

Effect of Taxation on Portfolio Income performance of Commercial Banks In Kenya: A Study of National Bank of Kenya

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Abstract: *The objective of this study was to analyze the effect of taxation on portfolio income of commercial banks in Kenya. Portfolio income was the dependent variable while corporation tax was the response variable. Banks hold major investments in five portfolios that include; Cash and Cash equivalents, Loans and Advances, Government Securities, Foreign Exchange and Rental Income. The study used descriptive research design. The data was secondary, extracted from the annual financial reports for the years 2009 to 2013. Content analysis was used to extract the data into data tables and regression analysis employed as a tool for analysis. The results showed that taxation has a significant effect on portfolio income from cash and cash equivalents ($p = 0.012, < 0.05$), loans and advances ($p = 0.045, < 0.05$), government securities ($p = 0.004, < 0.05$), foreign exchange ($p = 0.004, < 0.05$) and rental property ($p = 0.000, < 0.05$). We recommend that banks should create portfolios using assets that have least tax exposure such as government securities and foreign exchange.*

Keywords: *taxation, portfolio income, capital structure*

I. INTRODUCTION

Portfolios are held by banks and are designed according to the investor's risk tolerance, time frame and investment objectives. The monetary value of each asset may influence the risk and return of the portfolio, a concept referred to as portfolio asset allocation. The assets that constitute a portfolio must be carefully selected in order to maximize portfolio expected return for a given amount of portfolio risk, or equivalently minimize risk for a given level of expected return. Banking institutions are of a special type due to the complex nature of their operations. These institutions hold various sets of portfolios in form of cash and cash equivalents, loans and advances, government securities, foreign exchange and rental property just to mention but a few. These portfolios constitute a major source of income and revenues for banking operations, yet they also attract different tax rates.

Bakija, (2000) acknowledged that different types of assets are subject to widely varying effective tax rates. Desai, (2008), affirms that taxes on assets differ substantially and have the potential to alter what assets investors hold, how they finance their investments and the types of accounts they choose for their investments. Bergstresser and Pontiff, (2010) contend that taxes have a first-order impact on portfolio returns in that they reduce portfolio returns. Taxes represent a very large drag on performance often larger than transaction costs, management fees, or inflation. Failing to consider the impact of taxes on investment decisions can be expensive, especially over the long term (Stein and Garland, 1998).

According to Part II of the Income Tax Act (2008) laws of Kenya, that 'subject to, and in accordance with, this Act, a tax to be known as income tax shall be charged for each year of income upon all the income of a Commercial Bank, whether resident or non-resident, which accrued in or was derived from Kenya'. The incomes that accrue from investment and trading activities are subject to tax. These include income from dividends, interest, income from lease of land, plant and property, government bonds and treasury bills and other investments.

Mconnel and Hennen,(2004) advise the investor that they are required to do what we call tax-favored investing where tax environment is articulated and investor after tax returns is maximized. Investors know all too well the pain of the income tax burden. Corporate investors should take into account taxes and capital while constructing a portfolio structure that has optimal tax deductions and objective placement of capital for investment which is a limited resource. Taxes can consume a substantial portion of returns in a firms' portfolio income in the long run. Considering assets on an after-tax basis is important for two reasons; first, it allows us to find a firms' optimal portfolio which may vary significantly amongst portfolios. Second, it allows us to estimate the future value of a portfolio, (Turton, 2008).

Guiso, *et al* (2001) illustrates that there is a wide variation in the potential impact of tax rules on investor portfolio choice. Basu, *et al* (2012) agrees that there are embedded tax liabilities in portfolio choice. Auerbach, (2002) noted that the impact of taxation on corporate financial policy starts from a basic characterization of the classical corporate income tax and its effects. King and Auerbach, (2001) posit that portfolio behavior of investors differs with respect to both tax rates and risk aversion. Hungerford, (2012) reaffirms that taxes affect investment through the income and acts as insurance for risky investments by

reducing the losses as well as the gains by decreasing the variability of investment returns. Turvey, (2011) argues that taxes are important component of investing that is often overlooked in both the literature and in practice such that many understand that taxes will reduce an investments return, but less understood that is the risk sharing nature of taxes that also reduces the investments risk. Examples of decisions that have taxable components include when to sell an investment, changing benchmarks, changing managers, charitable gifting, and rebalancing the asset allocation, (White Paper, 2010). Merton (1972) provides that each Portfolio investment is independent and does not depend on the preexisting portfolio structure. Zayimtsyan (2006) suggests that an optimal portfolio structure can be built with consideration of investor’s sensitivity to risk and expected return that a corporate investor is willing to undertake. Sometimes it is impractical to hold an asset because the associated tax cost is too high. In such cases appropriate constraints must be imposed on the portfolio optimization process. Alan *et al* (2009) agree that there is an effect of taxation and capital on portfolio income that has long been an important question facing researchers and policy makers.

Capital for investment is a scarce resource and it needs planning and control in order to invest in assets that achieve the bank profit and wealth maximization. Thus, there is need for capital allocation in viable assets. These assets will have the obligation of generating income which are subjected to taxes. The government imposes taxes and the bank need to hold portfolios that are tax-advantaged or have tax deferred to a future so that profits generated can be ploughed back to business for growth and expansion. Taxes command a negative impact on income in the long run. Changing the capital structure and adding other portfolio will be necessitated if portfolios are analyzed with taxes and capital. Overt time taxes grow and capital for investment become minimal. Thus the study focuses on how portfolios behave with taxes and capital for investment hence the need for the study.

1.1 Methodology

The descriptive research design was adopted in this study to describe the data and characteristics of quantitative data that was collected. Further, regression analysis and other statistical tools were applied. Data for the study was mainly secondary, obtained from annual financial statements and reports covering the period 2009 to 2013. Content analysis was employed to extract the information from the said financial statements and arranged using data tables.

1.2 Model specification

The econometrics model used for this study was specified as follows:

$$Y_i = \beta_0 + \beta_1 T + \alpha$$

Where; Y – Portfolio Income *i* (dependent variable), β_0 – constant, β_1 , the regression co-efficient and T is the Taxation rate. The data was then analyzed with the aid of statistical package for social sciences (SPSS) version 20.0 and the results appropriately interpreted.

II. RESULTS AND DISCUSSION

1.3.1 Cash and cash equivalents

The results in Table 3.1 show the linear regression model had a coefficient of determination (R^2) of about 0.746. This means that 74.6% variation of the dependent variable is explained by taxation, while the remaining 25.4% may be attributed to other factors. These was a significant result, $p = 0.012, < 0.05$ and F value = 2233.550. The results of Linear regressions, revealed that tax has a negative and significant effect on income with a beta value of $\beta = 0.5899$ (p -value = 0.012 which is less than $\alpha = 0.05$). This means that for each unit increase in tax, there are 6.315 decreases in income. These results are consistent with the findings of Basu, *et al* (2012) and Hungerford, (2012) that taxes affect portfolio income.

Table 3.1: Linear Regression on effect of tax on income for Cash and Cash Equivalents

Cash and Cash Equivalents					
		B	Std. Error	Beta	t test
(Constant)		2.336	17.071		47.260
Tax		-6.315	0.049	-0.589	-0.370
R squared	0.746				
R adjusted	-0.558				
F test	2233.550				
P value	.012				
Std Error	2.43786				
VIF	1.000				

1.3.2 Loans and advances

The results in Table 3.2 show the linear regression model had a coefficient of determination (R^2) of 0.758. This means that 75.8% variation of the dependent variable is explained by taxation. The result showed

that taxation has a significant effect on portfolio income from loans and advances, $p = 0.045, < 0.05$ and F critical value = 674.81. Accordingly, taxation has a negative and significant effect on portfolio income from loans and advances with a beta value of $\beta = -0.674$, implying that for each unit increase in tax, there are 1.850 decreases in income. Loans and Advances show that taxes have an adverse effect on portfolio income held by the bank. This outcome is consistent with the work of Turton, (2008), that taxes consume a substantial portion of portfolio income. This is consistent with Income Tax Cap 470 which specifically states that a corporate entity is taxed on the income from the trading activities. The Loans and advances is major portfolio that commercial banks hold and have invested a lot of capital.

Table 3.2:Linear Regression on effect of tax on income for Loans and Advances

Loans and Advances					
		B	Std. Error	Beta	t test
(Constant)		2.334	1.023		0.002
Tax		-1.850	0.001	-1.568	-1.808
R squared	0.758				
R adjusted	-.674				
F test	674.81				
P value	0.045				
Std Error	0.85629				
VIF	1.000				

1.3.3 Government securities

The results in Table 3.3 show the coefficient of determination (R^2) of 0.859, meaning that 85.9% variation of the dependent variable is explained by taxation. The significance value, $p = 0.004, < 0.05$ and F value = 369.759. The results revealed that tax has a negative and significant effect on income with a beta value of $\beta = -.145$ (p -value = 0.004 which is less than $\alpha = 0.05$). This means that for each unit increase in tax, there are -.224 decreases in income. Government Securities show minimal active management where taxes are analyzed continuously in accordance with the capital invested in that portfolio. This result is consistent with White Paper, (2010), who argued that tax has an adverse effect on the portfolio income.

Table 3.3:Linear Regression on effect of tax on income for Government Securities

Government Securities					
		B	Std. Error	Beta	t test
(Constant)		2.353	3.460		608.121
Tax		-.224	.004	-.145	-.556
R squared	.859				
R adjusted	-.568				
F test	369.759				
P value	.004				
Std Error	.42144				
VIF	1.000				

1.3.4 Foreign exchange

The results in Table 3.4 show a coefficient of determination (R^2) of 0.995. This means that 99.5% variation of the independent variable is explained by taxation. The significance p value = 0.004, < 0.05 and the F critical value = 275.881). The results further revealed that tax has a negative and significant effect on income with a beta value of $\beta = -0.995$ (p -value = 0.004 which is less than $\alpha = 0.05$). This means that for each unit increase in tax, there are .850 decreases in income. Portfolio income from Foreign Exchange shows a negative aspect tax that commands on portfolio income. This is consistent with the work of Bergstresser and Pontiff, (2010) who outlined that taxes reduce the portfolio income.

Table 3.4:Linear Regression on effect of tax on income for Foreign Exchange

Foreign Exchange					
		B	Std. Error	Beta	t test
(Constant)		1.676	.564		2.970
Tax		-.850	.111	-.995	-16.610
R squared	.995				
R adjusted	-.486				
F test	275.881				
P value	.004				
Std Error	.29993				
VIF	1.000				

1.3.5 Rental Property

From table 3.5 show a coefficient of determination (R^2) of 0.998, meaning that 99.8% variation of the portfolio income from rental property variable is explained by taxation. This result is significant with p value = 0.000, < 0.05 and the F critical (value = 1996.914). The results reveal that tax has a negative and significant effect on income with a beta value of $\beta = -.999$ (p-value = 0.000 which is less than $\alpha = 0.05$). This means that a unit increase in tax results in a 2.367 decreases in portfolio income from rental property.

Table 3.5: Linear Regression on effect of tax on income for Rental Property

Rental Property					
		B	Std. Error	Beta	t test
(Constant)		.600	.735		.816
Tax		-2.367	.053	-.999	-44.687
R squared	.998				
R adjusted	-.677				
F test	1996.914				
P value	.000				
Std Error	.22640				
VIF	1.000				

1.4 Summary

Bergstresser and Pontiff, (2010) and Guiso, (2001), contend that not all portfolio incomes are impacted by the same tax burden due to availability of wide variety of taxes. The results in this study confirm this argument in that, different portfolio incomes are affected by taxation differently. Fee income from cash and cash equivalents and rental property respectively command a large negative tax impact followed by Loans and advances. Thus, taxes are varied according to the type of portfolio the bank has held since their incomes are subjected to various taxes according to the Income Tax Act Cap 470 and per Bergstresser and Pontiff, (2010). The results also show that the bank has not done McConnel and Hennen, (2004) tax-favored investing, where tax environment is articulated and investor after tax returns is maximized as is shown by portfolio income from government securities and foreign exchange.

III. CONCLUSIONS AND RECOMMENDATIONS

Taxes have an adverse effect on portfolio income. The reason is that taxes consume a portion of income annually and in the long run accumulated to millions of shillings in paid up taxes. There is need for the bank to do tax-favored investing whereby the bank allocates its capital for investment objectively on portfolios that has optimal tax impact. This is shown by negative effect of tax on Cash and Cash Equivalents, Loans and advances and Rental Property. It is therefore evident that taxes deflate overall portfolio performance. As such, the banks lack flexible taxation in some portfolio it would be prudent to add other portfolios to the portfolio structure. At the heart of portfolio planning there is need for capital allocation that is felt to increase portfolio income extensively. The objective employment of capital for investment was not done as is evident in Government Securities, Foreign Exchange and Rental Property where capital outlay is large but minimal portfolio income is not large. Also, portfolio income is reduced by taxes. Capital and taxes do impact positively and negatively respectively to portfolio income. Thus, there is need for the bank to do portfolio diversification in their attempt to achieve optimum portfolio structure. In light of the foregoing, we recommend that banks need to analyze their portfolio income with respect to tax for optimal tax deductions. This will enhance large income retention for reinvestment into the business and act as buffer against any systematic and unsystematic risks.

REFERENCES

- [1]. Alan J. Auerbach and Mervyn A. King (2001), Taxation, Portfolio Choice, and Debt-Equity Ratios: A General Equilibrium Model, *The Quarterly Journal of Economics*, Volume 98, Issue 4, pp 587 - 609
- [2]. Basu, Anup K., Turvey, Phillip, &Verhoeven, Peter (2012), Embedded tax liabilities and portfolio choice. *Journal of Portfolio Management*, pp 93 - 101
- [3]. Daniel Bergstresser and Jeffrey Pontiff, (2010), Investment Taxation and Portfolio Performance, Boston, Commonwealth Avenue Chestnut Hill, MA 02467.
- [4]. Hayk Zayimtsyan (2006), Optimal Portfolio Structure For Investments In The International Financial Market, The Example of The Central Bank of Armenia, Armenian Economic Association Working Paper Series, Retrieved Working Paper 0601, [Http://Aea.Am/Files/Papers/W0601.Pdf](http://Aea.Am/Files/Papers/W0601.Pdf), Retrieved July 2006
- [5]. Jon Bakija (2000), The Effect Of Taxes On Portfolio Choice: Evidence From Panel Data Spanning The Tax Reform Act Of 1986, Williams College Department of Economics, Williamstown, MA 01267.
- [6]. Kenya Revenue Authority, Domestic Taxes Department, (2008), *The income tax Act (Cap 470) and The Subsidiary Legislations, Revised Edition 2007*.
- [7]. Lucas Turton (2008), Asset Allocation in Taxable Portfolios, Windham Capital Management, New York, LLC Revere Street Cambridge, MA 02138.
- [8]. Luigi Guiso, Michalis Haliassos and Tullio Jappelli (2001), Taxation and Portfolio Structure: Issues and Implications, Amsterdam: Elsevier Science Publisher.

- [9]. Merton, Robert (1972), "An analytic derivation of the efficient portfolio frontier," *Journal of Financial and Quantitative Analysis*, Vol. 7, pp. 1851-1872.
- [10]. Mihir A. Desai (2008), *Taxes, Dividends and International Portfolio Choice*, Harvard University and National Bureau of Economic Research, Chicago, Edward Elgar Publishers.
- [11]. Mike McConnell and Robert Hennen(2004), *Health Care Professionals and Financial Planning*, Edmonton, St Michaels Group.
- [12]. Philip Turvey (2011), *The Impact of Taxes on Optimal Portfolio Choice: An Australian Study*, Brisbane, Emerald Group Publishing.
- [13]. Stein and Garland, (1998), "Investment Management for Taxable Investors," *The Handbook of Portfolio Management* New York, Wiley Finance.
- [14]. Sule Alan, Kadir Atalay, Thomas F. Crossley & Sung-Hee Jeon, (2009), Centre for Financial Analysis & Policy Working Paper no. 33, *New Evidence on Taxes and Portfolio Choices*.
- [15]. Thomas L. Hungerford (2012), *Taxes and the Economy: An Economic Analysis of the Top Tax Rates since 1945*, Public Finance, St Paine, Penny Hill Press.
- [16]. White Paper (2010), *Tax-E Efficient Investing in Theory and Practice*, Working paper, Seattle, The Vanguard group.