

# TAXATION OF FINANCIAL ASSETS: IMPLICATIONS FOR CAPITAL MARKET DEVELOPMENT IN TANZANIA

*Emma C. Isinika and Hamisi H. Mwinyimvua*

---

**Abstract:** Effective operation of the capital market depends on a proper environment provided for by good and sound macroeconomic policies of which fiscal policy is paramount. Poor design of the tax system and over-taxation of financial assets may constrain the process of capital market development and effective functioning of the financial sector in general. This paper examines the effect of tax policy on the profitability of financial assets and its implication on the development of capital market in Tanzania. Using data for the period May 1998 - December 2002, pre-tax and after-tax rates of return and effective tax rates on five financial assets are calculated as a means of defining the impact of taxation on each asset. It is observed that although taxation significantly reduces returns on all the five assets, listed equities are the least taxed assets of all financial assets due to tax incentives they enjoy. The findings suggest that Tanzania's tax policy is not an obstacle to investors' participation in the capital market. Light taxation of financial assets leads to their insignificant contribution to government revenue, but it acts as an incentive that enhances the demand for market instruments and lays a good foundation for development of the capital market. It is noted, however, that existing capital market incentives are geared to stimulating demand than supply of capital market instruments, as they do not encourage companies from the private sector to source funds through the capital market. The supply side of the stock market can be further stimulated through such tax incentives as reduction of corporate taxation for listed companies and provision for companies to carry forward capital losses arising from investments in the capital market against total taxable income. The paper also emphasizes the need for increased effort to enhance awareness to ordinary Tanzanians on the workings and benefits of the stock market.

---

## INTRODUCTION

Tanzania embarked on a comprehensive economic recovery program (ERP) in the second half of 1986. In 1991, five years after serious economic reforms, financial reforms started. Financial sector reforms in Sub-Saharan Africa (SSA) and Tanzania in particular are primarily geared at enhancing the soundness of the financial sector in order to improve deposit mobilization and the flow of resources to the private sector for investment and overall economic growth. Such reforms were initially focused on commercial banks. However, recent developments have included establishment of capital market institutions such as stock exchanges, which are comparatively advantageous in mobilizing long-term capital from savers and transferring them to productive agents, encouraging broader ownership of productive assets, and providing facilities for competitive pricing and transfer of capital resources. In Tanzania, the Dar es Salaam

Stock Exchange (DSE), where securities are traded, was established under the *Companies' Ordinance* of 1996 and started operations in 1998.

Effective operation of the capital market depends on a proper environment provided for by good and sound macroeconomic policies of which fiscal policy is paramount. Poor design of the tax system and over-taxation of financial assets are factors that could be obstacles to the process of capital market development and effective functioning of the financial sector in general (Inanga and Emenuga, 1996; Honohan, 1999). However, where it is well designed, taxation can be used to generate revenue as well as to give various fiscal incentives for promoting rapid development of the capital market. Fiscal incentives exert influence on how individuals and corporate bodies make their finance and investment decisions. Such decisions are influenced by differences in effective tax rates on income from different financial instruments.

Taxation of financial assets is primarily linked to capital markets development through

---

<sup>1</sup> The authors are Assistant Lecturer & Lecturer, respectively, Department of Economics, UDSM

investment theory, which holds that with each rational investment decision, the investor compares the expected return or yield of the investment to the best estimate of the possible degree of loss or risk of undertaking the investment. This is done over a wide spectrum of other alternative forms of wealth holding (Mpango, 1997). The analysis of effects of taxation on investment behaviour forms part of an important area of investigation that could be helpful in guiding development of emerging capital and securities markets. Whereas related analyses have been undertaken in some other African countries<sup>2</sup> on how taxes affect both the yields and risk of investment, no similar analysis has been undertaken in Tanzania. Earlier studies in Tanzania have focused on, among others, establishing the link between taxation of individuals and capital market development (Mpango, 1997); implications for fiscal policy on capital markets and securities business (Ernst and Young, 1997); constraints to capital market development and growth (Ziorklui et al, 2001); and analysis of factors affecting participation in the DSE (Modamba, 2002).

This paper tries to fill this gap by analyzing the effects of explicit taxation<sup>3</sup> of financial assets on their profitability and the development of capital market in Tanzania. It analyses pre-tax and after tax rates of return on different financial assets as a means of explaining the impact of taxation on each asset's rate of return, and by implication, their demand. In doing so the paper identifies the existing taxes levied on all financial assets and calculates the pre-tax and after-tax rates of return on different financial assets for the period May 1998 - December 2002 for which data was available.

<sup>2</sup> See, e.g., Inanga and Emenuga (1996) for Nigeria and Osei (1998) for Ghana, among others.

<sup>3</sup> Explicit taxes are usually defined by statutory rates and their rates are stable, while implicit taxes do not appear in standard national accounts as revenues, their effective rates are difficult to compute and are highly variable and often cannot be predicted (Chamley, 1991).

## **THE CAPITAL MARKET AND TAXATION REGIME IN TANZANIA**

### **Capital Market as Part of the Financial System**

Capital market is part of the financial system<sup>4</sup> and its operations are subject to the Banking and Financial Institutions Act of 1991. The capital market deals with channeling of investible funds into productive activities. As a result of decline in foreign loans, grants, bank financing and government subsidies, which were important sources of finance for public enterprises before economic reforms, the government of Tanzania saw it urgent and pertinent to develop alternative means of securing long term capital for the expanding private sector. Through the Act of Parliament, the Capital Market and Securities Authority (CMSA) was formed in 1994 to supervise, regulate and develop the capital market and securities industry. The introduction of the capital market was intended to provide means for broadening the financial instruments and mechanisms for more efficient resource mobilization.

### **Capital Market and Security Authority (CMSA)**

The Capital Market and Securities Authority (CMSA) became operational as an autonomous institution in July 1995. CMSA has the responsibility of promoting and facilitating the development of an orderly, fair and efficient capital markets and securities industry in Tanzania. It is geared at ensuring proper functioning of DSE and putting in place a sound and effective supervisory and regulatory framework which can be enforced through a surveillance system covering the market and market professionals. The authority is also charged with tasks of increasing the number of

<sup>4</sup> The financial system comprises three markets, namely: money market, foreign exchange market and capital market. All three markets involve financial institutions in the creation and management of financial assets.

listed securities and attracting new products and instruments into the market, improving corporate governance and company performance, and improving public awareness on capital market issues. The other task relates to lobbying for fiscal policies that create an enabling environment for long-term investment and capital market development.

In the seven years of its operation, CMSA has laid a sound and secure foundation for the development of capital markets. CMSA has been instrumental in the establishment and development of capital market institutions such as the Dar es Salaam Stock Exchange and promotion of stock-brokers and investment advisors.

### Dar es Salaam Stock Exchange (DSE)

A stock exchange is a market where large and small investors buy and sell securities (shares, bonds etc). The DSE was incorporated in September 1996 and became operational in April 1998 to facilitate implementation of financial system reforms, with the responsibility of encouraging wide private share ownership of previously government owned companies and other companies in Tanzania. The basic laws and regulations for stock exchange operation are in place, and trading, post- trading and central depository systems are operating.

As at December, 2002, securities listed at the DSE included two Treasury bonds (7.5 percent five-year t-bond and 7 percent five-year t-bond) and five government bonds (5.5 percent two-year bond, 5 percent two-year bond, 7 percent five-year bond, 6.2 percent five-year bond and 7.75 percent seven-year bond). Others are two East African Development Bank (EADB) corporate bonds; and ordinary shares of five companies.

The five companies are Tanzania Oxygen Limited (TOL), Tanzania Breweries Ltd (TBL), Tanzania Tea Packers Ltd (TATEPA), Tanzania Cigarette Co. Ltd (TCC) and Tanga Cement Co. Ltd (Simba). Table 1 shows the market capitalization by company, in the years 1998 to 2002.

Among the five companies, only TATEPA is purely a private company. The remaining companies are former government parastatals now partly privatized, with the government holding some shares in their equities. In addition to a few companies being involved in the market, poor participation in the market is shown by a very small number of individuals who have purchased and therefore own shares. As at the beginning of year 2002, the stock market had only about 40,000 individual investors participating in the stock exchange out of the population of over 34 million Tanzanians (Modamba, 2002). The number of individual investors participating in the stock exchange had increased to only 98,236 by May 2003.

Generally, listing of companies has been a success. All costs of a public listing of a company are tax deductible. However, with the exception of TOL, all companies have grown in size since the listing, as evidenced by the growth in their market capitalization. Dividends per share have also been improving over time, offering a good signal to investors.

All financial institutions play a part in the creation of long-term capital, through transactions with their customers. In particular, banks are involved through mobilizing deposits and supplying credit to potential investors, hence paving a way for saving and investment decisions to be made independently. Dar es Salaam Stock Exchange

**Table 1: Market Capitalization by Company, 1998 - 2002 (Tsh. million)**

Year	1998	1999	2000	2001	2002
Company					
TOL	5,300	3,200	2,500	4,800	7,999
TBL	155,722	132,130	129,769	235,943	471,890
TATEPA	211	397	4,027	6,814	8,175
TCC	2,000	2,000	50,000	162,500	172,500

(DSE) makes the supply of capital market instruments possible through privatization and provides mechanisms for transactions. Pension funds, provident funds and the insurance sector are institutional investors, who provide the long-term capital through creation of demand for equity and debt instruments.

The most recent development in the Tanzanian financial sector reforms is the acceptance of foreign investors' participation in the capital market (DSE). The decision to allow foreign portfolio investment augur with the prospects that over time private Tanzanian companies should be able to source increased investible resources globally more inexpensively through the DSE than through long-term loans.

In the long term DSE intends to provide a forum through which Tanzanian investors can expand investment horizon to the whole of East Africa, SADC and Africa at large. For this reason, DSE has close cooperation with other members of the regional capital markets in East Africa. This cooperation is in line with the charter establishing the East African Community (EAC) that calls for the integration of regional capital markets.

### **Taxation of Financial Assets in Tanzania**

The current tax system in Tanzania has evolved in a very ad hoc manner, since there is no one person or a group of people that has sat down specifically to design the tax structure (TRA, 1998). The tax system has evolved over time mainly in response to perceptions that potential taxpayers, for a variety of reasons, were escaping the tax net or in response to pressure exerted by interest groups. This ad hoc approach explains the inconsistencies and different preferences inherent in the country's tax system, which may not meet the usual requirement of generating appropriate level of government revenue at lowest social, economic and administrative costs.

The extent of taxation can play an important role in motivating or discouraging investors from

investing in a given stock market.<sup>5</sup> This issue is particularly important for Tanzania, now that DSE has been opened for foreign investors' participation. In the context of integration, a country that has lower tax rates stands to benefit more because investors from other countries will prefer to invest in a country with low taxes compared to their own countries.

### **Taxes on Financial Assets**

Financial taxes are direct taxes and are administered as withholding taxes at source. In Tanzania, financial taxes comprise of withholding tax on dividends, capital transfer tax (stamp duty), capital gains tax and withholding tax on interest income (Table 2). Financial assets liable to these taxes are money instruments such as bank deposits, treasury bills, and capital market instruments such as equities, government and municipal bonds and treasury and corporate bonds. The central government through TRA collects all taxes that apply to financial assets.

Financial taxes can be classified into two categories. One category relates to interest income and capital gains earned by investors from investments in financial market instruments listed with the DSE. The other relates to tax on income and capital gains accruing to investors from investing in the same financial market instruments not listed with the DSE (Table 2).

Financial assets liable to a withholding interest income tax charged at 15 percent are bank deposits (savings, fixed/time and foreign), treasury bills and treasury bonds. However, the first one hundred and fifty thousand shillings of interest income accruing to bank deposits in any bank operating in Tanzania are tax exempted. Interest income on treasury bills and bonds are liable to the tax, with the exception of interest income on

<sup>5</sup> As indicated by various private investor surveys, among the key factors that muffle the investment response from the private sector in Tanzania are weaknesses in taxation policy and tax administration (World Bank, 2000).

**Table 2: Withholding Taxes on Investment Income in Tanzania, Dec. 2002.**

	Interest Income (%)	Dividend Income (%)	Capital Gains On shares (%)	Stamp Duty (%)
Corporate-listed with DSE	15	5	0	0
Corporate-Non listed with DSE	15	10	0	1 - 4

Source: URT (2002)

long term bonds of not less than three years maturity period issued and listed in the DSE in the fiscal year 2002/2003 (URT, 2002).

Like interest income, withholding tax on dividends is charged on dividend incomes to corporate investors and individual investors. The only difference is that the rates differ depending on whether the company disbursing dividends is listed with DSE or not. The tax rate is 5 percent for investing in listed equities and 10 percent for non-listed equities. No further tax is paid on the after-tax dividend income accruing to companies and individuals, implying that the withholding tax is the final tax on the dividends accruing to shareholders.

A 10 percent capital gains tax is chargeable on disposal of premises and other assets. The tax has been abolished on corporate income, personal income as well as on all financial investment securities listed with the DSE. In an attempt to improve the liquidity of the government bond market, any holder of T-bonds (including those that are not listed by DSE) who sells before the instrument matures is also exempted from the capital gains tax. Listed companies have tax incentive also on stamp duty. Stamp duty is charged on conveyance of shares (1 percent) and registration of securities, with exception of all transactions made by the DSE. Table 3 gives a summary of all taxes applicable to financial assets and incentives provided.

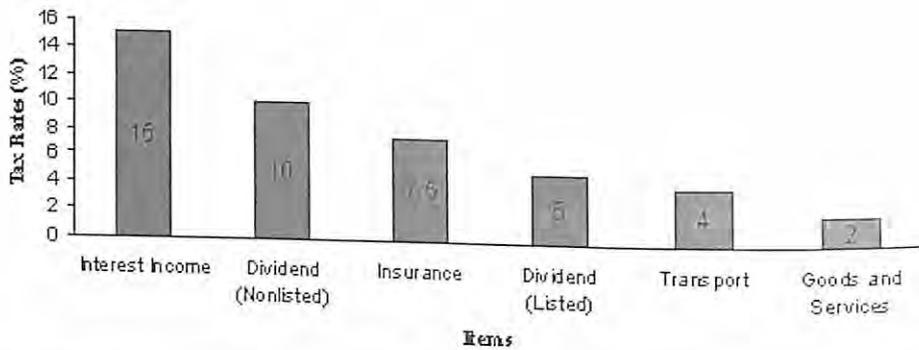
Apart from the four financial taxes discussed above, there are three other taxes on financial transactions that are important. These are royalty tax (20%), management tax (20%) and professional fees (20%). Unlike the first four taxes, these taxes only apply to foreign investors and are not based on profits, but are based on gross income.

### Financial Taxation and Investment Opportunities

Based on tax rates, comparison of different investment opportunities in Tanzania shows that taxation is higher on interest income and dividends for non-listed companies and lower on listed equities and non-financial assets such as transport and goods and services, as shown in Figure 1. Returns realized from each financial asset are inextricably liable either to company income tax (30%), withholding tax (as dividend, interest income or capital gains) or both. Income earned from equities is taxed at both levels. First, as company income at a corporate rate of 30 percent and as dividend income at 5 percent or 10 percent, depending on the status of the company paying dividends. Investors' income earned from money market instruments that are not listed by DSE (T-bills and bonds > 3 years) is subjected to a withholding tax as interest income (15 percent) while income from listed instruments (T-bonds < 3 years) is subjected to only 5 percent tax. These rates earmark the difference between investment in the capital market and investment in the money market.

**Table 3: Withholding Taxes and Incentives on Investment Income by Asset Categories, as of Dec 2002**

Interest Income			Dividend Income		Capital Gains	
Bank deposits	T-bill and T-bonds < 3 years	Listed corporate and treasury bonds > 3 years	Listed companies	Non-listed companies	Listed companies	Non-listed companies
15%	15%	Exempted	5%	10%	Exempted	10%

**Figure 1: Withholding Tax Rates as at Dec. 2002**

Source: URT (2002)

When investments are evaluated from individual's point of view, alternative investment, such as in petty trading, is subject to 2 percent tax in case a Taxpayer's Registration Number (TIN) is not applicable. Transportation is taxed at 4 percent, personal or small family business (unincorporated) with a turnover of up to Tshs 7,000,000 is liable to a fixed tax of Tshs 50,000. Investment in cooperative and various lending outlets in the informal financial sector are subject to neither company income tax nor the withholding tax. Income from properties is taxed at 15 percent with exemption of income below Tshs 500,000 per annum. From a tax point of view, petty trading, unincorporated small family business and investment in informal financial sector are better alternative investments than investment in equities.

### *Contribution of Financial Taxes to Government Revenue*

Table 4 summarizes the contribution of financial taxes to total government revenue for the period 1997/98 - 2001/02. It was not possible to get actual revenue generated from taxation of financial assets since this is not reported separately by the TRA. In the Income Tax Department, interest income (except those from bank deposits and

treasury bills), royalty fees, management fees and dividend income are reported together as IRMD (Interest, Royalty, Management and Dividend), while capital gains tax (including gains from properties), interest from bank deposits and treasury bills are reported independently. But royalty and management fees are not financial taxes.

The lack of disaggregated data renders estimation of revenues from financial taxation difficult. However, in general the contribution of financial taxes to total government revenue is very small, ranging between 0.61 percent and 1.35 percent. Such a contribution is marginal and insignificant as to influence government decisions in providing incentives to financial assets.

The small contribution to government revenue of financial tax revenues can be attributed to the novelty of the financial market in the country. When financial tax contribution is evaluated at a smaller scale, for example, its contribution to income tax, a clearer picture emerges. Table 5 provides information for such evaluation.

Proportion of financial taxes to income tax revenue is higher than to total government revenues. The contribution ranges between 3.16 percent and 5.69 percent (Table 5). Significant increase in the contribution started in the financial year 1999/00, after the introduction of taxation on capital gains and government securities.

**Table 4:** *Contribution of Financial Taxation to Total Government Revenue: 1997/98 – 2001/02 (%)*

Tax	1997/98	1998/99	1999/00	2000/01	2001/02	Averages
Withholding tax bank interest	0.20	0.17	0.27	0.26	0.07	0.19
Withholding tax (IRMD)	0.69	0.44	0.60	0.64	0.87	0.65
Capital Gains tax	0.00	0.00	0.11	0.08	0.05	0.05
Treasury Bills	0.00	0.00	0.37	0.36	0.05	0.16
Total	0.89	0.61	1.35	1.34	1.04	1.05

Source: TRA Annual Reports 1997/98 to 2001/02

**Table 5:** *Contribution of Financial Taxation to Income Tax Revenue: 1997/98 – 2001/02 (Percentages)*

Tax	1997/98	1998/99	1999/00	2000/01	2001/02	Average
Withholding tax bank interest	0.71	0.89	0.92	0.96	0.37	0.77
Withholding tax (IRMD)	2.45	2.28	2.08	2.36	4.77	2.79
Capital Gains tax	0.00	0.00	0.37	0.28	0.27	0.19
Treasury Bills	0.00	0.00	1.27	1.33	0.28	0.57
Total	3.16	3.17	4.64	4.93	5.69	4.32

Source: TRA Annual Reports 1997/98 to 2001/02

Despite the increase, this is still too small a proportion in both income tax and government total revenues such that the government can do away with them, say under an investment incentive scheme, without experiencing any major fiscal impact.

## **THEORETICAL FRAMEWORK AND METHODOLOGY**

### **Theoretical Background**

Following the pioneering works of Shaw (1973) and McKinnon (1973), there has been recognition of a significant role played by financial institutions in economic development. In the process of development these institutions perform various functions, the major being financial intermediation through which domestic resources that could have remained in informal sector are attracted into formal sectors and invested in productive enterprises.

Capital market is a general set of institutions involved in lending and borrowing and in raising funds in the form of long-term debt and corporate

stock (Jordan, 1996). In capital markets, capital is principally raised through debt (loans) and through equity (shares). Interest rate is the price paid to borrow funds (loans), whereas dividend and capital gains are benefits that investors expect to receive from equity capital (shares).

In recent years, developing countries attention in financial sector reforms has shifted from emphasizing bank-related institutions to developing non-bank financial institutions (capital markets). This is because capital markets have a comparative advantage in mobilizing long-term capital for investment (Ziorkluei et. al. 2001). The increased attention on capital markets is also attributed to dissatisfaction with bank-based finance, which is fraught with government controls; and the growing awareness of the need for a more integrated approach to financial sector development, resource mobilization and promotion of investment and economic growth (Dailami and Atkin, 1990 and Ongwumike and Omole, 1997). The reality of reduced supply of foreign funds from previous sources, has compelled governments in many developing countries to pay increased attention to capital market development

as a way of improving domestic resource mobilization, enhancing the supply of long-term capital and encouraging the efficient use of existing assets. Moreover, the need for developing capital markets even for less-developed economies is influenced by the fact that through a wide range of financial assets provided in capital markets, people are induced to increase their rate of current savings and increase the efficiency with which capital is used (Engberg, 1975). In short, the added advantage that the capital market exerts over other financial institutions makes the development of an effective capital market indispensable for any economy that is keen in allocating scarce capital resources to achieve economic growth.

### **Taxation of Financial Assets**

The development of the financial market (money and capital markets) tends to be sensitive not only to the legal, regulatory and tax framework, but also to the macroeconomic and sector policies, growth prospects and the political environment (Pardy, 1992; Ziorklue et al, 2001). Macroeconomic and fiscal environment conducive to the supply of quality securities and sufficient demand for them is one of the two preconditions which are basic building blocks for a sound securities market to thrive. This precondition recognizes the importance of taxation (a fiscal policy) as a factor in capital market development since the differential effective tax rates on either income or capital gains from different financial instruments may have a negative effect of distorting capital raising and investment decisions.

Taxation influences investment decisions in various ways. From a theoretical perspective, an investment decision is reached by comparing the expected returns or yield of the investment to the best estimate of the possible degree of loss or risk of undertaking the investment. That is why a focus on how taxes affect both the yield and risk of investment is instrumental in analyzing the

effects of taxation on investment behaviour. For a capital market to develop there must be enough demand and supply for equities. On the demand side, the major considerations to investors are the pre-tax real rate of return on equities relative to other financial assets and the impact of taxation on that relationship (Inanga and Emenuga, 1996). In this case tax policy plays important role in development of capital market by influencing demand for financial assets.

Improper tax policies can have great and varied implications to investor's returns and decision-making. Unless pre-tax rates of return on financial assets are higher than tax rates on such assets, after tax rates of return may be significantly reduced, thereby creating a disincentive to invest in securities. In other words, for a financial environment with either high tax rates or several levels of taxation on one class of assets, the pre-tax rate of return has to be high enough to guarantee an after-tax rate of return that compares favourably with the rates on alternative investment.

Excessive taxation of capital gains from sales of shares encourages investors to retain their shares and take out their profits in the form of dividends. Such buy-and-hold behaviour among investors results into thin stock trading and an illiquid market (Gill, 1982; Ike, 1984; and Akinifesi, 1988). Liquidity is one of the most important characteristics of a stock market. Liquid markets attract many buyers and sellers to exchange stocks with minimal effects on the prevailing competitively established price. In general, high and distortionary taxes motivate companies and investors to find means to evade the taxes.

Tax relief for capital market instruments is an incentive to investors. In emerging capital markets, tax incentives play a crucial part in stimulating growth of the market through stimulation of demand for the instruments. It is believed that in cases where incentives are not provided, financial assets are badly discriminated against other assets due to the problem of multiple

taxes (Gill, 1982). Equities are normally overtaxed than other financial assets because taxes on them could be levied at several stages, depending on the prevalent tax system. At first stage, the corporate income tax could apply at company level through the taxation of corporate net earnings. Second, there could be the dividend tax (withholding tax) levied also at company level. Thirdly, investors could be taxed when they receive dividend income, that is, a portion of the company's distributable earnings previously taxed at company level. Fourthly, foreign investors may also pay remittance tax if the dividend income received by them is being repatriated. All the above taxes are in addition to capital gains tax, which applies when an investor sells company equity shares at a profit.

The problem of multiple taxes is common in Africa and is compounded by existence of alternative securities such as housing development bonds and government securities, which are tax-free (Roe, 1990). In Tanzania shareholders' returns are taxed only twice. They are taxed at the corporate level (corporate tax), and in the hands of shareholders (withholding dividend tax).

### Methodology

To attain the objectives of the paper, a model used by Inanga and Emenuga (1996) is adopted and used to test the main hypothesis that taxation significantly reduces the rate of return on financial assets, thus reducing their demand. The model involves calculating the pre-tax rates of return for each financial asset and then netting off the component of the taxed return to derive the after tax rates of return. The tax component subtracted includes all the taxes that apply to the respective asset.

#### Rate of Return on Equities (Shares)

Rate of return on equities (shares) is given by:

$$R_{it} = \frac{P_{it} - P_{it-1} + d_{it}}{P_{it-1}} \quad (1)$$

where  $R_{it}$  is the rate of return on the  $i^{\text{th}}$  share in period  $t$ ;  $P_{it}$  is the market price of the  $i^{\text{th}}$  share at the end of period  $t$ ;  $P_{it-1}$  is the market price of the  $i^{\text{th}}$  share at the end of period  $t-1$ ;  $d_{it}$  is dividend paid on the  $i^{\text{th}}$  share in period  $t$ ; and  $t$  is one month time period.

Daily closing stock prices recorded by the DSE as daily trading data series were used in the analysis. The after tax rate of return on the  $i^{\text{th}}$  equity is computed as follows:

$$RA_{it} = \frac{(P_{it} - P_{it-1}) + d_{it}(1 - DT_{it})}{P_{it-1}} \quad (2)$$

where  $RA_{it}$  is after-tax rate of return on the equity and  $DT_{it}$  is dividend tax rate on the  $i^{\text{th}}$  share at time  $t$ .

To be able to compare asset returns, returns on equities are supposed to be analyzed in the context of well-diversified, equally weighted portfolio of equities. Due to the limited number of products available at the DSE and the Tanzanian capital market in general, this study calculates the rate of return for all shares at the DSE are treated as one portfolio. The rate of return on equities portfolio, which is formed by five equities, namely, Tanzania Oxygen Limited (TOL), Tanzania Breweries Limited (TBL), Tanzania Tea Packers (TATEPA), Tanzania Cigarette Company (TCC) and Tanga (Simba) Cement, is calculated as:

$$R_{pt} = \sum_{i=1}^5 W_{it} R_{it} \quad (3)$$

where  $R_{pt}$  is the rate of return (nominal) on a portfolio of equities in period  $t$ ;  $N$  represents five equities that constitute the portfolio;  $W_{it}$  is the ratio of  $i^{\text{th}}$  equity to the sum of all returns at time  $t$ ; and  $R_{it}$  is as defined above.

The Fisher Equation in discrete time was used to compute the real after tax rate of return, whereby the rate of inflation is subtracted from the after tax nominal rate of return (Nyagetera, 1997), although this method becomes inaccurate

for high rates of inflation. However in the recent past years, the rate of inflation in Tanzania has been below 10 percent. Thus, the real after-tax rate of return on equities is given by:

$$ra_t = \frac{RA_t - U_t}{1 + U_t} \quad (4)$$

where  $ra_t$  is real after tax rate of return on portfolio of equities;  $RA_t$  is after-tax nominal rate of return on the portfolio; and  $U_t$  is the monthly rate of inflation in period  $t$ .

Real rates of return on equities are further broken down into dividend yield and capital gains to allow for evaluation of the tax weight on each of the two components. These are calculated as:

$$ra_t(d) = \alpha RA_t \quad (5)$$

$$ra_t(cg) = (1 - \alpha) RA_t \quad (6)$$

where  $ra_t(d)$  is real after tax dividend yield;  $ra_t(cg)$  is real after tax capital gains rate of return; and  $\alpha$  is the ratio of dividend yield to the total rate of return on equities.

### Other Financial Assets

The yield rate ( $Y$ ) defines the rate of return. The after-tax rate of return is given by the yield minus taxes:

$$YA_{nt} = Y_{nt} (1 - WT_t) \quad (7)$$

where  $YA_{nt}$  is after-tax rate of return on the  $n^{\text{th}}$  financial asset at time  $t$ ;  $Y_{nt}$  is pre-tax rate of return on the  $n^{\text{th}}$  financial asset; and  $WT_t$  is withholding tax rate on  $Y_{nt}$  (if applicable) at time  $t$ . The real after tax rates of return on these other financial assets is determined by:

$$ya_{nt} = YA_{nt} - U_t \quad (8)$$

where  $ya_{nt}$  is the real after tax rate of return on the  $n^{\text{th}}$  asset and other variables are as previously defined.

Income accruing to investors is reduced by the amount taxed. This reduction in investment

income due to tax in itself constitutes a disincentive to invest. In Hall and Jorgenson's (1967) approach, the wedge between the pre-tax and the after-tax rates of return is a measure of the disincentive to invest that is related to tax. This provides a measure of the effective tax rate, which Musgrave and Musgrave (1989) have defined as the percentage reduction in the yield or return on an asset that is caused by the tax. Tax related disincentive to invest in equities is derived as:

$$Re = \frac{Rb - Ra}{Rb} \quad (9)$$

where  $Re$  is effective tax rate on nominal income;  $Rb$  is pre-tax nominal rate of return and  $Ra$  is after-tax nominal rate of return. Similarly, the effective tax rate in real terms is expressed as:

$$re = \frac{rb - ra}{rb} \quad (10)$$

where  $re$  is effective tax rate in real terms;  $rb$  is pre-tax real rate of return, and  $ra$  is after-tax real rate of return. The effective tax rates from all other financial assets are as defined in equation (10) for equities.

### EMPIRICAL RESULTS

Empirical results from estimations of pre-tax and after-tax rates of return on different financial assets are presented in such a way as to show the impact of taxation on each asset's rate of return. First, the assets' before and after-tax rates of return, which were calculated to enable the deduction of effective tax rates on respective assets, are presented. Then effective tax rates, which measure the disincentive to invest that is caused by taxation, are also discussed. The results are presented in both nominal terms and real terms to account for the effect of inflation on assets' rates of returns.

Consideration of real terms is necessary because inflation reduces the purchasing power of all claims and assets that are fixed in money terms.

With inflation, realized values of assets' rates of return from investments are much lower than nominal rates of return. In fact, with very high inflation, real returns from investment can be completely wiped out. The negative effect of inflation operates on money, bonds, saving accounts, insurance contracts, pensions and common stock (equity).

## Rates of Return

### Equities Portfolio Rates of Return

The equities portfolio<sup>6</sup> rate of return is compared with returns from other four financial assets. The nominal rate of return on equity is calculated as a ratio of profits made over one month to the initial investment at the beginning of the month. To obtain annualized monthly rates, the monthly rates were multiplied to twelve. The real rate of return is obtained as the difference between the nominal rate of return and the inflation rate.

The rates of return on equity have two components, namely, dividend yield and capital gains. When plotted, the series of rates of return exhibited market variability from period to period and from stock to stock, but variations were stronger for capital gains. This pattern is reflected in the portfolio average rates of return (Table 6). One implication from such fluctuations is that if the government were to significantly depend on capital gains and dividends tax from equities for raising its revenue, then its fiscal environment would be rather unstable.

Table 6 summarizes the nominal and real average capital gains and dividend yields. It is clear from the table that a large proportion of yields on equities was realized from capital gains. Of the total yields on equities,<sup>7</sup> capital gains contributed about 66 percent compared to dividends, which contributed 34 percent. The relatively higher contribution from capital gains

is likely to motivate investors to speculate for pricechanges rather than holding shares for dividend income, something which serves to enhance market liquidity.

### *Pre-Tax Rates of Return on Financial Assets*

Table 7 summarizes both nominal and real rates of return on the five assets, including the two components of the portfolio of equities, i.e. dividend yield and capital gains. Relative to nominal terms, returns on all assets in real terms show a declining trend, but equities are still the most attractive form of investment followed in descending order by treasury bonds, treasury bills, time deposits and savings deposits.

The average rate of return on the portfolio of equities is higher than average rates on the money market instruments. The annual returns from the money market for the period under examination are highest on treasury bonds followed by treasury bills, time deposits, and savings deposits.

Dividend yield is less than the average rates of most of the other assets, whereas capital gains constitute the highest yield of all the assets. The implication of this finding is that for a speculative investor who considers both capital gains and dividend yields, it is likely that such an investor will invest in equity because it appears to be more lucrative than any other asset on the money market. But for average Tanzanian investors, who tend to buy and hold equities in perpetuity and who ignorantly consider dividend yield as the only source of income from equities, investment in equities seems the least attractive than most financial assets.

Savings deposits, which are the most likely alternative financial asset to small investors, offer lower returns than dividend yields. This means that it is more profitable to invest in equities than putting money in the bank, even if one were to consider only dividends, ignoring capital gains. Thus, the lower returns on money market instruments have created an added advantage for equities and long-term government bonds, making the capital market a more attractive investment option, something, which is good for its development.<sup>8</sup>

<sup>6</sup> The portfolio is formed by five equities, namely, Tanzania Oxygen Limited (TOL), Tanzania Breweries Limited (TBL), Tanzania Tea Packers (TATEPA), Tanzania Cigarette Company (TCC) and Tanga (Simba) Cement.

<sup>7</sup> Total yield is made up of dividend yield and capital gains (i.e.,  $6.36\% + 12.48\% = 18.84\% \rightarrow$  nominal; and  $4.49\% + 8.94\% = 13.43\% \rightarrow$  real).

**Table 6: Capital Gains and Dividend Rates of Return on Equities (annualized percentages), May 1998 - Dec 2002.**

		TOL	TBL	TATEPA	TCC	Tanga Cement	Portfolio average
<b>Nominal</b>							
Dividend	Average	-0.72	31.08	0.96	6.36	-5.64	6.36
	Median	0	5.04	0.24	3.60	-3.60	2.16
Capital gains	Average	-11.4	7.44	24.72	78.12	-38.52	12.48
	Median	0	13.20	9.00	46.56	-34.08	0
<b>Real</b>							
Dividend	Average	-1.14	26.13	0.93	6.15	-9.62	4.49
	Median	0	29.41	0.13	7.21	-8.16	6.35
Capital gains	Average	-16.67	6.50	19.64	67.22	-40.44	8.94
	Median	17.28	8.64	10.63	43.70	-62.13	6.29

**Table 7: Pre-tax Nominal and Real Rates of Return on Financial Assets (annualized percentages) Dec. 2002**

May 1998 -

	Equity (Dividend Yield)	Equity (Capital Gain)	Equity (Dividend + Capital Gain)	Treasury Bills	Treasury Bonds	Savings Deposit	Time Deposit
<b>Nominal</b>							
Average	6.36	12.48	18.84	8.76	10.8	5.88	6.96
St. Dev	22.09	21.44	6.04	0.35	0.39	0.17	0.23
<b>Real</b>							
Average	4.49	7.25	11.74	6.84	9.60	4.32	5.40
St. Dev	22.09	21.44	5.67	0.35	0.39	0.17	0.23

Source: Columns 2 to 4: Own estimates; Columns 5 to 9: Bank of Tanzania, Monthly Bulletins.

### After-tax Rates of Return on Financial Assets

The after-tax nominal rates of return on the financial assets are presented in Table 8. With taxation, the real rates of return are shown to have reduced even further. However, the order of profitability did not change. A 5-percent tax on dividend yield lowered its rate of return, making it one of the three lowest yielding assets. Capital gains were not subjected to tax; hence, their average after-tax yield was unchanged and still ranks highest in yield among all the assets. Due to taxation, average after-tax rates of return on equities declined slightly by 0.48 percent. Despite the decline, rates of return on equities are still higher than individual yields from all other assets.

These findings provide further evidence on the

<sup>8</sup> This is evidenced by recent over-subscription in Dar ss Salaam Handling Company's (DAHACO) IPO upon which demand outstripped supply to the extent that shares had to be rationed.

profitability of capital gains, that there is a possibility of increased flow of money into speculation in shares.

### Effective Tax Rates

Effective tax rate measures the wedge between the pre-tax and after-tax rates of return, and it represents the impact of taxation on the assets' rate of return. Real effective tax rate gives a true picture of the magnitude of tax burden on an asset and facilitates further evaluation of how equities are fairing. Table 9 and Figure 2 give a summary of both nominal and real effective tax rates of the five financial assets examined.

The effective tax rates on nominal and real rates of return on equities are 3.72 percent and 15 percent, respectively. The nominal rate approaches the dividend tax (5 percent), and is higher than the capital gains tax, which is zero-

**Table 8:** After-tax Nominal and Real Rates of Return on Financial Assets (annualized percentages) May 1998 – Dec. 2002

	Equity (Dividend Yield)	Equity (Capital Gain)	Equity (Dividend + Capital Gain)	Treasury Bills	Treasury Bonds	Savings Deposit	Time Deposit
<b>Nominal</b>							
Average	5.88	12.48	18.36	7.92	9.84	5.04	5.88
St. Dev	4.24	21.44	5.67	0.35	0.39	0.17	0.23
<b>Real</b>							
Average	2.95	7.25	10.20	6.00	8.64	3.48	4.44
St. Dev	5.21	21.44	7.38	0.24	0.40	0.38	0.28

**Table 9:** Nominal and Real Effective Tax Rates of Financial Assets (percentages) May 1998-Dec. 2002

	Equity	T-Bills	T-Bonds	Savings Deposit	Time Deposits
Nominal	3.72	11.45	11.32	15.12	15.07
Real	15.01	25.55	27.44	31.33	83.93

**Table 10:** Z-values for Financial Assets from August 1999 - December 2002

	Equities	T. Bills	T. Bonds	Savings Deposits	Fixed Deposits
Z-Values	-13.89*	-26.76*	-14.32*	-21.58*	-18.49*

**Fig.2:** Nominal and Real Effective Tax Rates (annualized %), May 1998 - Dec. 2002



rated. The effective rates of tax (both nominal and real) are also the lowest among all financial assets.

The effective tax rate in nominal terms is highest for savings deposits (15.12 percent), while in real terms it is highest for time deposits (83.93 percent), and lowest in each case for equities. The low real tax rate on equities conforms to incentives that equity investments enjoy over

ther assets. In general, the high real effective tax rates arise because of taxation of nominal rather than real gains from assets. As shown in Table 9 and Figure 2 all nominal effective tax rates have increased, when converted into real terms.

### How Significant are Rates of Return Reduced by Taxation

Using two tailed, large sample tests for population comparison, the study tested the significance with which taxation reduces rates of return. The null hypothesis that the difference between pre-tax and after-tax rate of return is zero (i.e.,  $H_0: D = 0$ ) was tested against the alternative hypothesis that the difference between pre-and after-tax rates of return is not equal to zero (i.e.,  $H_1: D \neq 0$ ). The following test statistics were obtained for the five assets (Table 10).

The signs of Z-values indicate the direction of the effect of taxation on the rates of return, while their magnitude indicates the extent of the effect. Taxation is shown to have reduced the rates of returns for all five assets during the period August 1999 - December 2002. The magnitudes of Z-statistics suggest that equities were the least affected by taxation, followed by T-bonds, fixed deposits, savings deposits and T-bills. All values are statistically significant at one percent.

## CONCLUSIONS

This paper examined the effect of tax policy on the rates of return on five financial assets, namely: shares (equities) traded at the DSE, treasury bills, treasury bonds, savings deposits, and fixed deposits, and the implication of this on the development of capital market in Tanzania. Using data for the period May 1998 - December 2002, pre-tax and after-tax rates of return and effective tax rates on the financial assets are calculated as a means of defining the impact of taxation on each asset. It is observed that although taxation significantly reduces returns on all the five assets, listed equities are least taxed due to tax incentives that they enjoy.

It was observed that whereas returns on equities fluctuated markedly, returns from the other four assets declined steadily throughout the period. On average, however, all assets maintained positive returns in nominal and real terms hence being worthwhile for investment. All real rates of return were lower than their nominal counterparts, and were lowered further by taxation. Effective real tax rates were higher than

their nominal counter-parts, with equities still facing the least tax and fixed deposits facing the greatest tax. The reduction in rates of return due to taxation was observed to be significant at one percent for all financial assets.

Equities maintained the highest returns before and after taxation making them the most attractive assets for investors, followed by treasury bonds, treasury bills, time deposits and lastly savings deposits. Good profitability seems to have induced a marked increase in demand for financial assets, in particular equities and T-bills. The attractiveness of equities is partly enhanced by the decline in interest rates on money market instruments. A greater proportion of equities' high yields resulted from capital gains. This implies that for investors who hold equities in perpetuity and consider only dividend yield (like most average Tanzania investors), will only realize low yield, almost equal to savings deposits.

The tax weighed heavily on bank deposits thus creating a disincentive to invest in bank deposits than on equities and government papers. This disincentive may influence investor's decision to invest more in shares due to the low tax burden and high returns that equities already enjoy. It was also noted that financial assets' tax contribution to government revenues is currently significantly small such that the government can do away with these taxes without any major negative fiscal impact, but major positive promotional impact on capital market.

Although profitability of equities hinges mostly on capital gains, some investors may not be generally aware of this, since some of them regard dividend yield as the only source of yield on equities. As a way forward, there is a need for the CMSA and DSE to increase campaign efforts to educate investors on the components of returns on equities, their profitability and how the capital market works. Such a campaign will increase demand for capital market instruments, prevent the buy and hold behaviour, improve liquidity of the market and strengthen the stock market secondary market.

Because of increased demand for equities, the supply side needs to be strengthened to satisfy this demand. Privatization of state enterprises through DSE offers the most viable means, especially when coupled with continued issuance of governments' medium and long-term debt instruments for deficit financing. Efforts must be made to remove all obstacles to the listing of small and medium size enterprises (SMEs). In light of this, there is also a need to give further incentives through reduced corporate tax on profits for listed companies. Lower corporate tax for listed companies will stimulate equities supply. Also, listed companies may be allowed to carry forward and/or offset capital losses arising from investments in the capital market against total taxable income. However, caution is needed to ensure that the capital market does not become a dumping ground for weak and non-performing public enterprises, for this will impede efforts to develop further the capital market.

The tax instruments could be used to enhance the development of the capital market system. The fact that returns on bank deposits are the least among financial assets and face the higher real effective tax rate implies that the government objectives of developing the financial system cannot be attained. It may be desirable, at least in the short run, to reduce the tax on bank deposits to make them comparatively attractive to other assets. The capital market is part and parcel of the financial system and hence its development must go together with the development of other financial instruments because their functions complement each other.

## REFERENCES

- Akinifesi, E.O. (1988)  
 "The Role and Performance of the Nigerian Capital Market", in A.O. Phillips and E.C. Ndekwu (eds), *Economic Policy and Development in Nigeria*, Ibadan.
- Bank of Tanzania (BOT) (1997)  
*Bank of Tanzania: Its Functions and Monetary Policy Instruments*. Bank of Tanzania.
- Chamley, C. (1991)  
 "Taxation of Financial Assets in Developing Countries." *The World Bank Economic Review*, Vol.5, No.3.
- Capital Market and Securities Authority (CMSA) (2000)  
*Annual Report for Financial Year 1999/2000*.
- Capital Market and Securities Authority (CMSA) (2002),  
 "Capital Markets' Fiscal Policy Proposals for the Year 2001/2002", (Mimeo).
- Dailami, M. and M. Atkin (1990)  
 "Stock Markets in Developing Countries; Key Issues and Research Agenda." *Working Paper Series, WPS 515*. The World Bank.
- Dar es Salaam Stock Exchange (2002)  
*Listed Companies Handbook: DSE, September*.
- Dar es Salaam Stock Exchange (2002, 2003)  
*Quarterly Update*; various issues.
- Ernest and Young (1997)  
 "Fiscal Policy Implications on Capital Markets and Securities Business in Tanzania", A Report to the Capital Market and Securities Authority.
- Gill, D. (1982)  
 "Developing the Securities Market: The Role of Financial Intermediaries, the Government and Nigerian Enterprises." *The Bullion*, Central Bank of Nigeria.
- Hall, R and D. Jørgenson (1967)  
 "Tax Policy and Investment Behavior." *American Economic Review*, Vol. 57, No.3.
- Honohan, P. (1999)  
 "Designing the Taxation of Financial Intermediation." The World Bank.
- Ike, D.N. (1984)  
 "A Financial Appraisal of the Nigerian Capital Market." *Nigerian Journal of Financial Management*, Vol.3, No.2.

- Inanga, E. and C. Emenuga (1996)  
"Taxation of Financial Assets and Capital Market Development in Nigeria", *AERC Research Paper* 47.
- Isinika, E.C. (2003)  
"Taxation of Financial Assets: Implications for Capital Market Development in Tanzania". M.A. Dissertation, University of Dar es Salaam, unpublished.
- Jordan, R.W.(1996)  
*Essentials of Corporate Finance: McGraw Hill Companies, USA.*
- McKinnon, R.I. (1973)  
*Money and Capital in Economic Development*, Brookings Institution, Washington, D.C.
- Modamba, F.F. (2002)  
"Security Investment in Emerging Capital Markets: An Analysis of Factors Affecting Participation in the Dar es Salaam Stock Exchange." Unpublished MBA dissertation, University of Dar es Salaam.
- Mpango, P. (1997)  
"Taxation of Individuals and Capital Market Development in Tanzania", Paper presented at the Seminar on Social and Economic Aspects of Taxation in Tanzania: A Capital Market Perspective, Dar es Salaam, May 27-28.
- Nyagetera, B.M. (1997)  
"Financial Repression in Tanzania: Its Impact on Savings, Investment, Credit and Growth." Unpublished *Ph.D.* Thesis, University of Dar es Salaam.
- Ogwumike, F. and D. Omole (1997)  
"Mobilizing Domestic Resources for Economic Development in Nigeria," *AERC Research Paper* 56, Nairobi.
- Osei, K.A. (1998)  
"Analysis of the Factors Affecting the Development of an Emerging Capital Market: The Case of Ghana Stock Exchange" *AERC Paper* 76, Nairobi.
- OSSREA (2002)  
"Assessing the Potential of Stock Market Integration in the Southern African Development Community." Research Report submitted to the 14th OSSREA Research Competition on Social Sciences, (Mimeo).
- Pardy, R. (1992)  
"Institutional Reform in Emerging Securities Markets", *Policy Research Papers* (Financial Policy and Systems). The World Bank, WPS, 907.
- Roe, A. (1990)  
"Financial Systems and Development in Africa". EDI Working Papers, The World Bank.
- Shaw, E.S. (1973)  
Financial Deepening in Economic Development, Oxford University Press, New York.
- Tanzania Revenue Authority (TRA) (1998)  
"A Proposal for the Simplification of the Tanzania Tax Structure." (Mimeo).
- United Republic of Tanzania (2002)  
2002 Finance Act, Government Printer, DSM.
- World Bank (2000)  
Tanzania at the Turn of the Century: From Reforms to Sustained Growth and Poverty Reduction, The World Bank, Washington, D.C.
- Ziorklui, S.Q., L.W Senbet, A.G. Abayo, F. Musonda, B. Nyagetera, L. Rutasitara and G.D Kitua (2001)  
"Capital Market Development and Growth in Sub-Saharan Africa: The Case of Tanzania". African Economic Policy Discussion Paper Number 76.