RESEARCH ACADEMY OF
SOCIAL SCIENCES

Impact of Privatization on Companies' Liquidity: A Case of Companies Listed At Nairobi Securities Exchange

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Abstract

The aim of this study was to analyse the liquidity of companies privatized and quoted in the Nairobi Security Exchange. The research focused on those companies, which were recently privatized and were quoted at the Nairobi Security Exchange. Secondary data was collected and analysed from both published and unpublished reports. Published data mainly came from the financial reports of these companies, journals and prospectus. Unpublished data was obtained from research papers.Two ratios were computed for the companies five years before privatization and five years after privatization and the student's t- distribution was used to determine whether there were significant differences in liquidity before and after privatization.The general conclusion from the study shows that there were no significant changes in the liquidity of companies before and after privatization.

Key words: Privatization, Liquidity, NSE

1. Introduction

The main focus in the public enterprises sector during the colonial period was Concentrated on infrastructure and farming although some efforts were made to venture into the manufacturing sector. This was done through the establishment of Industrial Development Corporation (ICDC). (Mwale, 2000). The expansion of the public sector gained momentum around 1920's and 1930's as the colonial government tried to create and improve facilities and marketing of agricultural commodities through the creation of marketing boards.

When Kenya attained her independence in 1963, the government continued expanding the public sector. This expansion was done through participation in production, financial and commercial enterprises by the state. The government also encouraged nationalism, which further led to creation of more State Owned Enterprises (SOE'S). By the end of 1970's, the government held equity in about 250 commercially oriented firms engaged in production of goods and services. The government was the majority shareholder in over a half of these firms. By 1990, 60% of the public enterprises were in manufacturing and mining, 18% in distribution, 5% in the financial sector and the rest in the public infrastructure facilities such as transport and communication and power generation and distribution. (Nyong'o, 2000). A research conducted on the state owned enterprises showed that they contributed for some 17% of the Gross Domestic Product (GDP) by the early 1980's. (Kihumba, 1994).

Various factors contributed to the poor performance of the state owned enterprises. Poor performance in public sector has been associated with poor management. (GOK, 1979). There has been lack of professionalism in the management of money in public institutions. Top position appointments have been in most cases determined by political factors and not on merit or efficiency. (Oyugi, 1997). In the government

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commissioned report on parastatals, it was observed that there is clear evidence of prolonged inefficiency, financial mismanagement and malpractices in many parastatals. (Nyong'o, 2000).

Another factor that contributed to the poor performance of the public sector was nature of relationship among enterprises themselves. In many cases they were interlinked together through input output relations. Inefficiencies of one spread to the rest in that manner. (Nyong'o, 2000).

Under the flexible pricing regime, firms were generally free to sell their products at the prevailing global markets. This system was common in agricultural and marketing parastatals dealing with the key exports like Tea, Coffee and Pyrethrum. Firms served the farmers operations with the principal of "no profit no loss or break even". Frequently prices were set below or above the market clearing prices leading to surpluses or shortages resulting in an overall inefficiency particularly in the financial parastatal firms like banks. (Nyong'o, 2000).

By 1980's, most of the public enterprises in Kenya were heavily entangled in red tape and other government regulations. In view of the high levels of under capitalization and low liquidity, many enterprises frequently faced serious leverage problems. For example some sugar companies began their production with borrowed funds while Kenya Tea Development Authority (KTDA) and National Cereals and Produce Board (NCPD) operated with negative working capital.

In 1980's and 1990's most parastatals reported significant losses. The sector had grown too large to finance its resources (Oyugi, 1997). In the agricultural sector, there were heavy losses in the National Cereals and Produce Board (N.C.P.B), South Nyanza Sugar Company (SONY), Nzoia Sugar Company and Kenya Meat Commission. (Nyong'o, 2000). Parastatls, which were not performing well in the infrastructure sector, were Kenya Airways, Kenya Railways, Kenya Power and Lighting Company, Kenya Ports Authority and Kenya Post and Telecommunications Corporation. (Oyugi, 1997).

The Government of Kenya, the World Bank and other stakeholders had a number of objectives, which they hoped would be achieved through privatization. The government of Kenya was prompted to privatize some companies mainly due to their poor performance. Among the objectives of privatization were to improve the company's liquidity. A study by Waweru, Mbogo and Mohamed (2013) on privitazation and profitability found out that there was no significant change in profitability before and after privitazation. This research sought to measure the impact of privitization on liquidity of the companies listed at the Nairobi security exchange.

2. Literature Review

Origin of privatization

Privatization is the transfer of ownership of an enterprise through the sale of assets from the public to the private sector. (Kibera, 1996). Privatization is also defined as the supply-side economics, which hinges on neo-classical hypothesis that private enterprises bring better efficiency and more rapid growth of such organizations. (Oyugi, 1997). Privatization may also be defined as a generic term employed to describe a range of policy initiatives designed to alter the mix of ownership or management away from the government in favour of the private sector. (Nyong'o 2000).

The beginning of Kenya public sector can be traced back to the years soon after the country became a British colony in the early 20th century. The British government in its bid to stamp out its authority to the newly acquired territory established State Owned Enterprises (SOEs) as well as civil service to help administer the colony. The great trading companies of the early period of European empire building, such as the British South Africa Company and the East Indies Company, were in private hands until they were taken over by the governments as part of the rise of the global foreign policy interests in the imperialism of the nineteenth century. (Cowan 1990).

The present trend of privatization was initiated by the Thatcher government in Britain in the early 1980's is today followed by numerous other governments. (Oyugi, Akeno 1997). France and Britain are the

pioneers in the present wave of privatization in the western European economies. In Britain, vital industries like telecommunication, gas and electricity have been sold to the public. In France large industries and financial conglomerates have constituted the main bulk of privatized enterprises. Germany, Italy and Netherlands had, by 1992, started to sell part of the shares they held in some of the state owned enterprises. However, large utilities were not up for privatization. (Nong'o, 2000). In the former Soviet block countries, privatization has meant a sudden shift of economic and political power from state bureaucrats to the private sector. Since the introduction of liberalized market economy is totally new, this change has come with tremendous shock to the societies with large-scale unemployment as a major outcome. Thus privatization in these countries has had a negative impact.

In Latin America, Chile and Argentina have had some of the most comprehensive and far-reaching divestiture programs. Argentina's privatization program was characterized by its scope and speed, as well as the intensity of the World Bank Support. (Nyong'o 2000). Generally France, Italy and Spain in Europe, Brazil, Chile, Honduras, Mexico and Jamaica in Latin America and the Caribbean, Japan, Thailand, Singapore, Malaysia, Srilanka and Turkey in Asia and Middle East have become notable proponents of privatization. Some have concrete and successful results in the transfer of the assets of the public sector into the private hands. (Oyugi, 1997).

Privatization in Africa

Privatization in Africa is on the rise. Although many public enterprises remain in the government portfolios, acceptance of the need to reduce the size of the public enterprise sector has grown. By the end of 1996, just under 2700 privatization transactions had taken place in the Sub-Saharan Africa with a total sales value of $2.7 billion. (Campbell, Bhatia, 1997). At the beginning of 1990 a dozen countries in Africa had undertaken some form of privatization. By 1993 that number had doubled and by the end of 1996 all but 5 countries had divested some of the public enterprises. In terms of the number of transactions most of the privatization activity has been concentrated in a few countries. Of the 2689 reported privatization transactions that took place between 1988 and 1996, 1891 (over 790%) were concentrated in ten countries namely Mozambique, Angola, Ghana, Zambia, Kenya, Tanzania, Guinea, Madagascar, Nigeria and Uganda. (Campbell, Bhatia, 1997).

Privatization in Kenya

Kenya was ranked 5th in respect of the number of privatization transactions in Africa. By 1996, Kenya had 152 transactions after Mozambique's 548, Angola 331, Ghana 191 and Zambia 191. (World Bank, 1997). Kenya's sales value of the state owned enterprises by 1996 out of the 152 transactions amounted to $184.6 Million. (World Bank, 1997).

The introduction of the aid conditions requiring a reduced state holding caused the state to rethink its role as outlined in the sessional paper of 1982 on development prospects and policy. Due to external pressure from the International Monetary Fund (IMF) and the World Bank, the state finally committed itself to privatization as a key economic policy. In 1992 the government followed by two agreements in the years 1993 – 1994 and 1994 – 1997 between the World Bank and the government. This policy paper affirmed the government's commitment in implementing comprehensive public enterprise reform program. (Nyong'o 2000).

Two instruments, the public enterprise reform program (PERP) and the privatization program would be used in achieving the objectives of privatization. In 1991 the president appointed a high level policy making body, the Parastatal Reform Policy Committee (PRPC) with the mandate to divest and liquidate non strategic parastatals. The PRPC was charged with:

- Supervising and coordinating the implementation of the parastatal reform program.
- Prioritizing and scheduling the sale of such non-strategic enterprises.
- Approving the operational guidelines such as the criteria and procedures to be followed by the executive secretariat and technical unit (ESTU) in divestiture decisions.
- Giving final approval or rejection for the sale of public enterprise.

- Providing political impetus for privatization, participating in building public awareness and national consensus in support of the program. (Nyong'o 2000).

The government of Kenya short-listed a number of companies, which were to be privatized. Some of these companies have already been privatized while others are yet to go through the process. (GOK, 1992).

According to the research on privatization done by Cook and Kirkpatrick (1995), it was observed that there has been little impact of privatization on African economies.

Moreover, substantial impact of privatization in any economy only occurs when infrastructure has been privatized.

This sector, by 1993, accounted for 35% of the revenue generated from privatization (Sader 1993).

The sectors in most of the African countries are yet to be privatized.

The above findings from different researchers have touched on different issues on privatization.

Their different findings have generated the controversies as to whether privatization has positive or negative impact on liquidity.

3. Research Methodology

Target Population

The population of interest for this study comprised corporations that were initially government owned and which have been privatized and their shares quoted on the stock exchange. A total of nine companies were included in this research. Mumias Sugar Company was omitted from the study due to lack of data. The company did not have financial reports for five years after privatization since it was privatized in 2001.

Due to the small size of the privatized companies quoted on the stock exchange a census study was carried out covering all the nine companies.

Data collection technique

Secondary data was used entirely for the purpose of this research. The data was collected from the annual financial reports of companies under study.

Data analysis

Ratio analysis was used to compare the performance of the companies before and after privatization. liquidity ratios were computed for each company five years before and five years after privatization.

The following ratios were computed for each company five years before and five years after privatization to measure their liquidity.

(i) Current Ratio = $\dfrac{\text{Current Assets}}{\text{Current Liabilities}}$

(ii) Quick acid test ratio = $\dfrac{\text{Current assets less stock}}{\text{Current Liabilities}}$

The mean and standard deviation for each ratio were computed for each company before and after privation. 9 student's distribution was then used to test for the difference between means of all companies then at 95% confidence level. This confidence level was chosen since other researchers in similar studies used it. Student's distribution is recommended where sample size is below 30. (Lucy, 1992).

The hypotheses were tested using the student's t-distribution as follows

$$t = \frac{u_1 - u_2}{\sqrt{(N_1 - 1)\,\sigma_1^2 + (N_2 - 1)\,\sigma_2^2}\ \ \sqrt{\dfrac{N_1 - N_2}{N_1 + N_2}}}$$

Where

t = test statistic

u_i = Ratio before privatization

u_2 = Ratio after privatization

N_1 = Number of years before privatization

N_2 = Number of years after privatization

$_1$ = Standard deviation before privatization

$_2$ = Standard deviation after privatization

4. Results and Discussions

Descriptive

Data for the study was obtained from company annual reports and prospectuses of nine companies quoted on the Nairobi Securities Exchange. Data was collected from all the companies targeted by the study translating to a response rate of 100%. The various ratios meant to indicate the level of liquidity related to periods before and after privatization were computed. The study tested the hypothesis that there is no significant difference in liquidity before and after privatization. Ratios were computed for each company to test the liquidity of the companies before and after privatization.

Tests on liquidity

Two ratios were used to measure the liquidity level five years before and five years after privatization. The two ratios used were the current asset ratio and the quick acid test ratio.

Current Asset Ratio

Current asset ratio was computed for all the companies and the t- test results are presented below:

Table 5: Current Asset Ratio

Company	Current Asset Ratio
	t- test results
C.MC Ltd	0.423
Bamburi Cement	-1.470
B.O.C Kenya	-8.236
Firestone E/A Ltd	-2.790
East African Portland	0.446
Kenya Airways	-0.815
Housing Finance Corporation of Kenya	3.099
National Bank of Kenya	2.068
Kenya Commercial Bank	-5.112

Source: Research Data

A two tail t- test on current asset ratio at 95% confidence level, 8 degrees of freedom showed the results as indicated in the above table. The t- critical at the same confidence level for all the companies was 2.306. out of the total population of nine companies, five companies showed no significant change in current asset ratio before and after privatization. Four companies representing 44% had the t- statistic outside the acceptance region. The four companies showed a significant change in current asset ratio before and after privatization.

Quick Acid Test Ratio

Quick acid test ratio was computed for all the companies and the t- test results are presented below:

Table 6: Quick Acid Test Ratio

Company	Quick Acid Test Ratio
	t- test results
C.M.C Ltd	-4.743
Bamburi Cement	-1.996
B.O.C Kenya	-10.133
Firestone E/A Ltd	-1.831
East African Portland	-2.694
Kenya Airways	-1.496
Housing Finance Corporation of Kenya	3.099
National Bank of Kenya	2.068
Kenya Commercial Bank	-5.111

Source: Research Data

A two tail t- test on quick acid test ratio at 95% confidence level, 8 degrees of freedom showed the results as indicated in the above table. The t- critical at the same confidence level for all the companies was 2.306. Out of the total population of nine companies, four companies representing 44% had their t statistic within the acceptable region. The four companies showed no significant change in quick acid test ratio before and after privatization. Five companies representing 56% had the t- statistic outside the acceptance region. The five companies showed a significant change in quick acid test ratio before and after privatization.

General conclusion on liquidity

Two ratios were computed as a measure of liquidity. Quick acid test ratio did show a significant change while current asset ratio did not show any significant change before and after privatization. Therefore it was not possible to make a conclusion as to whether privatization had significant change on liquidity after privatization.

5. Summary Conclusion and Recommendations

Summary

The main objective of the study was to measure the impact of privatization on liquidity. Secondary data was collected from the annual reports and company prospectus from which the analysis was done. Collected data was analysed using Microsoft Excel.

Conclusion

Two ratios were used to measure the liquidity of the companies before and after privatization. Current asset ratio had the calculated t- statistic outside the acceptance region for most of the companies. Four companies had the calculated t- statistic within the acceptable region. Therefore it was not possible to derive a conclusion as to whether privatization had a significant change on liquidity before and after privatization.

Recommendations for further study

1. This study dealt with a total of nine companies privatized and quoted on the stock market. A study needs to be done on other companies which were privatized but are not listed on the stock market.
2. The study only looked at the change in financial performance after privatization. A study should be done to analyse other qualitative measures of performance which were not considered in this research.
3. A research should be conducted to find out effects of privatization on the operating expenses of different companies.

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APPENDIX 1
Table 9: (ROCE t- test) Microsoft Excel Output
ROCE – CMC
t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	10.658	10.188
Variance	8.41687	18.6314
Observations	5	5
Df	8	
t Stat	0.2020752	
t Critical two-tail	2.3060041	

ROCE – BAMBURI
t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	4.682	8.556
Variance	40.07867	22.9447
Observations	5	5
Df	8	
t Stat	-1.091173666	
t Critical two-tail	2.306004133	

ROCE – BOC
t-Test: Two-Sample   Assuming   Equal   variances

	Variable 1	Variable 2
Mean	15.714	15.384
Variance	10.84088	22.648
Observations	5	5
Df	8	
t Stat	0.1275112	
t Critical two-tail	2.3060041	

ROCE – FIRESTONE

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	1.31	25.964
Variance	1.2857	177.52
Observations	5	5
Df	8	
t Stat	-4.122694285	
t Critical two-tail	2.306004133	

ROCE – E/A PORTLAND

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	10.776	2.046
Variance	23.88583	234.062
Observations	5	5
Df	8	
t Stat	1.2140471	
t Critical two-tail	2.3060041	

ROCE – KENYA AIRWAYS

t-Test: Two-Sample   Assuming   Equal

	Variable 1	Variable 2
Mean	28.32	12.64
Variance	580.56245	19.9609
Observations	5	5
Df	8	
t Stat	1.43075774	
t Critical two-tail	2.306004133	

ROCE – HFCK

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	2.218	4.856
Variance	3.76477	373.44
Observations	5	5
Df	8	
t Stat	-0.3037186	
t Critical two-tail	2.3060041	

ROCE – NBK
t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	26.812	-41.466
Variance	86.92612	2422.82
Observations	5	5
Df	8	
t Stat	-3.047549843	
t Critical two-tail	2.306004133	

ROCE – KCB
t-Test: Two-Sample   Assuming   Equal

	Variable 1	Variable 2
Mean	1	-12.773
Variance	110.36508	587.868
Observations	5	5
Df	8	
t Stat	5.2404059	
t Critical two-tail	2.3060041	

APPENDIX 2
Table 10: (GPM t-test) Microsoft Excel Output
GPM – CMC
t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	5.614	21.638
Variance	0.53873	62.51712
Observations	5	5
Df	8	
t Stat	-4.512250963	
t Critical two-tail	2.306004133	

GPM - BAMBURI
t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	19.244	49.416
Variance	10.43208	4.7922
Observations	5	5
Df	8	
t Stat	-17.29100721	
t Critical two-tail	2.306004133	

GPM - BOC

t-Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	42.27	51.542
Variance	48.80075	10.17847
Observations	5	5
Df	8	
t Stat	-2.699659012	
t Critical two-tail	2.306004133	

GPM – FIRESTONE

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	45.26	34.636
Variance	72.5598	28.25
Observations	5	5
Df	8	
t Stat	2.366042778	
t Critical two-tail	2.306004133	

GPM – E/A PORTLAND

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	13.938	25.954
Variance	12.85907	1.26063
Observations	5	5
Df	8	
t Stat	-7.150430456	
t Critical two-tail	2.306004133	

GPM – KENYA AIRWAYS

t-Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	34.798	30.994
Variance	44.40597	30.447
Observations	5	5
Df	8	
t Stat	0.983153195	
t Critical two-tail	2.306004133	

GPM – HFCK
t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	26.346	40.5
Variance	3.93878	24.8459
Observations	5	5
Df	8	
t Stat	-5.899069197	
t Critical two-tail	2.306004133	

GPM - NBK
t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	18.284	42.542
Variance	106.95578	433.97
Observations	5	5
Df	8	
t Stat	-2.332223043	
t Critical two-tail	2.306004133	

GPM - NBK
t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	18.284	42.542
Variance	106.95578	433.97267
Observations	5	5
Df	8	
t Stat	-2.332223043	
t Critical two-tail	2.306004133	

APPENDIX 3
Table 11: (NPM t-test) Microsoft Excel Output
NPM – CMC
t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	1.918	3.226
Variance	0.27602	0.53528
Observations	5	5
Df	8	
t Stat	-3.2471474	
t Critical two-tail	2.30600413	

12

NPM - BAMBURI

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	-1.71	9.76
Variance	10.0722	10.263
Observations	5	5
Df	8	
t Stat	-5.6876	
t Critical two-tail	2.306	

NPM - BOC

t-Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	28.89	17.03
Variance	82.26235	29.01325
Observations	5	5
Df	8	
t Stat	2.51402573	
t Critical two-tail	2.30600413	

NPM – FIRESTONE

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	20.03	12.384
Variance	7.9415	13.3055
Observations	5	5
Df	8	
t Stat	3.70912	
t Critical two-tail	2.306	

NPM – E/A PORTLAND

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	2.202	-1.18
Variance	10.01997	584.47005
Observations	5	5
Df	8	
t Stat	0.31253514	
t Critical two-tail	2.30600413	

NPM – KENYA AIRWAYS

t-Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	6.44	9.354
Variance	153.579	26.2833
Observations	5	5
Df	8	
t Stat	-0.4859	
t Critical two-tail	2.306	

NPM – HFCK

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	5.098	1.812
Variance	11.31227	73.35437
Observations	5	5
Df	8	
t Stat	0.79853949	
t Critical two-tail	2.30600413	

NPM - NBK

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	5.742	-42.376
Variance	3.73057	2823.15
Observations	5	5
Df	8	
t Stat	2.02366	
t Critical two-tail	2.306	

NPM - KCB

t-Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	15.422	-14.058
Variance	44.20067	841.44527
Observations	5	5
Df	8	
t Stat	2.21504428	
t Critical two-tail	2.30600413	

APPENDIX4
Table 12: (ROI t-test) Microsoft Excel Output
ROI – CMC
t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	5.812	7.566
Variance	6.42847	7.26963
Observations	5	5
Df	8	
t Stat	-1.0597036	
t Critical two-tail	2.3060041	

ROI - BAMBURI
t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	-0.694	7.71
Variance	7.58488	12.8925
Observations	5	5
Df	8	
t Stat	-4.1527	
t Critical two-tail	2.306	

ROI - BOC
t-Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	8.332	11.46
Variance	2.29357	26.25175
Observations	5	5
Df	8	
t Stat	-1.3091346	
t Critical two-tail	2.3060041	

ROI – FIRESTONE
t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	56.974	18.63
Variance	89.1244	58.8649
Observations	5	5
Df	8	
t Stat	7.04802	
t Critical two-tail	2.306	

ROI – E/A PORTLAND

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	8.888	-13.214
Variance	15.72992	3301.61773
Observations	5	5
Df	8	
t Stat	0.8580668	
t Critical two-tail	2.3060041	

ROI – KENYA AIRWAYS

t-Test: Two-Sample   Assuming   Equal Variances

	Variable 1	Variable 2
Mean	21.426	20.55
Variance	714.407	109.716
Observations	5	5
Df	8	
t Stat	0.06823	
t Critical two-tail	2.306	

ROI – HFCK

t- Test: Two-Sample   Assuming   Equal Variances

	Variable 1	Variable 2
Mean	15.018	2.62
Variance	33.94937	182.2747
Observations	5	5
Df	8	
t Stat	1.885318	
t Critical two-tail	2.3060041	

ROI – NBK

t- Test: Two-Sample   Assuming Equal   Variances

	Variable 1	Variable 2
Mean	13.788	-46.868
Variance	22.0042	3772.48
Observations	5	5
Df	8	
t Stat	2.20182	
t Critical two-tail	2.306	

ROI – KCB
t-Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	13.218	-46.536
Variance	746.39007	847.82173
Observations	5	5
Df	8	
t Stat	-3.3464087	
t Critical two-tail	2.3060041	

APPENDIX 5
Table 13: (CAR t-test) Microsoft Excel Output
CURRENT ASSET RATIO – CMC
t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	1.442	1.406
Variance	0.00432	0.03198
Observations	5	5
Df	8	
t Stat	0.42250727	
t Critical two-tail	2.30600413	

CURRENT ASSET RATIO - BAMBURI
t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	1.504	1.794
Variance	0.00293	0.19178
Observations	5	5
Df	8	
t Stat	-1.469565242	
t Critical two-tail	2.306004133	

CURRENT ASSET RATIO - BOC
t-Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	1.664	3.056
Variance	0.05448	0.08833
Observations	5	5
Df	8	
t Stat	-8.2365422	
t Critical two-tail	2.30600413	

CURRENT ASSET RATIO – FIRESTONE

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	1.646	2.648
Variance	0.12298	0.52237
Observations	5	5
Df	8	
t Stat	-2.789042078	
t Critical two-tail	2.306004133	

CURRENT ASSET RATIO – E/A PORTLAND

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	1.802	1.9
Variance	0.00822	0.2334
Observations	5	5
Df	8	
t Stat	-1.4458047	
t Critical two-tail	2.30600413	

CURRENT ASSET RATIO – KENYA AIRWAYS

t-Test: Two-Sample   Assuming   Equal Variances

	Variable 1	Variable 2
Mean	1.312	1.46
Variance	0.13687	0.02785
Observations	5	5
Df	8	
t Stat	-0.815405339	
t Critical two-tail	2.306004133	

CURRENT ASSET RATIO – HFCK

t- Test: Two-Sample   Assuming   Equal Variances

	Variable 1	Variable 2
Mean	1.976	1.044
Variance	0.45128	0.00088
Observations	5	5
Df	8	
t Stat	3.099237401	
t Critical two-tail	2.306004133	

CURRENT ASSET RATIO – NBK

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	1.04	0.606
Variance	0.00115	0.21908
Observations	5	5
Df	8	
t Stat	2.067933136	
t Critical two-tail	2.306004133	

CURRENT ASSET RATIO – KCB

t-Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	0.852	1.064
Variance	0.00697	0.00163
Observations	5	5
Df	8	
t Stat	-5.111773915	
t Critical two-tail	2.306004133	

APPENDIX 6

Table 13: (QATR t-test) Microsoft Excel Output

QUICK ACID TEST RATIO – CMC

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	0.352	0.548
Variance	0.00257	0.00549
Observations	5	5
Df	8	
t Stat	-4.7425524	
t Critical two-tail	2.30600413	

QUICK ACID TEST RATIO - BAMBURI

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	1.5046	0.912
Variance	0.01168	0.16152
Observations	5	5
Df	8	
t Stat	-1.966491818	
t Critical two-tail	2.306004133	

QUICK ACID TEST RATIO - BOC

t-Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	0.92	2.398
Variance	0.06635	0.04002
Observations	5	5
Df	8	
t Stat	-10.133276	
t Critical two-tail	2.30600413	

QUICK ACID TEST RATIO – FIRESTONE

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	0.562	0.874
Variance	0.05017	0.09493
Observations	5	5
Df	8	
t Stat	-1.831495644	
t Critical two-tail	2.306004133	

QUICK ACID TEST RATIO – E/A PORTLAND

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	0.568	1.07
Variance	0.00237	0.17125
Observations	5	5
Df	8	
t Stat	-2.6939457	
t Critical two-tail	2.30600413	

QUICK ACID TEST RATIO – KENYA AIRWAYS

t-Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	1.128	1.406
Variance	0.12057	0.05218
Observations	5	5
Df	8	
t Stat	-1.495618299	
t Critical two-tail	2.306004133	

QUICK ACID TEST RATIO – HFCK

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	1.976	1.044
Variance	0.45128	0.00088
Observations	5	5
Df	8	
t Stat	3.0992374	
t Critical two-tail	2.30600413	

QUICK ACID TEST RATIO - NBK

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	1.04	0.606
Variance	0.00115	0.21908
Observations	5	5
Df	8	
t Stat	2.067933136	
t Critical two-tail	2.306004133	

QUICK ACID TEST RATIO - KCB

t-Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	0.852	1.064
Variance	0.00697	0.00163
Observations	5	5
Df	8	
t Stat	-5.1117739	
t Critical two-tail	2.30600413	

APPENDIX7

Table 13: (DER t-test) Microsoft Excel Output

DEBT EQUITY RATIO – CMC

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	0	0.06
Variance	0	0.00305
Observations	5	5
Df	8	
t Stat	-2.429329	
t Critical two-tail	2.30600413	

DEBT EQUITY RATIO - BAMBURI

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	0.19	0.094
Variance	0.05345	0.00983
Observations	5	5
Df	8	
t Stat	0.853341761	
t Critical two-tail	2.306004133	

DEBT EQUITY RATIO - BOC

t-Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	0	2.27
Variance	0	3.66185
Observations	5	5
Df	8	
t Stat	-2.6525317	
t Critical two-tail	2.30600413	

DEBT EQUITY RATIO – FIRESTONE

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	0	0.034
Variance	0	0.00368
Observations	5	5
Df	8	
t Stat	-1.253256627	
t Critical two-tail	2.306004133	

DEBT EQUITY RATIO – E/A PORTLAND

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	0.828	3.144
Variance	0.02012	1.93523
Observations	5	5
Df	8	
t Stat	-3.7034911	
t Critical two-tail	2.30600413	

DEBT EQUITY RATIO – KENYA AIRWAYS

t-Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	0.846	1.33
Variance	1.03418	0.64255
Observations	5	5
Df	8	
t Stat	-3.757615389	
t Critical two-tail	2.306004133	

DEBT EQUITY RATIO – HFCK

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	0.168	0
Variance	0.04327	0
Observations	5	5
Df	8	
t Stat	1.80592968	
t Critical two-tail	2.30600413	

DEBT EQUITY RATIO - NBK

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	0	0.362
Variance	0	0.01562
Observations	5	5
Df	8	
t Stat	-6.476689216	
t Critical two-tail	2.306004133	

DEBT EQUITY RATIO - KCB

t-Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	0.832	0.156
Variance	0.31127	0.05783
Observations	5	5
Df	8	
t Stat	2.48805328	
t Critical two-tail	2.30600413	

APPENDIX 8
Table 13: (ER t-test) Microsoft Excel Output
CMC - EQUITY RATIO
t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	87.484	89.236
Variance	680.775	31.92193
Observations	5	5
Df	8	
t Stat	-0.1467	
t Critical two-tail	2.306	

EQUITY RATIO - BAMBURI
t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	82.174	79.766
Variance	235.40948	132.40768
Observations	5	5
Df	8	
t Stat	0.280753702	
t Critical two-tail	2.306004133	

EQUITY RATIO - BOC
t-Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	80.02	96.488
Variance	1996.002	3.90137
Observations	5	5
Df	8	
t Stat	-0.823419892	
t Critical two-tail	2.306004133	

EQUITY RATIO - FIRESTONE
t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	0.07	93.878
Variance	0.00125	14.82017
Observations	5	5
Df	8	
t Stat	-54.48537846	
t Critical two-tail	2.306004133	

EQUITY RATIO – E/A PORTLAND

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	51.07	25.536
Variance	10.18735	45.04103
Observations	5	5
Df	8	
t Stat	7.68285619	
t Critical two-tail	2.306004133	

EQUITY RATIO – KENYA AIRWAYS

t-Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	12.28	37.226
Variance	14561.8057	243.68873
Observations	5	5
Df	8	
t Stat	-0.909769519	
t Critical two-tail	2.306004133	

EQUITY RATIO - HFCK

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	15.704	100
Variance	5.23703	0
Observations	5	5
Df	8	
t Stat	-82.36627743	
t Critical two-tail	2.306004133	

EQUITY RATIO – NBK

t- Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	82.01	10.202
Variance	1618.2005	19.56017
Observations	5	5
Df	8	
t Stat	3.96763237	
t Critical two-tail	2.306004133	

EQUITY RATIO – KCB
t-Test: Two-Sample   Assuming   Equal   Variances

	Variable 1	Variable 2
Mean	10.278	100
Variance	6.39817	0
Observations	5	5
Df	8	
t Stat	-79.31513367	
t Critical two-tail	2.306004133	

Time Plan

Activity	**Duration**
Writing a proposal	2 weeks
Print and spiral bind	4 days
Presentation	1 day
Data collection	3 weeks
Organization of data	3 weeks
Data analysis	3 weeks
Report writing	4 weeks
Printing and binding the report	4 days
Submission of the report	1 day

Research Budget

ITEM	**AMOUNT**
Secretarial services	10,000
Stationery	12,000
Transport	8,000
Internet	3,500
Communication charges	3,000
Costs of data analysis	2,500
Miscellaneous	2,800
TOTALS	41,800