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# **Fiscal Policy and Growth in Africa: Fiscal Federalism, Decentralization and the Incidence of Taxation**

## **Tax Reforms in Selected African Countries**

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## **Abstract**

The paper investigates the tax reforms undertaken in a sample of randomly selected five African countries, taken together, namely Egypt, Senegal, Gabon, Kenya and Zambia. Reflecting the government's greatly expanding role in the economy, total public sector expenditure increased rapidly over the last two decades. However, public sector revenue growth has not matched public expenditure growth. Mobilizing resources to finance the public sector activities has necessitated tax reforms in those countries, the most important of which was the gradual conversion of taxes on sales of good and services into the value added tax (VAT). The paper spells out the issues involved in reforming each tax instrument, graphs the incidence of tax reforms on consumer and producer taxpayers, and tests the various determinants of the tax ratio to GDP. The empirical results show that, despite the emphasis on domestic taxation, the reforming African countries continue to rely relatively more on the international trade taxes than on domestic taxes in order to mobilize resources to finance their public expenditures. The paper concludes that the tax policy in those countries should be reformulated in such a way that it allows a small distortive impact on market equilibrium, while having a distributive impact that reduce social inequalities.

### **Key words**

**Tax Reforms, Fiscal Policy and Efficiency and Equity Trade-off**

# 1. Introduction

Despite the impressive progress made over the early post-independence years in the economic and social sector development, the sustainability of raising tax revenue and of targeting public expenditures in economic and social fields has increasingly been called into question following the crisis of the 1980s and 1990s. African governments have more often been unable to fully finance their expenditures in economic and social services and programmes due to tax revenue falling short of the planned expenditures. In many countries, the prevailing tax system was inequitable, unstable, complicated, distortionary, and increasingly ineffective in mobilizing revenue relative to GDP.

Thus, as result of several decades with an inefficient patchwork tax system, several African countries undertook tax reforms within the framework of their structural adjustment programmes in the early 1990s. The macroeconomic stabilization effort required improving the effectiveness of the revenue system and in minimizing the economic distortions created by the tax codes. This, in turn, required the elimination of tax inequities and politically motivated tax preferences. The aim of the reform was to replace this patchwork with an effective revenue-generating mechanism that is more fair, more buoyant, and more economically efficient so as to increase the tax ratio to GDP to allow government perform its activities and provide services for the benefits of the community like defense, education, health, infrastructure policy, redistribution, etc. More precisely, the objective of tax reform in selected countries was:

- To consolidate all tax revenue collections from a low level of about 12 per cent of GDP to a higher level of 28-30 per cent of GDP by optimally using the PIN and VAT registration system so as to finance and promote economic growth;
- To improve economic efficiency of tax system through lowering and rationalizing tax rates to reduce compliance and administrative costs while expanding the tax bases;
- To expand the tax base, particularly by targeting the untapped resources in the rural and informal sectors;
- To take care of equity concerns particularly in the vertical and horizontal distribution of tax burden, income, wealth and social services;
- To enhance greater reliance of self-assessment systems supported by selective audit/examination and improve taxpayer education and services;
- To improve administrative efficiency through enhanced computerization, improved audit capacity and reduced revenue leakage;
- To use Value Added Tax (VAT) to replace commodity sales taxes in order to minimize disincentives for investments and exports and

- remove all the discretionary duty exemptions in order to minimize corporate tax evasion;
- To establish tax policy capacity including broadening computerized tax databases, training of tax officials, and modernized tax administration.

To achieve these objectives of tax reforms, major changes were made in the tax system to render it more broadly based; with moderate and stable tax rates, a minimum of exemptions, exclusions and preferences. In some occasions, the system was simplified to make it fully suited to local conditions and enables it to enhance capacity and motivation of the revenue departments, modernization of administrative procedures, strengthening of penalties, fines, and enforcement of capacities. In other cases, the reform of domestic taxes focused not only on the implementation of Value Added Taxes (VAT), but also on the introduction of new taxes or new rates on the existing bases or new seals on tax evasion. Sometimes tax reforms are introduced through changes in tax legislation, tax administration or establishment of tax loophole to reduce complexity and allow administrative feasibility and transparency. The increase of the domestic taxes is meant to have two impacts: an "efficiency" impact on market equilibrium (so called "efficiency effect") and a redistributive impact (so called "equity effect"). In developing countries, the design of a tax or fiscal policy should not be based on production decisions that are distorted by the externalities and other market imperfections at the same time it should be based on taxpayers' ability to pay. It should be such a way to allow a small distortive impact on market equilibrium, while having a distributive impact that reduces social inequalities and geographical imbalances.

The paper first evaluates and briefly reviews the tax reforms applied in Egypt (North Africa), Senegal (West Africa), Gabon (Central Africa), Kenya (East Africa), and Zambia (Southern Africa) taken as a whole, including their tax administration (centralized vs. decentralized), VAT, individual and corporate income tax, custom import tariff, and excise duties. Secondly, the paper examines graphically the incidence of tax reforms on consumer and producer taxpayers. Thirdly, the paper proposes and tests a model of tax revenue promotion in the medium-term and assesses their time-series and cross-section results. Finally, the paper concludes by making recommendations at improving the efficiency, revenue productivity, and the equity criteria prevailing in their fiscal experiences. In African countries where poverty issues dominate, the efficiency criterion should be accompanied by the equity one when designing tax policy reforms.

## **2. Tax reform and development policy**

The ultimate goal of tax reforms is to build a modern tax system that is conducive to sustained economic growth and development. To this end, the tax

policy needs to seek a balance between the need to fund public sector programmes and the need to stimulate an efficient and dynamic private sector. Stimulating economic growth is the only way to provide the revenue needed to finance better public services and to provide productive jobs and improved living standards for the African people

However, the problem that African countries are facing for the application of structural reform programmes concerns their financing. The mobilization of resources to finance development has been a daunting obstacle in these countries since the independence years. Everywhere there was a tendency to attribute this role to the public sector, which found itself forced to levy additional taxes in order to finance the reform programmes. But the raise of taxes causes more problems to the least developed countries than to the advanced ones in view of their low taxable bases. The imbalance between government revenue and expenditure results in large and chronic fiscal deficits. In theory the financing of deficits was made through foreign borrowing or additional foreign financing with considerable effects on the interest rates, the balance of payments and the external value of the domestic currency.

Table 1 shows the most recent financial indicators of the selected African countries, namely tax revenue, grants and total expenditure and net lending as percentage of GDP. All countries have made tremendous progress in restoring fiscal discipline after reforms. But despite a change in the tax structure, the revenue-GDP ratio in all countries has remained constant during the 1995-2002 period, hovering around 14-17 per cent of GDP, except Kenya where the average ratio was in general above 20 per cent. On the other hand, total expenditure as percentage of GDP was higher than 20 per cent on average in all the countries and above the revenue ratios. Low expenditures are a reflection of the low domestic tax revenue base. Excluding grants, the fiscal deficit of all countries in the sample is over 10 per cent of GDP.

**Table 1**  
**Indicators of Public Finance in Selected Countries (as % of GDP)**

Indicators	1995/ 1996	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003c
<b>Egypt</b>						
Tax revenue	17.2	15.4	14.7	14.2	13.7	13.8
Grants	10.8	8.1	7.4	6.8	7.1	6.8
Total Expenditure and net lending	29.3	26.5	26.2	26.6	26.7	26.9
<b>Senegal</b>	14.8	16.8	17.1	17.1	17.4	17.8
Tax Revenue	3.3	2.1	2.1	1.8	2.2	2.3
Grants	19.9	20.8	20.0	21.7	20.4	20.3
Expenditure and net lending						
<b>Gabon</b>	10.8	11.0	10.4	10.9	11.3	11.8
Tax Revenue	17.9	12.8	22.6	22.8	21.0	19.6
Grants (oil)	26.7	27.2	21.8	27.5	24.5	24.5
Expenditure and net lending						
<b>Kenya</b>	25.1	21.7	20.2	20.6	19.2	21.1
Tax Revenue	1.3	0.7	0.6	3.0	0.6	1.2
Grants	31.0	25.3	22.7	26.6	25.4	27.6
Expenditure and net lending						
<b>Zambia</b>	18.2	17.2	17.3	18.6	18.6	18.1
Tax Revenue	9.1	8.0	5.7	5.7	5.5	5.2
Grants	33.4	29.7	31.0	32.9	33.3	33.1
Expenditure and net lending						
<b>Average fiscal balance</b>						
-Excluding grants:	-10.3	-9.3	-9.1	-10.8	-10.6	-9.9
-Including grants:	-2.4	-2.9	1.0	-4.5	-10.1	-5.5

*Source:* Various Ministries of Finance, World Bank, Financial Indicators; c=estimates.

Prior to the tax reforms, the tax system was largely characterized with higher tax rates, discretionary exemptions, a large number of taxes and/or levies, inefficient administration just to mention some. The tax policy of these countries had several weaknesses; high inflation interacted with the statutory tax system to create large and erratic distortions in the tax burden. Tax structure was unstable and inflexible and revenue could not be predicted with certainty. Revenue instability has complicated fiscal management especially if expenditures were inflexible downwards, and the options open to policy makers were limited. Neither tax policy nor tax administration managed to mobilize additional resources on a sustainable basis. Following the tax reforms, most tax rates were drastically reduced to reasonable levels, discretionary tax exemptions were discontinued, a number of taxes were abolished and a good number of old legislations were modernized. To bring down the deficits, it was imperative that the government improves domestic revenue mobilization while keeping public expenditure under control.

The tax reforms as applied in selected African countries, namely Egypt, Senegal, Gabon, Kenya and Zambia were initiated mainly through their structural adjustment programmes with the IMF and the World Bank. During the 1980s and 1990s, these countries appeared to have undergone budgetary pressures arising from a high demand for public expenditures and a limited scope for raising tax revenues to finance those expenditures in order to achieve their development objectives. As a result of various crises, the economies of these countries were characterized by low growth rate of GDP, a large disparity in the income distribution, high inflation rate and a heavy debt burden. The process of liberalization of their economy began in the early 1990's. The burning issues that attracted attention concerned privatisation, economic diversification, redistribution and poverty reduction.

Hence, some of these African countries mentioned above have successfully implemented their adjustment and reform programs with the support of the IMF ESAF arrangement or the World Bank lending. At the end of the 1990s, significant progress has been made in reducing financial imbalances, containing inflation, restoring competitiveness, and lessening distortions, thus revitalizing the private sector and boosting the growth prospects of the economy. However, despite these improvements, the economic performance of those countries remained impeded by deep-seated structural rigidities and was vulnerable to external shocks; and poverty was still widespread. There have been delays in carrying out some reforms, in particular privatization and sectoral reforms, because of difficulties at the technical level and resistance from various interest groups.

However, none of these countries had a complete package of tax systems with broader bases that raise revenues at lower rates. The tax systems were dictated by the gains in efficiency and vertical equity, which were very hard to persuade taxpayers. To correct the revenue shortfall, some countries attempted to raise their marginal tax rates on narrow, fragmented tax bases. The reforms that followed were meant to improve the conditions of greater simplicity, neutrality in taxation and a larger measure of horizontal equity, and to initiate some distribution of tax burdens across different firms and industries as well as across different households at the same income level. This potential improvement in simplicity and horizontal equity has persuaded both the public and legislators to adhere to tax acceptance. Normally tax reform should also be accompanied by expenditure reform, because revenue-raising tax reforms make a little sense if their proceeds are used to finance an inefficient public expenditure.

### **3. Comparative structure of tax system in selected countries**

The five countries included in our sample have more or less the same structure of taxation; although as Table 1 shows, there is some variation in overall tax revenue

ratio to GDP. Table 2 compares the tax structure of the five countries for the period during the first and second half of the 1990s decade.

All countries levy an income tax on both individuals and companies. This is a general and comprehensive definition of income, which includes all kind of income in-kind but excludes capital gains. The general income tax rate in the selected countries lies in general between 10 per cent and 35 per cent. The corporate income tax rate is often quoted in the country or regional stock exchange. That of agriculture is generally about a half (15 per cent). Mining is generally taxed at the same basis as other income, except in the oil exporting countries like Gabon.

Table 2  
Tax Structure in Selected African Countries

Type of Tax	Period 1990-1995					Period 1995-2000				
	Tax Revenue as % of Total Tax Revenue					Tax Revenue as % of Total Tax Revenue				
	Egypt	Senegal	Gabon	Kenya	Zambia	Egypt	Senegal	Gabon	Kenya	Zambia
Taxes on Income and Profits	22.9	23.4	11.8	32.4	29.8	23.1	22.6	13.1	31.4	34.0
Indirect Taxes	36.0	70.3	31.2	56.6	64.4	36.0	73.4	24.1	56.9	60.4
Taxes on International Trade and Transactions	11.4	22.6	18.5	12.9	31.1	12.9	24.5	20.5	15.1	28.7
Non-Tax Revenue (Excluding grants)	30.5	6.3	4.0	14.7	8.2	28.3	4.1	22.0	58.8	10.8
Total Tax Revenue	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
GDP per capita	990.0	550.0	3930.0	260.0	350.0	1530.0	480.0	3160.0	380.1	336.0

Source: Official figures

#### 4. Main features of individual tax reforms

The African governments have introduced several acts amending the previous income tax, with a view to improving the tax system. These reforms notwithstanding, the current tax policies have several weaknesses. Although the definition of income is comprehensive, multiple rates apply, depending on the source of income. The top marginal rate under the individual income tax is lower than the standard business income rate. The tax system gives the government significant power to grant exemptions, resulting in some proliferations of exemptions. Although most country's tax incentives are targeted at promoting preferred sectors, their effectiveness in achieving the stated goals has not been

assessed widely. Table 3 reports the relative importance of each tax in total revenue and GDP in Kenya and Zambia where data is available.

Table 3: Comparison of Individual Tax Structure between Kenya and Zambia

Individual Tax	As Percentage of Total Tax Revenue		As Percentage of GDP	
	Kenya 1998/99	Zambia 2000	Kenya 1998/99	Zambia 2000
Income Tax	23.0	33.0	5.1	6.4
-Personal	8.5	26.6	1.9	5.2
-Corporate	14.5	6.4	3.2	1.2
VAT/Sales	20.8	29.9	4.6	5.8
-Domestic	10.6	11.9	2.3	2.3
-Imported	10.2	18.0	2.3	3.5
Excises	23.9	14.4	5.3	2.8
Import Duties	18.7	12.9	4.1	2.5
Other Taxes	13.5	9.8	3.0	1.9
Total Tax Revenue/GDP	100.0	100.0	100.0	100.0
VAT Excises/ GDP (%)	44.8	44.3	9.9	8.6

Source: Official figures

#### 4.1 Reforms of personal income tax

**The issues of equity.** Prior to reforms, the main problem with the personal income tax (on wages and salary and self-employment) in the selected countries was the low level of compliance, resulting from weaknesses in the tax assessment and collection machinery. Personal income tax reforms deal with the tax threshold and tax bands, which are in most cases eroded by inflation. The issue of equity for low income tax payers is particularly emphasized. There is a political pressure to raise threshold in order to ease the income tax on the low paid and to increase it for the well paid. The other approach is to simplify the tax rate schedules and reduce the threshold for the 30 per cent by an amount, which claws back from top-rate taxpayers. The rationale of the two approaches is to move the individual income tax towards the goal of fair and moderate taxation. The proposition also simplifies tax administration by removing large numbers of small taxpayers from the tax roll.

However, there is disadvantage that marginal tax rates increase at some points, although there is no increase in effective tax rates (that is, no tax payer suffers from this increase). Effective rate tax increases smoothly as income rises and the tax schedule is more progressive. Everywhere the public outcry that the income tax of said 10 per cent is too high, making pressures to the government through labour union to adjust the exemption level and the width of the tax bands to achieve a more equitable income tax load. This is worse in the countries with a

high rate of inflation. An increase in income may just reflect a rapid inflation rate, making real income to actually fall due to the destructive effects of inflation on investment, productivity and growth. Inflation pushes up nominal income and so pushes the taxpayers into higher tax brackets. This so called "bracket creep" obliges the government to revise the tax code in order to neutralize the bracket creep.

In all the reforming African countries, efforts were made to provide serious relief to workers who suffer too heavy a burden from PAYE (pay-as-you-earn) of the pre-reform. The income tax rates vary from country to country. For example, Egypt had a high income tax of 40 per cent. But the tax on the average income level was still 27 per cent. The progressive rate of the individual income tax varies between 5 per cent and 25 per cent according to the tax bracket. Tax deductions or other allowances are possible: 2000 Egyptian pounds for single people; 2,500 pounds for childless married people and for unmarried couple having at least a dependent child, and 3000 pounds for married peoples having at least a dependent child.

For Senegal, the progressive income tax rate extends from 0% to 50%; the tax system applying on people, adopts the principle from the restraint at source, grows rich from the representative tax, from minimum fiscal tax of. 0% for the amount lying between 0 and 600 000 CFA; 18 per cent for that from 600 001 to 890 000 FCFA and 22 % from 890 001 to 1010 000 FCFA, etc. Beyond 12, 650 000 CFA 50% Tax on interests is held at source and tax on royalties is 15%. In Gabon, the government pursued forcefully the civil service reform, and income tax relies mostly on corporate oil companies, which provide oil grants to the government. Close attention has been paid to elimination of exemptions on income tax for middle and high-income group

Kenya's personal income tax is charged on the income earned by any person resident in Kenya, that is, the one who has spent 183 days or more, working in the country in the year of assessment. A foreign employee in a non-Kenyan firm who is resident in Kenya is subject to tax on all emoluments. However, non-Kenyans working for regional headquarters are entitled to make a deduction equal to one third of their income if they are absent from work for at least 120 days per annum. To qualify, they must reside in Kenya only for the purpose of working at the headquarters, and their salary costs may not be recharged to a local branch or subsidiary.

Individual income is taxable at rates graduated from 10 per cent up to 37%. The top tax bracket starts at annual incomes of Kenya Pounds 22,225. Tax allowances are provided for all individual taxpayers. Kenya residents working abroad are given credit of foreign tax paid on the salaries earned in those countries. Taxable income includes all business income, employment income, dividends, interests and property income.

**Table 4**  
**Kenya's Individual Income Tax Rates**

Taxable K₡	Income Tax %	Rate Total Payable (KShs)	Tax
0 - 5,808	10	11,620	
5,809 - 11,280	15	33,840	
11,281 - 16,752	20	67,008	
16,753 - 22,224	25	111,120	
Over 22,225	30		

*Source:* Kenya Gazette Supplement (Finance Bill 2001).

In Zambia, depending of the size of income earned, the tax rate on income range from 15 percent to 35 per cent. Income up to K1.92 million is tax free, while income in excess of that is taxed at 30 per cent. For persons with disabilities, there is an additional K60, 000 tax credit per year. The exempt portion of termination benefits is K5 million. Personal income tax schedule for 2001 was as followed:

Up to K 1,440,000	Exempt
K 1,440,000 to K1,699,000:	10 per cent
K 1,600,000 to K2,200,000:	20 per cent
Over K 2,200,000:	30 percent.

Sometimes, the workers receive benefits in kind, which are in fact taxable as income. Cash allowances are in practices taxed along with wages and salaries, under a pay-as-you-earn (PAYE) programme. Benefits in kind are not taxed under PAYE; but the employer is denied tax relief for their costs. In many instances, there is the disallowance of employers' costs on benefits in kind. An alternative approach is to offer a fringe benefits tax borne by the company at a flat rate. Thus, a fringe benefits tax is introduced on the provision of benefits in kind. There is need to bearing the value of car provided as benefits onto a realistic basis, to reflect the actual cost of rentals or percentage of the capital cost. The value of loan should also be included within the fringe benefits tax. Some African countries allow a deduction for payments of interest on loans for purchase of a taxpayers' main residence in order to provide accommodation for low-income group or/and to encourage home ownership. The interest rate on a loan for house purchase is deductible for purposes of the personal income tax. On this regard, for the sake of equity and administrative simplicity, it is particularly fair to adjust the tax credit in order to exempt low wage earners from the income tax, in the case when the taxpayers are caught in the tax net.

Some African countries, given the economic and political costs of bracket creep, have incorporated a mechanism to adjust the tax credit and the tax bans

automatically to compensate for inflation on an annual basis. Others have maintained the old system of providing a primary allowance or family allowance in order to relief taxpayers. But it is believed that tax credit is more cost effective than family allowance. The family allowance cannot be more generous than the benefit provided by the tax credit.

**The issues of broadening the income tax base.** African countries express concern about broadening income tax base in order to generate adequate revenue, without imposing a heavy tax burden on the few who work in the modern sector. The problem is to find practical means to achieve this result. In Zambia, for instance, in 1992 the government announced measures to broaden the tax base, namely through:

- ❶ (a) Computerizing income tax collections using master files based on unique taxpayer identification numbers;
- ❷ (b) Providing more adequate resources for tax collection and enforcement, including better conditions of service for revenue officers;
- ❸ (c) Restoring virtually all forms of remuneration to the tax base;
- ❹ (d) Increasing penalties and fines for underpayment, late payment, and other income tax violations;
- ❺ (e) Prosecuting tax cheats to make an example of them.

The implementation of these measures is moving very slowly. Only the measure that has been implemented so far is (c) and (a) and (b) are being implemented and legislation is being put in place. But the measure (e) is still on the pipeline. The problem pertaining to quick implementation is that there needs to be improved conditions of service to attract and retain qualified officers, proper disciplinary controls for to managers, and adequate resources overall. Strengthening of tax administration is an essential precondition for success of the entire tax reform programme.

**The issues of tax treatment of the life insurance.** These include the basis for computing chargeable income for life insurance, reduction of retirement age, pensions for early retirement, etc. There two prevailing approaches used so far in the reforming countries: (a) chargeable income is defined as gross investment income less investment-related management expense; (b) chargeable income may also be defined as total income sources less total expenses. The net total approach, which is used in Malawi, is complex to administer, because it is more prone to tax avoidance manipulation, and more unstable whereas the first approach (used in Zambia, Kenya and Tanzania) has the advantage of being simple to administer.

## **4.2 Reforms of corporate business income tax**

**The double taxation issues:** Prior to reforms, the major problem with the business corporate tax was also the low level of compliance, the inefficient tax assessment and collection procedures of the tax administration. In principle, business companies are taxed on their income (profits) and the individual shareholders (dividends) are taxed additionally. The issues are that different rates of company taxation create economic distortions and more problems [Harberger, 1962]. In general, the preferential tax rates (tax holidays) are not a cost-effective way of attracting additional investment. They might tend to distort investment, encouraging capital to flow to where the tax is lowest, rather than to where the economic return is highest.

In Egypt, for instance, branches are subjected to the corporate tax as all the other companies. Thus, double taxation of corporate income and corporate dividends was avoided in Egypt. Corporate profits from non-industrial activities are taxed at 40 per cent and those from industrial and export activities is taxed at 32 per cent. In Senegal, private limited companies and public limited companies are two most current corporate forms of business enterprises. Other corporate forms such as general partnerships, joint-venture companies do exist but remain rather limited. To simplify the declaration formalities and the registration procedure with tax administrations, a unique office has been established in order to link the Treasury and receive the companies' declarations requesting approval to the investment code. It is also in charge of the company's registration with the different government ministries.

**The Issues of lowering corporate taxation rates:** The main issue concerns the reduction of the company tax rate in order to make the tax environment more conducive to growth and development for new and old companies alike. This tendency to lower company tax rates is justified on the ground that enterprises are the prime engine of growth and job creation. A high company tax rate will discourage investment, entrepreneurship and production by reducing the net reward for productive effort.

In Senegal, the corporate tax rate was reduced to 33 % from 35 % before. However, fiscal advantages established by the Code can be granted to foreign investors. No tax is applied on capital gains surplus in Senegal. Dividends are subjected to a payment at source at a maximum rate from 10 per cent (16% before) from their gross amount if the person who receives them is the actual beneficiary. The corporate tax is levied on branches in Senegal in the same way as other companies. In Kenya, the rate levied on company income was 35 per cent standard; but certain sectors of the economy benefit specific rates as follows: farming 15%, manufacturing of chemical fertilizers 15%, non-traditional exports 15%, rural enterprises 30%, stock exchange companies 33%, banks income up to K250 million 35% and bank income above that 45%.

However, this policy mitigates the serious distortions, which are caused by inflation, because the company's taxable profit may differ greatly from its true

earnings. The company may suffer an effective tax rate higher than the statutory tax rate. It may face large tax bills despite making inflation-adjusted losses. Accelerating capital allowances may also mitigate the distorting effect of inflation. Another drawback of lowering the corporate tax rate is the prospective revenue loss if the lower tax rate does not improve compliance to stimulate higher profit growth.

**Holidays tax issues:** Some countries recommend the abolishment of granting tax holidays to newly licensed investors on the ground that it creates serious distortions, which adversely affect efficiency. Tax holiday was widely used in pre-reform period to give incentives to investments. But in some countries, like Zambia, it was found that this tax holiday complicates tax administration; it introduces major inequities; and it is fundamentally interventionist. It can also create a large loss of revenue, over which the Treasury has no control. The economic distortions come from the fact that this tax favours short-term over long-term projects and may actually discourage long-term investors.

**The issues of capital allowance:** The rates of capital allowance for machinery and plants used for farming, manufacturing, tourism, and housing generally are generous and are issued faster than commercial accounts. However, in the absence of capital gains tax, the rules of balancing charges on sales may give rise to abuse. An asset qualifying for capital allowances may be charged at full prices and not on the original purchase price only.

**The issues of withholding tax:** In Zambia, tax is withheld at source for interest, dividends, capital gains, rents and government bonds. Income from these sources is taxed at 15%. Zambia copper company pay a reduced rate of 10%. The property transfer tax is levied upon the selling price of transferred property and share at 3%. The mineral royalty tax is levied on gross value of natural resources, such as base or precious metal, industrial minerals at 2% and gemstones is levied at 5 %, except for some successor companies of ZCCM, which are lied at a reduced rate of 0 per cent of the gross value.

In line with the lowering of personal income tax rates, the withholding tax rates on capital income (interest, dividends, and capital gains) were also decreased from 25 per cent to 15 per cent. Corporate tax rates were not modified, with rates remaining in the range of 15 to 45 per cent. Concurrently, in the face of persistently high inflation, the withholding tax credit was increased fourfold. Furthermore, the value added tax (VAT) exemption on copper was removed, fully integrating the sales of the copper parastatal (ZCCM) into the VAT net. Finally, plans were also announced to change the status of most agricultural goods from exempt to either fully taxable or zero-rated; possibly some essential foodstuffs (such as maize, mealy meal, etc.) have become zero rated, as the authorities and small farmers have suffered the most under the frequent droughts.

**Table 5**  
**Reform of Withholding Tax Rate in Zambia (in percent)**

	Old pre-reform	New post-reform
Rental	25	15
Public entertainment fees		
Domestic entertainers	30	10
Foreign entertainers	30	30
Management and consultancy fees		
Domestic service firms	30	10
Foreign service firms	30	30
Royalties	10	10
Interest	10	10
Contractors and suppliers	15	10
Lump sum payments	10	10
Dividends to resident companies	15	10
to resident individuals	30	10
to non-residents with no tax treaty	20	10
to non-residents with tax treaty		
Exempt amount of interest income raised	From 20,000 per year	To 72,000 per year

*Source:* Zambia authorities

Under the present conditions of reduced withhold tax rates, distributed earnings from company's ownership of a limited company are taxed twice: as tax on company income and again as tax on the distribution of dividends. This causes several serious distortions. That is why several countries are moving to eliminate the "double taxation" of dividends through measures to integrate the company tax and the individual income tax.

### **4.3 Reforms of the Value Added Tax (VAT)**

**Issues of adopting and restructuring VAT.** All African countries in the sample progressively converted their Sales Tax into standardized or generalized VAT starting the early 1990s, because it is believed that converting to VAT will make indirect taxation more effective, more buoyant, more equitable and less distortionary. The introduction of VAT has been a centrepiece of successful tax reform programmes throughout the selected African countries, because it generates a large and stable flow of revenue with a minimum of economic distortions. However, VAT is also more complicated to administer than the sales tax in the sense that it is a broad-based sales tax applying to each stage of

production, processing and distribution; that is, VAT is a “multi-stage general sales tax”, which is collected in small doses as a product moves towards its final market.

A basic attribute of VAT is the *credit mechanism*. Each VAT-registered business pays tax on the purchase of inputs and charges VAT on the sale of outputs. The business remits the amount of tax collected from customers *less* the amount of tax paid on the purchase of inputs. This credit mechanism effectively passes the tax along to the buyer and relieves the seller of any VAT, which was paid on the purchase of inputs. Ultimately, VAT is a tax on the consumer. In fact, the pre-reform sales tax incorporates an input credit mechanism, which applies only to inputs that are physically incorporated in the product. No offset is allowed for sales tax paid on the purchase of capital goods, power, supplies, or business services. Switching to VAT means extending the credit mechanism to cover all inputs, including goods. The motivation for switching to VAT can be summarized in three words: revenue, efficiency and administration.

Egypt, for example, introduced two categories of the VAT rates: the general sales tax (GST) which applies to the sale of all industrial products and its rate is 10 per cent, except for some products where the rate can go up to 25 per cent. Services are taxed at either 5 per cent or 10 per cent, depending on their types. Commodity taxes were applied on land products, excises or production taxes and consumption taxes. In February 2002, the government converted general sales tax into a proper Value Added Tax (VAT). This sales tax aimed to suppress the disadvantages of the enlarged excise system that was in practice since early 1990s, and to collect enough resources in order to fund the development plan with the minimum possible administrative burden. Hence, the government moved from an enlarged excise system to general sales tax, which was gradually converted into Value Added Taxes. The tax reform was also accompanied by administrative reform that comprised the modernization and computerization of tax administration

In Senegal, the term “Value Added” started in 1966 as turnover tax on producers and importers; in 1979 it included the public sector sales. In 1987, a general tax code aimed at changing specific duties to an ad-valorem basis, and widening the scope of the value-added tax (VAT) to trade and construction sectors was adopted. It was only in later 1991 that the VAT was generalized to services and transport sector. The rates were revised to simplify and reduce the rare structure. One VAT normal rate or regular rate was set to 20% and then reduced to 10%. After the devaluation of CFA franc in 1994, the government restored a stable tax structure and the oil price stabilization scheme (oil subsidies) was replaced by indirect tax. The scheme aimed to raise revenue from the informal sector through a levelling tax on imported goods and the introduction of a single identification number for each taxpayer and the simplification of the firm accounting. A uniform sales tax (VAT) of 18 per cent above the UEMOA convergence rate of

17 per cent was adopted in May 2001. However, tax revenue fell short of expectation due to delay in introducing the standardized VAT.

In Gabon, the VAT has theoretically allowed all “cascade effect” through the “credits” of VAT. In Kenya, VAT was introduced in 1990 to replace sales tax on the ground that VAT had a higher revenue potential and that its collection and administration were more expedient and efficient. It has also gone several steps of rationalization since 1991, moving from specific to valorem rates to broadening the VAT

In Zambia, VAT was introduced in July 1995, with a uniform basic rate of 20 per cent; the former sales tax was levied at a rate of 23 per cent. The former Sales Tax had various disadvantages (such as tax cascading and evasion), which were damaging to the economy. The majority of items were charged VAT at a standard rate of 17.5%, while certain items are zero-rated or exempt. Certain items do not have to pay VAT for specific reasons – for example there is no VAT on agricultural produce. These are zero-rated. Rural people do not have to pay VAT in the agricultural output and they can reclaim VAT that has already paid on their inputs.

The major zero rated items include: basic foods and agricultural products exports, medical supplies and drugs, and hotel accommodation in the Livingston district. Other products are exempt from VAT, which means they do not need to be charged output tax, but cannot reclaim any VAT already paid on inputs. The major items exempt from VAT include: water supply and sewerage services provided by a local authority; health supply services; educational services from nursery school to university; books and newspapers; passenger transport services by air, road, rail and boat; certain financial services; funeral services; domestic kerosene (paraffin); trade union subscriptions; mosquito nets; road construction agreements interred prior to 1 July 1995.<sup>1</sup>

In return, the VAT receipts are less affected by fiscal evasion. If one of debtors is not obliged to tax payments, the whole receipts of VAT are not lost. In effect, in that case, the taxes paid above remains to the State credit and are not reversed to the agent who supports the taxes paid on its purchases. In developing countries where the factors of evasion are multiple (exoneration systems, fraud, informal), that quality of VAT is essential to ensure the productivity of indirect taxes.

**Revenue generation issues:** Since VAT ultimately falls on consumption spending; it is a very broad-based tax. Even informal-sector operators suffer from VAT to the extent that they purchase VAT-laden business supplies and VAT-laden consumption goods. The tax base is quite stable, as well. Compared to business profits or imports, consumption spending is generally less affected by short-term fluctuations in economic conditions. By virtue of its broad and stable

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<sup>1</sup> The ZRA Advice Centre web site: [www.zra.org.zm/dtax/dtimtro](http://www.zra.org.zm/dtax/dtimtro)

tax base, a well-run VAT can generate a large and dependable revenue stream to the Treasury. Furthermore, small adjustments to the tax rate can generate large and predictable changes in revenue. Thus, for full advantage, VAT should apply to most services and to all goods except a short negative list of basic commodities chosen to minimize the burden on the poor.

**Efficiency Issues:** Every tax creates a burden, which taxpayers partially deflect by modifying their economic decisions. Such responses are distortions that reduce efficiency and productivity. Economic research demonstrates that the adverse effect on efficiency of a broad-based VAT is relatively small compared to the effect of other major taxes. One reason is that the tax falls on consumption rather than on production. Hence, VAT favours investment, production, work effort and entrepreneurship. Furthermore, if VAT is sufficiently broad-based then consumers have little scope to avoid the tax by altering their spending patterns. If they choose to avoid VAT by spending less and saving more, then the “distortion” is quite welcome for production and investment purposes.

Tax cascading creates serious distortions. For example, a 20 per cent sales tax may disguise a much higher “effective tax” on the final buyer at the end of a tax-laden chain of transaction. The effective tax rate can vary unpredictably from one product to the next depending on the extent of tax cascading. By generating the credit mechanism, a broad-based VAT eliminates most of the distortions and inequities at the sales tax. VAT also improves export competitiveness. In all countries, which apply VAT, goods and services are taxed where they are used, not where they are produced. This is called the “destination principle”. Hence, exporters qualify for a full rebate of VAT paid on input purchases. Since the VAT credit mechanism eliminates tax cascading, the rebate thoroughly cleanses any residue of sales tax paid for inputs upstream – without requiring any residue of sales tax administrative apparatus for issuing drawbacks.

**VAT administration issues:** Since VAT is essentially a broad-based, multi-stage sales tax incorporating a credit mechanism to offset tax paid on the purchase of inputs, it turns out to have advantages for tax administration. The main advantage is that the VAT mechanism creates a clear invoice trail, making it much easier to detect and deter tax evasion. By any transition, the seller can benefit by under-reporting the transaction value, but this fiddling reduces the input tax credit, which can be claimed by the buyer. These opposing interests reduce the scope for connivance to cheat the taxman. The multi-stage structure of VAT can actually induce firms to register voluntarily as taxpayers.

Consider an example of an informal sector dealer who sells supplies to a registered firm. The latter wants an invoice showing the accumulated VAT paid all along the product stream on the inputs, which is being supplied. Otherwise, the registered firm cannot claim input tax credit. The informal sector operator must register for VAT or risk losing his VAT-registered customers. If the informal sector operator chooses not to register for VAT then he cannot relief

for VAT paid on his inputs. Hence, unregistered dealers do not escape the tax altogether.

Another important administrative advantage is that VAT enables the government to relieve registered business of sales tax on capital goods and intermediate goods, while still collecting tax on the sales of these same goods when they are bought by consumers or unregistered businesses. The credit mechanism is responsible for this neat fiscal selectivity. Under VAT, everyone initially pays tax on the purchase of such goods, but only registered businesses obtain an offsetting tax credit.

**The Issues of Zero Rating:** A “zero-rate” supply is one with an effective VAT rate of 0%. The supply of the product or service is untaxed and full relief is provided to the supplier for any tax suffered on the purchase of inputs. To achieve this, zero-rated suppliers must register for VAT and file regular returns to claim refunds for VAT paid on their inputs. One essential item for zero-rating is exporting supplies. All VAT countries operate on the “destination principle” by indirect tax policy applied in the country where a good or service is used, not where it originates. The purpose is to ensure that domestically produced goods and services compete in the world markets without being encumbered by indirect taxes. This principle applies also to goods removed by tourists and other short-term visitors. It also includes the supply of basic goods such as unprocessed farm products in order to protect the poor who most often use these goods. In Zambia, for example, the list of zero-ratings includes exports and supplies to diplomatic corps, specific inputs to farming, specific input to rail and air transport, specified inputs and veterinary inputs.

The consumption-type VAT is introduced with a zero ratings for export and some agricultural products, food, and medical supplies and drugs. Currently it includes livestock for human consumption, animal and dairy products, fish, pesticides and fertilizers, and services like accommodation of hotels. The reason is to ensure a broad base and to simplify tax administration. The revenue forgone from zero rating products which could have been taxed or expected is substantial. Table 6 gives an example for Zambia.

**Table 6**  
**Forgone Output VAT Revenue due to Zero Rating in Zambia (2000)**

	Billions of Kwacha
Mining and quarrying	276.6
Agriculture, forest and fishing	69.4
International Cargo & Communications	61.9
Food, drink and grain products	39.1
Retail trade	32.0
Wholesale trade	31.8
Textiles	17.9
Insurances, real estates & business services	11.7
Metal products	11.0
Others	40.4
<b>Total</b>	<b>593.7</b>

*Source:* Zambia authorities

**The Issues of Registration Threshold:** The number of registered VAT payers may be more than twice that appropriate for adequate administration for three reasons: the threshold is now about one fourth the level designed for the tax; conditions for registration by businesses below the threshold were relaxed to encourage them to register; finally zero rating was extended beyond exports. The situation in many African countries is worse. Those below the threshold contribute negligible amounts of revenue, mainly because many of them are selling zero-rated products, only 23 per cent of all registered VAT payers actually account for 97 percent of VAT collected. The existence of large register, with more than half of taxpayers below the threshold, has opened great opportunities to file for fraudulent refunds. Thus, the size of VAT register is too large and imposes an unnecessary burden on VAT administration, and there inhibits revenue growth. Thus, the return to the original threshold and the imposition of strict conditions for voluntary registration would improve VAT administration substantially and boost revenue in the short and medium terms.

**Table 7**  
**Comparable VAT Thresholds in Selected African countries in 2000-2001**

	Gabon	Kenya	Zambia
Small business threshold goods (annual turnover)	400,000	45,000	8,000
Small business threshold services (Annual turnover)	400,000	45,000	8,000
Number of registered taxpayers	550	19,000	9,947

*Source:* Official data

**Issues of VAT exemptions:** In reality, many African countries lack the administrative capacity to handle a large volume of returns and refunds for zero-rated transactions. Multiple rates are also too cumbersome to administer. Hence, exemptions are widely granted as a matter of administrative expediency. Hence, all countries exempt small businesses from compulsory VAT registration. Setting the threshold high typically cuts the administrative paper work dramatically while reducing revenue only slightly.

International best practice suggests that water and sewerage services, books, and newspapers and domestic transportation of persons by air, rail, or boat should be taxed, and all other should be exempted. However, the list of exemptions is of limited economic significance, except for financial and insurance services. The exemption is not really binding, as VAT paid by the companies, which use these services, captures non-financial services at a subsequent stage. Input tax on the cars, petrol, and telephone services are not deducted under VAT. Non-traditional exporters have expressed concerns that the failure to deduct telephone services is detrimental to them because the communication with the rest of the world. The supplies of medical and veterinary services, public transportation services, banking and insurance services are exempted because the output and input values are difficult to measure. Petroleum products supplies, housing services are exempted. Each country makes up its appropriate lists of exemptions.

The move to VAT and the move to computerized tax administration both dictate using a unified commodity code for customs and sales tax. Therefore, the domestic sales tax schedule must be converted to HS code, applying equally to imports and to comparable domestic products

**VAT Rebuttals:** The most common criticism is that VAT in African countries is too complicated. It requires regular returns from a large number of firms, but the advantage in terms of revenue, efficiency, and administrative effectiveness offset this compliance cost. A second common criticism is that VAT is regressive, because it taxes consumption. Exempting or “zero-rating” certain essentials, which represent a large share of total consumption by poor families, easily overcomes this problem. The most important example is unprocessed foods. The burden of VAT on the poor is also mitigated, as poor families are more likely to produce their necessities at home. Also, they are merely to patronize small-scale enterprises, which are not VAT-registered. Combined with excise on several luxury goods, a VAT-based consumption tax need not be regressive. A third concern is that introducing VAT causes inflation. When VAT is introduced into an economy with no existing sales tax, then there is some truth to this charge. But when VAT replaces an existing sales tax – like in sample countries – it can just as well cause prices to drop by eliminating tax cascading. Fourthly, it is necessary that broadening tax credit will requires as well broadening the sales tax base simultaneously.

#### **4.4 Reforms of turnover and excise taxes**

**The issues of restructuring:** In several African countries, propositions are made for excise taxes to compensate for revenue losses from other elements in the pre-reform programmes, for as revenue balancers, the excise measures have a distinct advantage of being effective, fair, simple to administer, and economic efficient. The deal here is switching from high customs duty to high excise in order to broaden both domestic output and imports and maintain the rate of excise taxes higher up to 100 per cent. This concerns most the wines and spirits. Imposing a high excise duty on these products is progressive in its equity effects, since these products are consumed by higher income groups of individuals. It is also viewed as an indirect charge on alcohol consumers to underwrite the cost of medical care required by victims of alcohol abuse, including victims of traffic accidents.

The general principle for excise tax reform is one which (i) has few domestic production points, to keep tax administration simple; (ii) is not consumed heavily by poor households, to ensure fairness; (iii) is used primarily for consumption rather than production to minimize economic distortions; and (iv) has high total sales value, to generate an ample flow of revenue. This principle is mostly applied to saloon vehicles, which differentiate between large-engine cars (higher duty) and small engine cars (low duty) as a matter of equity, since wealthier consumers use larger cars. Another reason is to encourage the use of more fuel-efficient vehicles. A higher fuel tax serve also as a road user fee and as an indirect levy on air pollution and will discourage wasteful uses of valuable energy products. This will enhance efficiency, while generating large revenues.

In Egypt, capital gains are included in taxable income. Foreign dividends are subjected to a withholding tax at the rate of 32 per cent while dividends paid by an Egyptian company are not. Business turnover taxes in Senegal are said cumulative in the sense where they hit each transaction made in the economy. The advantage is that they are relatively simple to administer given the elementary character of the computation. However, these taxes can have an incidence on the production decision. In effect, the charge of taxes on business turnover comprise in a good differs according to the number of steps made in the production process of that good. There exists indeed a "cascade effect", for at each step of production of a product, the latter is again taxed. The pressure rate supported by a product is thus function of number of necessary steps above its production. The taxes on business turnover can then incite the enterprises to favour the short circuits of production with the aim of creating an advantage on price. The taxes on business turnover go thus to the detriment of the "lemma of productive efficiency" of Diamond and Mirrlees [1971]. These taxes are not "neutral" [Zee, 1995].

In Gabon, the excise duties are in general one "single tax" charged once in stage determined by the production or commercialisation of product. Most often the appropriation is realised either at the final consumption stage (retail sales or wholesale).<sup>2</sup> The advantage of the system is that it does not lead by definition to cascade neither effects, nor input taxation if the tax levied on the final consumption products. The inconvenient of tax is that it resists badly to fraud: all the diffidence of debtor leads to the lost of tax integrity.

The theoretical qualities of VAT appear more clearly when compared to the taxes for which it did substitute. In effect, the VAT has been generally introduced in replacement of taxes on the turnover and excise duties. Likewise, the reinforcement of VAT has most often accompanied the custom reforms, hence allowing substituting a domestic taxation with the taxation on external trade.

In Kenya, excise duties are charged on a limited range of goods imported or produced in Kenya. These include tobacco products, alcohol beverages, soft drink, petrol, automotive diesel and large passenger cars, beer, matches, spirits, wines, mineral water and biscuits. The rates vary for different product. All resident companies are subject to tax on their incomes at the rate of 30%. Branches of non-resident companies pay tax at the rate of 37.5%. Taxable income is generally defined to be income sourced in or from Kenya. Companies newly listed at the Nairobi Stock Exchange (NSE) are taxed at 27% for a period of three years following the date of listing. Companies residing in the country are subjected to a tax on profits at the rate of 40 per cent. This rate has been reduced to 32 per cent for industrial companies and profits made through export operations.

Dividends distributed to residents and non-residents are subject to a final withholding tax at the rate of 5%. They are not subject to any further tax in the hands of the recipients. Dividends not distributed out of after tax profits are subject to a compensating tax at the company tax rate. Dividends received by financial institutions as trading income are not subject to tax. Corresponding expenses are not tax deductible.

Like most other countries, Zambia imposes excises on a limited set of commodities such as soft drinks, cigarettes and tobacco, opaque beer, clear beer, and hydrocarbon oil, electricity. Cars and hotel accommodation are excluded. Table 9 compares excise taxes in Kenya and Zambia.

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<sup>2</sup> The multitude of small retail commerce privileged the tax appropriation at the wholesale trade, reducing hence the collection and control costs.

**Table 8**  
**Excise Taxes in Kenya and Zambia (Per cent)**

Items	Kenya	Zambia
Soft drinks	10	10
Opaque beer	10	35
Clear beer	105	85
Wine and Vermouth	45	125
Spirits	45	125
Cigarettes and tobacco	30,125,or 140	125
Gasoline		60
Other hydrocarbon oils		15,30,60
Petroleum		30
Electricity	10	7
Clothings	10	
Automobile	20 or 40	

*Source:* Official figures

#### **4.5 Reforms of international trade tax**

**Issues of import-tax reforms:** While liberalization of the African economies over the past decade has reduced the anti-export bias and encouraged the development and growth of non-traditional exports, the current tariff structure of most African countries is still high, with widely dispersed rates. As a result, effective protection is still high, impeding further development and growth of exports. It is not promoting efficient development of the economy. The tariff reform involved eliminating the non-tariff barrier (NTB) and reducing red tape and customs duties. Another issue is the more or less arbitrary classification of goods into categories of raw materials, intermediate, and finished products. Since the same good can be classified as a raw material to one producer and a finished product to another, protecting the latter with say the 25 per cent rate automatically discriminating against the former. To address these issues the wide dispersion of tariff rates should be reduced, the ultimate goal being to lower and make it broadly based uniform tariff. Another area of concern is the limited use by exporters of the duty drawback scheme.

Several African countries have abolished import licence levy and import uplift because they served to compound the multiplicity of taxes. But this had a drawback of loss of revenue. Others have put up a package of investment tax incentives by offering attractive tax concessions to investors. The aim was that by offering duty-free and tax-free access to capital can stimulate investment by

increasing after-tax profits. However, such front-end tax concessions also created serious distortions, namely: favouring new producer over existing businesses; favouring short-term over long-term investment; favouring capital-intensive projects over projects which use locally produced capital goods favouring new production facilities over proper maintenance of existing ones; requiring higher-than necessary taxes elsewhere in the system to compensate for the lost revenues; underwriting investment which cannot stand on their own merit in the absence of special tax breaks. There are equally serious administrative problems under the incentive package, namely no adequate control of tax-free entrée, confusion about investment licence documentation, etc. But also denying tax incentives will send the wrong signal to investors about policy consistency.

Together with dropping the import licence levy and the import sales tax uplift, African countries are attempting to restructure the customs duties in order to reduce the effective import tax on all dutiable goods.<sup>3</sup> While the reforms recommended the reduction of effective import tax, the remaining wall of protection still remained quite high, because the high rates of effective nurture highly inefficient and non-competitive production. In some countries, the government has subjected domestic producers to more competition, and abandoned their protection. Zero-duty imports have been restricted to a limited number of items including petroleum, fertilizer, medical supplies, certain safety equipment, and products used for the handicapped.

For example, Egypt applies the harmonized customs system in which customs duties are calculated ad valorem on the CIF value. Since the beginning of the 1990s, Egypt liberalized its foreign markets. There is no licensing system even though the import of certain products requires introductory authorization from the Ministry of Foreign Trade. However, one main difficulty in importing lies in the obligation to send the goods directly from their country of origin, therefore preventing the goods to be grouped together, except for the companies possessing subsidiaries in some other countries. Some products are still prohibited namely the textile products, poultry, and motorcars.

The minimum rate of the custom duty is 40 per cent, but there are nevertheless much higher rates, which apply to goods that were formerly forbidden to import (70 per cent of the poultry, from 600 per cent to 300 per cent for the alcohol, and 54 per cent for the textile). It added the following taxes to the custom duty on the entrance taxation: (i) 2 per cent of the custom cleared value for the custom excess load, if the applied duty is between 5 per cent and 30 per cent and 3 per cent if duty exceeds 30 per cent; (ii) For sales tax (equivalent to the VAT), the rate varies from 5 per cent to 30 per cent on the customs cleared value of the goods; (iii) an excise duty is also levied on alcoholic drinks and coffee, with a supplementary tax collected on brandy, cognac, gin and whiskey. There are no

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<sup>3</sup> The "effective import tax" is the total combined tax on imports, excluding taxes which apply irrespective of whether the good is imported or produced domestically.

exchange controls in Egypt, but it is compulsory to detain 100 per cent of the amount credited in the bank to be able to open a documentary credit.

In Senegal, reforms extended to foreign trade taxation through simplification of the tariff structure and lifting of quantitative restrictions. The custom duties are imposed on imported goods, which are taxed, and they are small taxes levied on exports. The tax rate applied to most of the products is 10 per cent; however, luxury goods are subjected to 50 per cent excise duty. The main objective of the reforms was to reduce or harmonize the excessive effective tariff protection and consolidate the tariff structure within a limited band consisting of four customs duty rates. In so doing the government decided to freeze the number of products subject to quotas, to eliminate quantitative restrictions for a list of goods not produced in Senegal and for categories of goods of one sub-sector, reducing import duties for 15 groups of products from 90% to 65%, and to strengthen the export subsidy and drawback schemes, thus ensuring equivalent incentives across manufacturing sectors. The government decided also to eliminate most of Quantitative Restrictions (QRs) as well as reference prices (*valeurs mercuriales*), except in cases where under-invoicing or dumping practices were commonly observed. It narrowed further the tariff rates band and strengthened the key institutions dealing with industrial exports through the restructuring of the export insurance agency and the center for external trade.

If the application of domestic taxes and the custom tariffs creates a distortion in the choice of consumer, for they make vary the relative prices, these do not in revenge react on the production. The custom tariffs are less efficient so far as they create a supplementary distortion on the choices of the producer. In effect, the custom tariffs modify the relative prices between the imports and domestic prices and allow hence for producers of protected sectors to increase their prices. A reallocation of factors of production between the sectors takes place in favour of the protected sectors. The rate of technical substitution (RTS) is modified by the ratio of those of equilibrium without taxes, leading hence to the theoretical efficiency in the market. The efficiency of production plans is not assured, which implies that the optimal scheme of the system of taxation à la Diamond – Mirrlees [1971] does not prevail.

The removal of QRs was not followed immediately by high tariffs, because the protection level in Senegal was very high and its further increase will create the situation of fraud. This means that the sequencing and the pace of trade reforms were less than optimal. The short period of implementation did not allow firms to restructure their enterprises, rehabilitate, and train the staff in the face of stiff external competition. Likewise, the industrial reform called for the reduction of cost of production through the liberalization of the labour market, the reduction of energy costs and the improvement of regulatory environment. Those issues were difficult to address properly. The open-up of the economy made the industrial sector face stiff competition over a rather short period from the

imported goods, resulting in the decline in production, particularly light manufacturing such as textile, shoes, batteries and matches.

The Senegalese government later on reversed its protection policy by raising customs tariffs from 10% to 15% partly to restore protection for those sector threaten by external competition and partly to increase tax revenue. The difficulties arose because of trade liberalisation. The manipulation of tariff rates for the purpose of revenue mobilisation and protection reverses most of the tariff reforms achieved between 1985 and 1988.

The industrial free trade zone of Dakar has been implemented in order to encourage foreign investors to seek to expand export products. Particular regimes are applicable to small and medium-sized companies of technological innovation as well as those that utilize domestic resources. The Senegal is supposed to provide assistance and support to foreign investors. Private Limited Companies and Public Limited Companies are two most current corporate forms in Senegal.

In Kenya, custom duties are charged on most goods imported in the country, which include health care products, books, aircraft, major agricultural inputs and certain foodstuffs. Duty rates on all other goods range from 5 to 45 per cent while those of most capital equipment and raw materials are in the range of 5 per cent to 20 per cent. Imports in excess of FOB value of US\$ 500 are subjected to pre-shipment inspection requirements. Duties on capital goods, plant and machinery whose value is not less than Kshs 10 million can be remitted where the investment is expected to have net foreign exchange earnings or savings for Kenya. Imported plant, machinery and equipment of CIF value not exceeding KSh 50 million intended for industries located outside major towns are charged custom duties at a lower rate of 10 per cent. A 50 per cent remission of duties and tax is granted to such industries established within designated boundaries of Nairobi, Mombasa and other urban centers.

A company licensed to do business in export processing zone (EPZ) in Kenya receives a number of special tax privileges: 10 year tax holiday and a flat 25 per cent tax for the next 10 years, 100 per cent investment allowances. Exemption is made for dividends and other payments to non-residents during the first 10 years, from import duties stamp duty, VAT.

Zambia's example is also useful on it is possible to manage the revenue impact of tariff reform within a framework of overall taxation reform. In early 1990s Zambia moved to a market determined exchange rate, eliminated most non-tariff import barriers and began rationalizing tariff. The maximum tariff was reduced to 40 per cent and the minimum tariff was increased to 20 per cent. In spite of this reform, however, trade policies still made it difficult for non-traditional exporters and for many import competing enterprises to be competitive.

The fact that many materials, capital goods and intermediate goods, faced customs duties of 20 to 30 per cent made it difficult for exporters that use a large amount of imported materials or intermediate goods to be competitive as the export duty drawback system did not generally provide effective relief. At the same time, many import substituting activities faced difficulties as they had lower nominal protection on their outputs than the customs duty rates to exemptions on selected tariff rates, smuggling, and the preferential tariff rates (at most 40 per cent of the general tariff rates) on imports from member states of COMESA. Finally, weak tax administration and the existence of smuggling meant actual duties were often very different from listed ones, while continued pressure for additional exemptions was eroding revenue further.

Ad valorem customs tariffs are applied on the value of imports (including the cost of insurance and freight – the CIF value) at 0%, 5%, 15% or 25% on all goods imported into the country. The only exception is goods originating in the COMESA countries, which are duty free on a reciprocal basis. In 1996, Zambia adopted an integrated package of customs duty reductions and removal of most exemptions to address the issues listed above. This package was the result of a review by policy makers in collaboration with the private sector, tax administrations, World Bank and IMF staff.

The design of reform took into account political economy considerations, revenue impact and administrative feasibility. The main feature of reform was to lower customs tariff rates on most of goods by 15 percentage points. This resulted in a moderately cascading tariff structure ranging from 0 to 5 per cent for most of the goods and basic materials, 15 per cent for most of capital goods, and 25 per cent for final products. A key expected impact of these reforms is to strengthen export competitiveness by providing access to inputs at near world market prices without recourse to duty drawbacks. These reforms go a long way in addressing the problems listed above. Nevertheless, some manufactures may still express some difficulties with respect to the classification of imported products into the various import categories associated with the new tariff structure.

The Zambian authorities also considered the alternative of a uniform customs duty, but decided in favour of a moderately cascading structure for several reasons. A uniform customs duty that was low enough to resist pressures for widespread exemptions would not have yielded sufficient revenues. On the other hand, a uniform tariff of about 15 per cent, which would have yielded sufficient revenue, would effectively have become two-tiered cascading structures with the inevitable exemptions (i.e. zero rate for exempted items and 15 per cent for non-exempted goods). Moreover, exporters would still not have been able to get relief, and import substitution activities that face competition from COMESA-sourced, duty exempt, or smuggled goods would also still be at a disadvantage.

Parallel, the authorities have also undertaken a full review of customs duty exemptions with the view to removing as many exemptions as possible without

violating international agreements. As a result, the Government will pay duty on its imports, there will be no more investment exemptions (and existing ones will be allowed to lapse), goods imported by returning residents will not be exempt unless they have been abroad for 5 years (and cars will not be exempt even then), duty exempt cars (e.g. from diplomats) will not be resold to no-exempt persons for five years without paying duty, and charities will pay duty and get a refund (t contain abuse). Custom duty exemptions and refunds are limited to exporters, miners, firms that can prove damage from tariff anomalies, and approved providers of health, education, and humanitarian services.

Finally, with the exception of the temporary 5 per cent import declaration fee, all other duties and charges on imports have been integrated in the customs tariff structure, in line with the principles endorsed under CDI. The following table summarizes the status of trade policy in Zambia before and after the 1996 reforms. Aside from the tariff reform, the 1996 budget also included other important changes in the overall taxation structure. A personal income tax rates were decreased by 5 per cent points (from 15 per cent, 25 per cent and 35 per cent to 10 per cent, 20 per cent and 30 per cent, respectively), while the base was expanded through the inclusion of most previously untaxed fringe benefits. Furthermore, tax brackets were adjusted to minimize bracket creep, due to the continuing high inflation.

**Table 9**  
**Zambia's Customs Duties Before and After the 1996 Reforms**

	Pre-1996 Reforms (percentage)	Post 1996 Reforms (percentage)
Materials	0 or 20	0 – 5
Capital goods	20	0
Intermediates	30	15
Finished goods	40	25
Import declaration Fee *	5	5
COMESA customs duty	Up to 40% the corresponding general rate	40% of the corresponding general rate
<b>EXEMPTIONS</b>		
Exporters	Yes but difficult	Difficult but less important
Approved investments	Yes	No
Government	Yes	No
Education and health care providers	Yes	Refund for approved providers
NGOs		Refund for those approved
Sales by diplomatic personnel	Exempt, could resell duty free after 2 years	Exempt; can resell duty free after 5 years
New and returning residents	Yes after 1 year abroad	Yes after 5 years; car not exempt at all
Ad hoc exempts for selected firms	Yes	No
Firms facing proven tariff anomalies	Yes	Yes
Registered miners	Yes	Yes

*Source:* <http://www.afdb.org/cbi/hetzamb.html>

The revenue of comprehensive tariff and taxation reform package briefly described above is difficult to gauge, but preliminary evidence suggests that the package can be considered revenue neutral in the medium term. The import declaration fee is a temporary measure, which the authorities adopted for revenue reasons. The fee is expected to be abolished in the near future; the difference between the lowest and the highest tariff rates in the Zambia case is 25 percentage points, which is larger than the guideline under the proposed HET (20 percentage points which was endorsed at the endorsed at the third meeting of the TWGs). Revenue considerations explain the divergence in the case of Zambia. It is hoped that in the near future it would be possible for Zambia to move to a structure that would narrow the difference between the highest and the lowest rates to within the guidelines range.

The tariff exemptions may not cause significant inefficiencies or revenue losses; But the exemption granted by special agreements are a matter of serious concern. Under the current import structure of African countries, with 0 percent rate for most equipment and raw materials, the agreement do not really have a significant revenue impact, but they will if the 0 percent rate is raised to 5 percent for example,

**Export tax.** Several mining countries have established export tax on minerals in pre-reform period. Subsequently, after the reform, the export tax rate was reduced substantially for example for Zambia from 20 per cent to 5 per cent. It was found that this tax does not generate revenue, yet it serves as a deterrent to development of legal mineral export industry. Thus, exports should not be subject to tax.

**Sub-regional Trade agreements:** Most of African countries belong to various sub-regional organizations dealing with trade and integration, such as Common Market for Eastern and Southern Africa (COMESA), Southern African Development Community (SADC), UMOA, ECOWAS, ECCAS, etc. These organizations have a programme of gradually reducing their import tariffs for trade within COMESA and eventually will reach a point where the tariffs are eliminated for trade with the sub-region. The principle of reciprocity as provided for in these organizations Treaties advocates that all the member countries forgo custom duties and equivalent taxes. The issue is that these trade agreements encourage competition and increase the volume of trade among member countries. However, this increase in trade comprises newly created trade for the countries and trade diverted from the rest of the world.

Newly created sub-regional trade is always beneficial to a country and should be encouraged. On the other hand, the replacement of trade with the rest of the world by trade among member countries may involve the replacement of a less expensive source of supply with more expensive one, simply because the former is made artificially expensive by the tariff. This kind of increased trade among member countries may not be welfare enhancing but it is a largely unavoidable

by-product of tariff agreements. Since duty-free trade replaces trade with the rest of the world, subject to tariffs, there will be a loss of government revenue.

Egypt is presently in the process of discussion for the creation of an Arabic Common market for suppression of custom duty within the framework of the Arabic League.

The Senegalese authorities took decisive steps to implement the West African Economic and Monetary Union's Common External Tariff (CET),<sup>4</sup> which will involve a substantial reduction in average import duties. A 1 percent "statistical fee" was adopted to replace the rate previously set at 5 per cent customs stamp tax. The short-term revenue losses from the tariff reform will be compensated over time by measures to broaden the tax base, drastically reduce exemptions, and improve the efficiency of the tax system. On the expenditure side, the government maintained a policy of strong financial discipline, while reordering priorities in favor of social services and the investment program. Monetary policy is designed to support the external sector and achieve the program's inflation objectives.

The CET defines four product categories with different rates. Zero rate for category 1 comprising social, cultural, scientific goods, agricultural inputs, capital goods and computer and data-processing equipment available through local production; five per cent for category 2 including raw materials, crude oil, cereals for industries; 10 per cent for category 3 including semi-finished products, intermediate goods, other cereals, diesel and fuel oil; and 20 per cent rate for finished goods, capital goods and computer and data-processing equipment already available through local production, new and used vehicles, etc. This CET implementation resulted in 8 per cent revenue losses for the government. That is why the government launched a heavy programme of fiscal reform designed to compensate this losses of revenue, by broadening the tax base, strengthening tax collection efforts and reducing dependence on trade taxes.

In Gabon, according to the customs, all articles can be freely imported and the number limits on some articles have been abandoned. The customs uses single taxation standard over all imported commodities and within time limits will abolish tax reduction and exemption under special items. On the basis of Central African economic community, Gabon exerts favourable taxation on trade between Central African Custom tariff and economic leagues. Taxes are relieved on imported products. It's difficult to apply for mining, fishing and opening pharmacy in Gabon. Authorities concerned are very critical in review and rectification. Import license for medicine and fish are not easily obtained in Gabon.

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<sup>4</sup> The UEMOA comprising of Senegal, Mali, Benin, Cote d'Ivoire, Togo, Niger, Burkina Faso and Guinea-Bissau has been operational since January 10, 1994. But the Common External Tariff (CET) was adopted six years later in January 1, 2000.

Zambia is a member of the Common Market for Eastern and Southern Africa (COMESA) and of the Southern African Development Community (SADC). COMESA promised a free trade among countries and Zambia has already formed a free trade area (FTA), by gradually reducing its import tariffs for intra-COMESA trade. By application of the principle of reciprocity, all COMESA countries, which are already in the FTA, forgo custom duties and all equivalent taxes. Zambia is also implementing the SADC trade protocol, which envisages the elimination of barriers to trade (both tariff and non-tariff barriers) within eight years from January 2000.

Regardless of whether these trade agreements are welfare enhancing for Zambia, it is certain that individual producers and consumers might not all enjoy equal benefits. Some may benefit more than others and some may lose, as competition from other member countries drives down the prices at which they can sell their products in the country. The respective governments should be prepared to face opposition and petitions for special treatment from those who stand to lose from trade agreements. Some cases have already emerged from local producers who cannot obtain important inputs free of duty from South Africa, while they face competition from Zimbabwean producers whose products enter Zambia free of duty.

#### **4.6 Administrative reforms**

**The issue of administrative and compliance costs:** Taxes are most easily administered if their base can be easily identified without being misrepresented either by the taxpayer or the administrator and on which the rate is easily determined. At one administrative extreme is a poll tax under which taxes are levied at a fixed rate per person per period. At the other extreme are taxes such as the VAT and, even more complex, the income tax, whose bases, often burdened with special concessions and exemptions are impossible to compute accurately without the use of formal accounts.

In the selected countries, the formal empirical study of administrative and compliance burdens due to tax structure are, however, as yet limited. However, Zambia made amendments in the existing tax legislation to update, strengthen and remove ambiguities in certain sections of law, in particular the customs and excise Act, Income Tax Act, and Value Added Tax Act. Some parts of these Acts have been amended over time by a series of statutory instruments, which makes them difficult to track. The taxpayer compliance costs are likely to be substantial and many times larger than the costs of administering taxes.

Kenya's tax ratio to GDP is higher than that for other selected countries. However, its tax regime remains complex and cumbersome making it costly for people to do business in the country. There exist uneven and unfair taxes, a narrow tax base with very high rates and rate dispersions with respect to trade,

and low compliance. To deepen the tax reform and broaden the tax base, the government took the following steps to improve the tax administration: (i) removal of suspended import duties and all remaining discretionary duty exemptions in order to reduce the scope for tax evasion; (ii) consolidation of all tax collections through the Kenya Revenue Authority (KRA) by optimally using the PIN and VAT registration systems; (iii) expansion of the tax base, particularly to target the informal sector in order to create space for the government to reduce some of the tax rates; (iv) harmonization of Kenya's tax regime to bring it in line with those for other members of the East African Community; and, (v) rationalisation of personal income tax by raising tax threshold and reducing the number of tax brackets.<sup>5</sup>

Furthermore, steps have been taken in the selected countries to modernise tax administration infrastructure in order to strengthen its capacity to effectively enforce tax collection. Efforts were made to improve administrative efficiency and ensure greater compliance and collection of tax arrears. Consequently, this will induce the compliance costs of business to progressively fall down.

**Issue of the Refunds of Tax:** In several countries, all tax revenue is surrendered to the central government account. The provincial governments and the specialized public institutions have to seek new funding from the Ministry of finance not only for its administrative expenditure, but also to finance any refunds of tax due under the law. Consequently the latter have persistently found themselves short of funds to meet their obligations to pay refunds promptly, within specified time, say 30 days.

The general international practice in government accounting distinguishes clearly between a) the administration expenditure of a revenue authority, which is funded, like any other government expenditure, out of general government funds appropriated by parliament for that purpose and controlled by the Finance Minister; b) refund of tax, which are not "expenditure" by the revenue authority, but an integral element in the collection form of the taxpayers for their correct tax liabilities (net). The revenue authority accordingly accounts these as offsets against the gross tax revenue before they enter into general government funds.

**Audit Programme:** The tax reform should be able to develop and implement a selective, well-targeted audit programme, which is more highly cost effective. The objective would be to identify and bring to account both taxpayers who are not currently registered with the taxation office and taxpayers who are registered but have not disclosed their full sales and income.

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<sup>5</sup> The Government of Kenya, *Economic Recovery Strategy for Wealth and Employment Creation, 2003-2007*, June 2003.

## 5. Graphic presentation of incidence of tax reforms

The assignment of tax burden between consumers and producers is very important component of tax reforms arguing for decentralization, for certain taxes may or may not be suited to be collected in decentralized environment, while others will be more suited. This is particularly complicated in developing countries where democratic institutions are still weak and fragile. The lack of detailed microeconomic data in selected African countries prevents us to present the economic incidence of tax reforms graphically for each country. But the incidence effects are shown here on the theoretical grounds

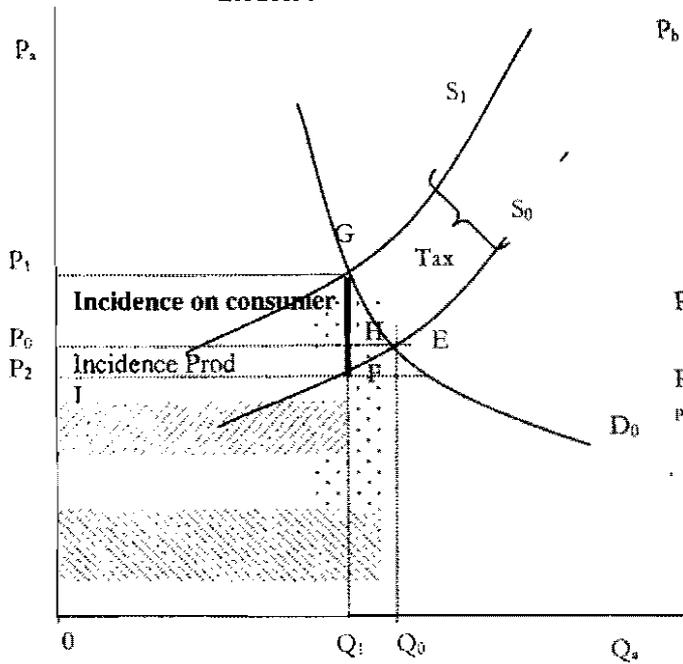
Suppose the situation of partial equilibrium where the demand for goods or commodity does not depend on the price of other goods. The problem of incidence deals with the question of who bears the burden of tax and who benefits from the subsidy. Graphically, the fallacy that the producer can simply shifting the burden of tax by charging it to consumer price can be exposed with the help of supply and demand curves as can be seen from Fig. 1. We can draw a demand curve  $DD'$  (fig. 1) where we assume that the producer prices are fixed, so that the effect of a tax is to raise the price faced by the consumer from  $p$  to  $(p+t)$ .

The supply curve is the aggregate MC curve and the producer tends to operate in the neighbourhood of the point of intersection of the price and the MC curve. The new market price is  $P_1$ , the new price, less tax, received by producers is  $P_2$ , and the quantity produced is  $Q_1$ , which is the aggregate production of all firms. Each firm now maximizes its profit by producing a quantity as indicated by the new price  $P_1$  and by the new higher MC curve. The tax is equal to segment  $FG$ .

The burden of tax is divided between consumers and producers as follows: Consumers pay a price  $P_1$  that is by  $HG$  higher than the original price  $P_0$ . Producers receive a price after tax  $FH$ . Thus, the incidence of tax is  $HG/T$  on consumers and  $HF/T$  on producers. The so-called **dead weight** is measured by the triangle  $GHE$ . This means that the sum of benefits to the consumers as measured by the consumer surplus is equal to the government as measured by tax revenue, and to producers as measured by profits. If profits are driven to zero by competition, then only consumer surplus and government revenue remain. The government revenue is given by the rectangle  $p_1p_2FG$ . Consumer surplus is the triangle above  $p_1G$  and the net loss is  $GHE$ .

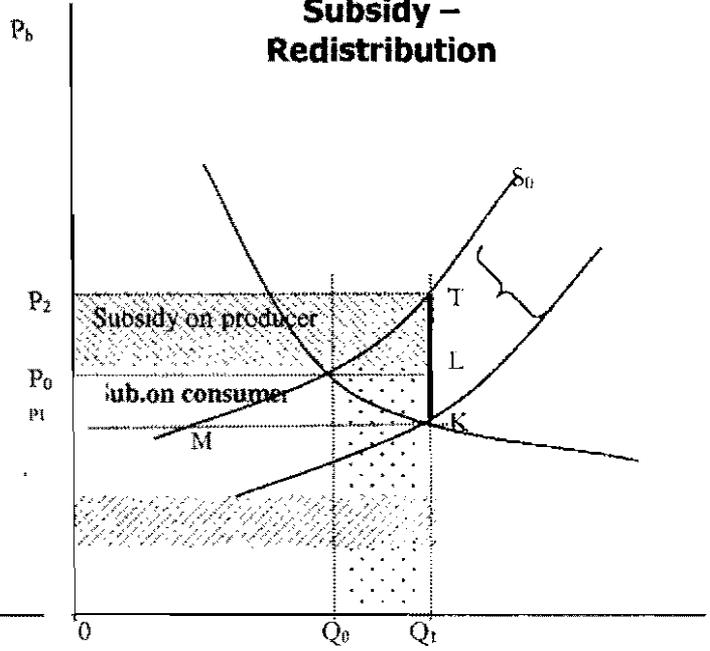
**Fig 1**

**Incidence**



**Fig 2**

**Subsidy – Redistribution**



If  $q$  is the consumer price,  $q - t$  is the producer price, and  $D(q)$  and  $S(q - t)$  the demand and supply functions, the effects of taxes on prices can be calculated by differentiating the equilibrium (partial) condition as follows:

$$D(q) = S(q - t)$$

$$Dq/dt = \frac{\eta}{\eta + \epsilon p/q}$$

$$= \frac{d}{dt} (q - t) = \frac{-\epsilon}{\epsilon + q \eta/p}$$

where  $\eta$  is the elasticity of supply and  $\epsilon$  is the elasticity of demand, both defined as positive numbers. The rise (per unit tax) in consumer price plus the fall in producer price is one. For small taxes,  $q/p = 1$ , and the proportion that is shifted to consumers becomes  $\eta / (\epsilon + \eta)$ .

For practical demonstration, consider the  $S_0$  in Fig. 1 included between points E and F, and the part of  $D_0$  included between points G and E as sprightliness. Let the slope of  $D_0$  (Derivatives) be denoted by "d" and the slope of  $S_0$  be denoted by "s". Then we have:

$$(1) \quad d = GH/HE \quad s = FH/HE$$

The incidence of tax on the consumer is

$$(2) \quad HG/T = HG/GF = HG/[HG + FH]$$

Dividing the denominator and numerator by HE we obtain

$$(3) \quad HG/GF = \left\{ \frac{GH/HE}{HG/HE + FH/HE} \right\} = \frac{-d}{-d + s} = \frac{d}{d - s}$$

Using the same procedure, in the case of a subsidy or redistribution as shown in Fig. 2, consumers pay a price  $P_1$  that is LK dollars lower than the original price  $P_0$ . Producers get a price  $P_2$ , which is LM higher than the original price. The subsidy itself is T, which is equal to KM. Accordingly, the incidence of the subsidy or redistribution, is LM/T on producer and LK/T on consumers.

we can prove for the subsidy or redistribution that

$$(4) \quad \frac{FH}{T} = \frac{s}{d + s}$$

Thus in this case of small taxes, both the consumers and the producers bear the burden of the tax. If the supply curve is highly elastic approaching to infinite and  $HG/T$  approaching to one, the entire burden of the tax is borne by the consumers. On the other hand, if the demand curve is highly elastic approaching infinity and  $HG/T$  approaching to zero, the entire burden is borne by the producers.

Another consideration to bear in mind, particularly for excise taxes, two cases may occur when the demand curve is inelastic, the consumers may avoid paying tax by diverting their purchasing power away from the taxed products (say cigarette and gasoline) to other products and this is called *demand-absorbing taxes*. Likewise, if the demand is highly elastic the consumers may avoid paying a part of tax by shifting purchasing power away from the taxed commodity (alcoholic beverages) to other goods and this is called *demand-shifting taxes*.

Thus the Ramsey optimal tax theory [1927] raised the issues of taxing the consumer through the taxation of commodities consumed in such a way as to minimize the lost in utility arising from taxation. Consumers were treated identically. In this case one has a simple efficiency problem while the distributional aspect (equity) is ignored. This theory needs to be modified in order to include the main features of developing countries who are concerned not only with efficiency but also with equity problems.

## 6. The empirical tax revenue model

The single equation empirical tax model hypothesized that in selected African countries the tax ratio to GDP is more dependent on the external trade variables than on the domestic ones. The international trade variables include import duties and the external debt ratio. The domestic variable is represented by the ratio of agricultural output to GDP. The agricultural output still plays an important role in the African economies. GDP per capita and the ratio of investment to GDP were initially included as domestic determinants of tax ratio, but they turned out to be insignificant and were dropped from the model. The model is specified as follows:

$$(5) \quad \ln(T/GDP) = a_0 + a_1 \ln(A/GDP) + a_2 \ln(M/GDP) + a_3 \ln(D/GDP) + u$$

where  $a_1 < 0$  and  $a_2 < 0$  and  $a_3 > 0$ .

Meaning that the tax to GDP ratio is negatively related to the ratio agricultural output to GDP, positively related to the import ratio to GDP and external debt to GDP; where T/GDP is the ratio of tax revenue to GDP, A/GDP is the ratio of agriculture to GDP; Import/GDP and D/GDP are the ratios of import and of external debt to GDP, respectively.

The rationale is that most the public activities in developing countries operate in the urban centers rather than in the rural areas. The greater the share of agricultural output in GDP, the less the government services and activities will be required and the greater the share of agriculture in GDP, the more the share of tax revenue would tend to decline since government is no more needed. The agricultural sector is more unlikely to generate high tax revenue. In contrast, the high import ratio is the more collection of taxes, since imports provide a significant tax base not only for import duties, but also for other taxes such as excise taxes. The evidence of Table 10 showed more than 50 per cent of tax revenues are collected from foreign trade (imports and external debt). The higher the ratio of imports to GDP the higher one can expect the tax revenue. Likewise, external public debt requires public servicing, which rises with the level of government spending, and thus tax revenue.

### Data and Estimation

The World Bank database in CD ROM was used for the various variables of the model. Other sources include data and information obtained from country visits, country profiles of IMF, Economic Intelligence Unit, World Bank Development Indicators for Africa. The sample period is 1980-2001. The summary for empirical models on individual selected countries and on overall pooled time-series cross-section analysis is presented in Table 10 below. The coefficients of import ratio and those of external debt are quite significant in most of the cases,

confirming the allegation generally held that most of the African countries rely fundamentally on the international trade for their tax revenue.

**Table 10**  
**Determinants of Tax Revenue Ratio in Selected African Countries (1980-2001)**

Country	Constant	Agriculture Ratio	Import Ratio	External debt Ratio	Adj. R <sup>2</sup>	Standard Error	D.W. Statistic	F-ratio
								3--18
Egypt	3552.2 (4.6)	0.932 (0.3)	-1356.2 (-4.9)	231.9 (1.4)	0.562	261.82	1.235	9.97
Senegal	4.655 (3.9)	-0.561 (-2.3)	0.1205 (0.6)	-0.1568 (-1.3)	0.184	0.091	0.795	2.58
Gabon	-984.247 (-0.4)	-1037.24 (-1.9)	-320.96 (-0.6)	967.52 (2.7)	0.791	225.53	1.500	27.5
Kenya	0.3913 (1.8)	0.2115 (4.9)	0.3054 (10.7)	0.2263 (9.5)	0.911	0.0281	1.538	72.64
Zambia	4.5007 (6.4)	-0.2877 (-3.3)	-0.4370 (0.43)	-0.11745 (-2.4)	0.466	0.0720	1.979	7.11
Overall	1010.59 (2.7)	-0.2825 (-0.1)	-532.18 (-6.7)	184.95 (3.9)	0.360	250.958	1.658	21.46

*Data Source:* World Bank CD ROM 2003

All the results for the per capita income on Table 11 are insignificant, except for Zambia. This may stem from the difficulties encountered in getting reliable country data for tax revenues. Some of the problems include the unrecorded data, fraud, tax evasion, heavy reliance on foreign trade data, etc. This justifies why this variable was not included in the model.

**Table 11**  
**Results with GDP per capita**  
 $\ln \text{TAXR} = \alpha + \beta \ln \text{GDPc} + \mu$

Country	A Constant B	Standard Error	t-Ratio	R <sup>2</sup>	F-Ratio	Sig
1. Egypt	2.354 5.748	2.187 0.317	1.076 0.181	0.002	0.033	0.299 0.858
2. Senegal	2.543 3.504	3.538 0.559	0.719 0.063	0.000	0.004	0.481 0.951
3. Gabon	20.249 -2.117	14.009 1.668	1.445 -1.269	0.128	1.611	0.176 0.231
4. Kenya	0.111 0.505	4.096 0.704	0.027 0.718	0.028	0.516	0.979 0.481
5. Zambia	1.177 0.286	0.884 0.144	1.332 1.989	0.172	3.957	0.199 0.061

*Source:* Ibid.

## **7. Conclusion and recommendations**

The theory of optimal fiscal system pioneered by Ramsey in 1927 has revamped the desirable Canons of Adam Smith to a simple analytical framework allowing either to guide the fiscal reforms, or to issue a judgment on those, which have been implemented. The objectives of minimising the incidence of fiscal system on the markets have been the key in the conducted reforms. The paper briefly reviewed the tax reforms undertaken in selected African countries. It was found that most of them attempting to substitute domestic taxes to custom and excise duties have emphasized on converting sales taxes into Value added Tax (VAT). The application of VAT in replacement of other taxes on the business turnover and the reduction of custom duties allow in theory to improve the efficiency of fiscal system. The same applies to a single VAT rate, which reduces the collection costs; it reduces also in the same manner the deadweight.

However, the choice of applying the uniform rates and increasing the relative weight of domestic taxes (i.e. VAT) must have reduced the progressivity of taxation systems. Hence, within the rules of optimal fiscal system, it is the objective of efficiency rather than equity criteria, which has predominantly prevailed in the design of some reforms in Africa. The role of tax policy in developing countries is to accelerate economic development and ensure adequate resource allocation. Two independent principles of tax equity – benefit and ability to pay – have historically influenced the tax reforms in the world. In developing countries in general, expert reformers are divided on whether, among broad-based national taxes, a properly designed income tax or the progressive consumption tax best accords with the principle of ability to pay. Ideal practical income taxes are far from being achieved, while the progressive expenditure taxes are still being tries with little success.

Prior to reforms, the tax system of various African countries was largely characterized with higher tax rates, discretionary exemptions, and inefficient tax administration just to mention some. Notable among the reforms undertaken in those countries were trade liberalisation and privatisation. The new economic order necessitated the need to reform the taxation regime and improve tax administration. Thus, taxation reforms, which started in the early 1990s, resulted in the overhauling the entire tax system through drastically reducing tax rates while discretionary exemptions were abolished. Despite its compliance complication, the enlargement of the VAT base to include both formal and informal sectors has progressively reduced the important of international trade tax in the African economies. However, the imposition of reverse charge VAT is still a major issue, despite legislative changes to improve the position for taxpayers.

The main focus of the Ramsey's optimal tax theory is on the adverse effects of taxes on resource allocation via economic distortions to price systems of market economies. The paper attempted to show graphically the tax burden on consumer and on producer and it indicated that all depend on the elasticity of supply and demand curves in the country. Data to construct these curves were difficult to obtain in the selected countries in short period. But the nature of those curves show that the consumer is likely to suffer most if the demand curve is inelastic and the supply curve is elastic while the burden on the producer will be high if the supply is inelastic and the demand schedule is elastic. Thus, the study of incidence of tax reforms and the related problem of equity and distribution needed to be researched on. But the fact that the tax structure of developing countries - particularly in Africa - tends to rely relatively more on inequitable and inefficient taxes, such as those on international trade or domestic sale of intermediate goods, rather than on income taxes or the value added tax, the trade-off between efficiency and equity is better addressed in developed countries' tax designs. In developing African countries, where the administrative capacity and penetration of modern markets is relatively high -trade-off between administrative simplicity and equity or efficiency is of greater importance for tax reformers.

Indeed, the reformers in the selected African countries have started putting some base broadening, and have initiated the limitation or elimination of exemptions, coupled with tax rate setting advice encompassing low and uniform rates. This has included a critical review of tax incentives aiming at abolishing incentives, which are costly and ineffective. Regarding the tax mix, efforts have been made and should continue to broaden based consumption type VAT, coupled with selective excise taxes and income taxes for corporations and organized sector. The non-corporate income and presumptive taxes for the informal sector, the self employed and small businesses should be advocated at the national level with property taxes being the main local levy. There is also a need to coordinate tax designs across taxes, especially for foreign and domestic taxes on goods and for different types of taxes on domestic and foreign income, with the aim to raise substantial tax revenue for the government development programmes and services, both at the central and local levels.

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