

Effect of Portfolio Diversification on Commercial Banks Financial Performance in Kenya

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ABSTRACT: *The study examined the effect of portfolio diversification on Commercial Banks financial performance. Mixed method of research design was used and data was collected using questionnaires and interview schedules. Target population was 43 licensed Commercial Banks in Kenya from which one hundred and thirty three (133) managers were randomly selected to form sample size. Validity of the research instruments was ensured through content, face and construct validity testing. Data was analyzed using descriptive statistics and inferential statistics which included correlation analysis and bivariate regression analysis. The study established a positive statistically significant relationship between portfolio diversification and financial performance. The portfolio diversification explained 68% of the changes in the financial performance of commercial banks in Kenya and that most banks diversify their investments which has enabled them to increase profits and performance in the past years. The study recommended that financial institutions should invest in a combination of assets which are negatively correlated because this maximizes revenue (returns) and minimizes losses (risks). Further study should be undertaken to establish the best combination of assets that can yield an efficient portfolio.*

Keywords: *Portfolio diversification, Mean variance theory, financial performance and portfolio theory*

I. INTRODUCTION

In the recent decade both macro and micro finance institutions have emerged in the banking industry limiting chances of survival to non performing institutions. The finance managers are therefore under pressure from every direction to find the best strategy of raising returns while minimizing losses or risks to improve performance. Ongore and Kusa (2013) stated that poor bank performance may lead to banking failure and crisis, which have negative consequence on the economic growth. This has necessitated continuous research in this field to fill the gaps and establish the critical determinants of commercial banks financial performance hence informing the study. The study examined the effect of portfolio diversification on commercial banks financial performance in Kenya.

II. PORTFOLIO DIVERSIFICATION

A portfolio is a bundle or a combination of individual assets or securities. Portfolio theory provides a normative approach to investors to make decisions to invest their wealth in assets or securities under risk. Berger, Hasan and Zhou (2010) in their study in Chinese banks captured four dimensions of diversification as loans, deposits, assets, geography and established that they are associated with reduced profits and high costs. Olweny and Shipho (2013) contradicted the above findings that income diversification affects banks' profits significantly. Demsetz and Strahan (1997) argued that better diversification does not translate into reduction in risk and that large banks holding companies are better diversified than small bank holding companies based on market measures of diversification. The proponents considered diversification majorly on the above mentioned dimensions however forgot combination of assets (portfolio) hence the current study filled the gap by establishing the effect of portfolio diversification on financial performance based on the mean variance theory and the portfolio theory. According to portfolio and mean variance theories, investment should be done in several assets which are negatively correlated example the investment in ice cream and rain coats is an efficient investment since the two investments hedges different weather conditions. The ice cream for sunny and rain coats for rainy weather, this implies that the incase either of the conditions appears the investor will still be in business and hence will maximize his returns. Suppose both conditions were for either rainy or sunny, the investor will stand to lose when the weather changes (Makokha, 2015).

III. FINDINGS

3.1 Sampling Adequacy

The data is regarded appropriate for statistical analysis if the value of KMO is greater than 0.5 (Field, 2000) and (Linyiru, 2015). Findings of Table 1 indicates that KMO test was 0.911 which was significantly high that is

greater than the critical level of significance of the test which was set at 0.5 (field, 2000). Besides to the KMO test, the Bettelers test of sphericity was also highly significant with 414.851 with 28 degree of freedom at $P < 0.05$.

These results were in agreement with Kothari (2014) who lauded that the test of KMO and Bartlett's test and factor analysis through principal component analysis method, the results obtained should be closer to 1 to indicate acceptability and at a significance level of less than 0.05. Therefore, these results provide a justification for further statistical analysis to be conducted.

Table 1 Portfolio Diversification of KMO sampling adequacy Bartlett's Sphericity

Test	Coefficient
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.911
Bartlett's Test Chi-Square	414.851
Bartlett's Test df	28
Bartlett's Test Sig	0

3.2 Factor analysis

The extraction of the factors followed the Kaiser criterion where an Eigen value of 1 or more indicates a unique factor (Linyiru, Karanja and Gichira (2015). Total variance analysis indicates that the eight (8) statements on portfolio diversification and financial performance can be factored into one (1) factor. Total variance explained by the extracted factor is 60.35% as shown in table 2 This findings were consistent with Kothari (2014) who stated that factor analysis results through principal component analysis method, should be closer to 1 to indicate acceptability.

Table 2 Portfolio Diversification Total Variance Explained

Items	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.828	60.350	60.350	4.828	60.350	60.350
2	0.663	8.287	68.637			
3	0.644	8.046	76.683			
4	0.527	6.584	83.267			
5	0.421	5.258	88.526			
6	0.331	4.139	92.665			
7	0.307	3.841	96.506			
8	0.280	3.494	100.000			

Extraction Method: Principal Component Analysis.

Table 3 the findings of factor loading for sub-construct of portfolio diversification indicate that all statements attracted coefficients of more than 0.5 therefore all were retained for analysis. This is supported by Linyiru, Karanja and Gichira (2015) and Kothari (2014) who lauded that a factor loading equal to or greater than 0.5 has good stability and leads to desirable solutions.

Table 3 Factor loading for Portfolio Diversification

Items	Factor loading
1 our bank provides custodianship of valuable documents	0.835
2 Our bank gives back to the society	0.792
3 Our bank facilitates money transfer	0.756
4 Our bank offers Mpesa services	0.807
5 Our bank offers Mortgage and development loans	0.717
6 Our bank offers favorable interest rates on savings	0.723
7 Our bank recruits qualified personnel	0.764
8 Our bank provides automation services	0.813

Extraction Method: Principal Component Analysis.

3.3 Descriptive results

The third objective was to investigate the influence of portfolio diversification on commercial banks financial performance in Kenya. Table 4 showed that 60% of the respondents agreed that the bank provides custodianship of valuable documents which attracts revenue, 42% of the respondents agreed with the statement that the bank gives back to the society in terms of supporting needy and clever students and this earns it increased number of clients, 70% of the respondents agreed that the bank facilitates money transfer and this earns it revenue, 63% of the respondents agreed that the banks recruits qualified personnel who works in their specialized areas to increase productivity hence performance, 65% of the respondents agreed that the banks provides automation services to their clients which has reduced the operation costs, 66% of the respondents agreed that banks offers favorable interest rates on savings this gives motivation to the savers to increase their savings, 66% of the respondents agreed that the banks offers mortgage and development loans to improve the living standards of the

clients. The mean score for responses for this section was 3.460 which indicated that majority of the respondents agreed that portfolio diversification influences financial performance of commercial banks in Kenya hence giving a justification of its inclusion as a key driver of financial performance.

The weighted mean for the above responses was computed based on the following key.

- 1 strongly Disagree= Never ever exhibited (mean value of 1 – 1.80)
- 2 Disagreed = rarely exhibited (1.81 - 2.60)
- 3 Neutral = frequently exhibited (2.61 – 3.40)
- 4 Agree = Always exhibited (3.41 – 4.20)
- 5 Strongly Agree = never ever exhibited (4.21 – 5.0)

The standard deviation gives the variations of the responses from the mean. It provides an indication of how far the individual response to each factor varies from the mean. Linyiru (2015) stated that a standard deviation of more than one (1) indicates that responses are moderately distributed while less than one (1) means there was no consensus on the responses obtained. The average standard deviation of 1.4220 on all the statements indicates that the respondents were moderately distributed. The findings on portfolio diversification on performance are consistent with the portfolio theory advanced by Markowitz (1952) in which he postulated that the investors calculate their investment in order to take smallest possible risk to maximize returns and therefore they diversify their investment in more than one stock.

Table 4 Descriptive results on portfolio diversification

S/N	Opinion Statement	SD%	D%	U%	A%	SA%	Mean	STDV
1	Our bank provides custodianship of valuable documents	21%	14%	5%	33%	27%	3.3100	1.5222
2	Our bank gives back to the society	23%	30%	5%	29%	13%	2.7900	1.4163
3	Our bank facilitates money transfer	18%	12%	0%	62%	8%	3.3000	1.3065
4	Our bank recruits qualifies personnel	21%	13%	3%	29%	34%	3.5500	1.2900
5	Our bank provides automation services	14%	5%	16%	42%	23%	3.4900	1.4736
6	Our bank offers favorable interest rates on savings	14%	14%	6%	34%	32%	3.4200	1.57108
7	Our banks offers mortgage and development loans	14%	14%	6%	34%	32%	3.6300	1.4236
8	Our bank offers Mpesa services	18%	13%	0%	54%	15%	3.3500	1.3735
	Average						3.4600	1.4220

3.4 Relationship between Portfolio diversification and performance

Correlation analysis showed the relationship between the dependent and dependent variables (Jahangir & Begum, 2008). Table 5 findings showed a strong positive correlation of 0.827 between risk management practices and financial performance. The P value was 0.000 at 1 % (0.01) level of significance.

This means portfolio diversification is a strong determinant of financial performance in Commercial banks in Kenya. This was consistent with the findings of Ngumi (2013) who lauded that when significance level is very small (less than 0.01) them the correlation is significant between the two variables.

Table 5 Relationship between Portfolio diversification and financial performance

Variable		Financial Performance (FP)	Portfolio Diversification (PD)
Financial Performance (FP)	Pearson Correlation	1.000	
	Sig. (2-tailed)		
Portfolio diversification (PD)	Pearson Correlation	0.827**	1.000
	Sig. (2-tailed)	0.000	

IV. INFERENCE STATISTICS

4.1 Test of Hypothesis

The study hypothesis was stated as follows:

H₀₁ Portfolio diversification has no significant effect on financial performance

H₀₂ portfolio diversification has significant effect on financial performance

The Regression analysis was run to test the above hypothesis and established that the coefficient determination of R² was 0.684 and the correlation coefficient of 0.827. Thus the model explains 68.4% of the variance in the financial performance in commercial banks in Kenya as shown in table 6

Table 6 Portfolio diversification and financial performance model summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.827 ^a	0.684	0.681	0.60841
a. Predictors: (Constant), PD			

Further regression analysis slope coefficient representing the influence of the portfolio diversification variable of financial performance was tested. The test hypothesis was as follows:

H0: $\beta = 0$ (Portfolio diversification do not determine financial performance)

H1: $\beta \neq 0$ (Portfolio diversification determine financial performance)

The t- statistic was used to test the hypothesis on the significance of slope coefficient (β) at 5 per cent level of significance. The results of table 7 show that the t value was 14.557 and P = 0.000 indicating that β was statistically significant since the p value of the t-static obtained is sufficiently low ($P < 0.05$). The null hypothesis was rejected and alternative hypothesis accepted that portfolio diversification significantly determine financial performance among commercial banks in Kenya.

Table 7Portfolio diversification and financial performance regression coefficients

Variable	B	Std. Error	Beta	T	Sig.
(Constant)	0.586	0.195		3.005	.003
PD	0.806	0.055	.827	14.557	.000
a. Dependent Variable: FP					

The researcher further run ANOVA (F-test) to find the overall significance of the regression model (goodness of fit) at 5% level of significance and found that table 8 indicated the value of computed F statistic as 171.443 with a P- value of 0.000 at the 5% level of significance. The null hypothesis was rejected since the probability value (P value) of obtained F was significantly low ($P < 0.005$). Thus, the model fit is acceptable implying that there was a significant positive linear relationship between portfolio diversification and financial performance among commercial banks in Kenya.

Table 8Portfolio diversification and financial performance ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	44.397	1	44.397	171.443	.000 ^b
Residual	25.378	98	.259		
Total	69.776	99			
a. Dependent Variable: FP					
b. Predictors: (Constant), PD					

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