listing and financial performance**

| Correlations | | | |
|---|---|---|---|
| | | Leverage | Financial |
| Leverage | Pearson Correlation | 1 | .833** |
| | Sig. (2-tailed) | | .005 |
| | N | 9 | 9 |
| Financial | Pearson Correlation | .833** | 1 |
| | Sig. (2-tailed) | .005 | |
| | N | 9 | 9 |

****. Correlation is significant at the 0.01 level (2-tailed).**

**Source: Primary data**

Table 21 shows that the correlation between financial leverage and financial performance of the listed companies was very strong and statistically significant (R = 0.833, P<0.01). This shows that the more a firm manages it debt ratios, the more its ROA, ROE and market shares.

**The regression model output in Table 22: shows the correlation coefficient R and the square.**

**Table 21: Regression model output**

| Model Summary | | | | |
|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .834[a] | .695 | .594 | .97290 |
| a. Predictors: (Constant), Debt to equity, Debt ratio | | | | |

**Source: Primary data**

The regression model shows that financial leverage as measured by debt to equity ratio, and debt to total liability ratio. The Table shows that for each leverage, the listed firm financially increases at about70%. The findings of this study affirm that of [28] who found that equity markets and financial intermediaries are complements such that the existence of an active stock market results in increased volumes of business for financial intermediaries. Also, [29] found that Capital structure proxied by debt equity ratio and performance indicated by return on equity. Had a positive relationship.

## DISCUSSION

**To examine the opportunities that Rwanda Stock Exchange provides to listed companies**

The stock market listing provides organisations with financial leverage and in this study financial ratios were used to establish the liquidity of the listed firms after taking the opportunity at the Rwanda Stock Exchange since 2010 till 2015. Accordingly, KCB current assets steadily declining while that of BK's and Bralirwa's were steadily increasing. As a supplement to current ratio, quick or acid-test ratio aims to show the more liquid current assets available to pay the more immediately payable liabilities. With reference to current assets, the results are not significantly affected since only inventories are not considered here. The three firms were less likely to carry material amounts of inventories according to the findings. By identifying the most liquid current assets and using them in determining firm's liquidity, it was shown that KCB steadily declined while Bralirwa steadily increased. However, the liquidity ratios of KCB and Bralirwa increased implying, more of their current assets were immediately realizable when needed. It was shown that though shortening, BK has the longest average collection period and a possible explanation for why it has significantly higher current assets; it takes more than 100 days to collect its receivables. KCB had the shortest average collection period. Among the three, and only Bralirwa demonstrated an improvement in average collection period with the number of days shortening. Based on the findings though the highest among the three, KCB's activity ratio was steadily decreasing because it kept its receivables at low level. BK's and Bralirwa's remained consistent but with four-basis-decline points in the most recent period. Though the highest among the three, KCB's accounts payable turnover ratio was steadily decreasing which means its paying pattern is becoming longer every year. BK and Bralirwa, on the other hand, were steadily improving. It was found that all three firms kept an effective mechanism on utilizing their property, plant, and equipment to generate sales and Total asset turnover shows that all three firms keep an effective mechanism on utilizing their total assets. In measuring debt ratio, it was found that BK was highly favored and using the perspective of the shareholders, it seems like Bralirwa was highly favored. Striking the balance between two perspectives and using 0.70 as the basis, Bralirwa was highly favored. Debt to equity indicates that BK needed an improvement with Bralirwa relatively hitting the rule of thumb with a decent ratio of debt and equity in its capital structure. The only problem with Bralirwa

is that its ratios are steadily declining with KCB the most consistent and stable.

**To examine the performance of listed companies in Rwanda Stock Exchange**

BK consistently showed the highest operating profit Margin, followed by Bralirwa, and lastly KCB. BK consistently showed the highest Net Profit Margin ratio, followed by Bralirwa, and lastly KCB. As regards KCB, the high 49% ratio was caused by a revaluation increment on land which is deemed to be extraordinary, it doesn't happen every period. BK consistently showed the highest return on total assets ratio, followed by Bralirwa, and lastly KCB. In the same manner, as regards KCB, the high 20% ratio was caused by a revaluation increment on land which is deemed to be extraordinary, it doesn't happen every period. As depicted in in the findings, Bralirwa consistently showed the highest Return on Equity ratio, followed by BK, and lastly KCB. In the same manner, as regards KCB, the high 26% ratio was caused by a revaluation increment on land which is deemed to be extraordinary, it doesn't happen every period.

**To establish the relationship between opportunities in Rwanda Stock Exchange and the performance of listed companies**

The liquidity ratio was used as an intervening variable. With the intervening variable controlled, the correlation between leverage and financial performance was not statistically significant ($R = 0.303$, $P>0.01$), and negative with market ratio (0.582, $P>0.01$). This implies that leverage which the firms seek through listing in stock exchange causes financial performance. The liquidity ratio had strong influence and therefore the relationship was weak though positive.

## CONCLUSION

Based on the findings exuding from this study, the following logical conclusions are henceforth presented.

**To examine the opportunities that Rwanda Stock Exchange provides to listed companies**

There was a reasonable buffer of current assets over current liabilities as an indication of the ability of the firm to pay its debts as and when they fall due for BK and Bralirwa and they did not only have relatively high current ratio but were actually effective in conversion of their accounts receivables. Bralirwa and KCB became more liquid in the years considered under the study and this was proved by the shorter average collection period that these companies instituted in place. This is a viable policy that ensures cash is collected in time hence making the firm more liquid however KCB had high accounts receivable ratio implying it kept its receivables at a low level as compared to BK. As far as fixed asset turnover is concerned, all the three firms were able to master their profitability from minimum investments and this is proven by the high total asset turnover ratio observed in this study. BK had a low debt ratio as compared to the other two implying that it had a greater cushion against debtors' losses in the event of liquidation while Bralirwa was better for shareholders' because its low debt ratio implied shareholders were able to expect more earnings. The Debt to equity ratio indicated that BK was more dependent on borrowing hence vulnerable to interest risk spread as compared to the other two.

**To examine the performance of listed companies in Rwanda Stock Exchange**

Based on the findings on Operating profit, Margins of the three firms, it was observed that BK had a higher ration hence it had low operating costs followed by Bralirwa and lastly KCB while their Net profit, Margin, Return, on Assets and Return on Equity showed a similar trend. It is conclusive that KCB did not perform very well as BK and Bralirwa in the period considered under study. After conducting a comprehensive financial ratio analysis, BK (44 points) ranked first as the most financially healthy, followed by Bralirwa (40 points), then KCB (36 points).

**To establish the relationship between opportunities in Rwanda Stock Exchange and the performance of listed companies**

Given that the correlation between leverage and financial performance was not statistically significant (R = 0.303, P>0.01), and negative with market ratio (0.582, P>0.0) it is concluded that leverage which the firms seek through listing in stock exchange causes financial performance but liquidity may be a possible benefit for listing.

## Recommendation

Based on the findings of this study the following recommendations are furthered. The management of the firms need to improve and strengthen their liquidity especially working capital management of BK is affecting the level of liquidity though the firm is still financially sound by finding. Findings of this study may help stakeholders to recognize the link between stock listing and financial performance and choosing appropriate measures to evaluate and analyze the companies' financial status. The findings of this study suggest that companies depend more on short-term debt than long-term debt. This is probably due to the absence of a well-developed bonds market in Rwanda, where companies can raise enough long-term debt. Liquidity ratios had negative relationship with financial leverage. This means that companies that have high profitability and good performance in Rwanda have less debt and depend more on internal sources of financing thus supporting the pecking order theory. Therefore, the market value of capital structure should be taken more into consideration in evaluating stock listing as it has a stronger link to financial performance than the book value.

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