PUBLIC SECTOR ECONOMICS

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1. INTRODUCTION

The demise of the centrally-planned economies of Eastern Europe and the former Soviet Union was less of a victory for capitalism than for individual liberty. Communism had long since been vanquished by capitalism's inherent ability to reform and to rid itself of the gross inequalities associated with the very early stages of its development. This ability has been particularly evident with regard to mechanisms to achieve a greater degree of economic equity through the redistribution of income (e.g. via progressive income taxes, combined with increased social expenditures). Even in the world's most individualistic societies, people's consciences are forever exposed to the competing needs of society and the individual.

As a result, free enterprise democracies have become known as "mixed economies" or "social democracies", where economic institutions represent a blend of political and market processes. Since the late 1970s, more than 100 countries in the world have ended the political bondage of dictatorship and are, to varying degrees, assuming the institutional characteristics of most Western democracies.

In this process, a vast and growing number of people are enjoying the privileges of individual liberty, both in the economic sense and the political sense. In a democratic society, government is considered as an institutional organisation through which its citizens can make decisions that require collective action.

In practice, actual decisions on the collective use of resources (and the legislation required for implementation) are made by elected representatives from the different tiers of government, the legislature, the bureaucracy, and the public at large. Expert opinion in relevant functional areas plays a major role in guiding this decision-making process.

Long before the demise of communism, it had become clear that the so-called organic conception of the state, in which the individual has significance only as

part of the community, could wreak havoc with the moral fibre of society. The ethics of such a system were expounded by the likes of Mao Tse-tung, Adolf Hitler and Lenin and their basic premises are not compatible with the concept of democracy.

A lively debate nevertheless remains over the extent of the division of resource allocation between the public and private sectors. A study of the economics of the public sector needs to commence with a concise overview of the normative framework that should guide public sector decision-making. Public services require collective decision-making and they also require resources that could have been utilised within the private sector domain where individual decision-making dominates.

2. THE ROLE OF GOVERNMENT

Economic analysis of the desirability of various government actions usually commences with the normative framework of welfare economics. It is not the purpose of this brief to engage in such a detailed theoretical analysis, but it should be stated at the outset that government intervention is, theoretically, not required in a properly functioning competitive economy. The latter economic state generates a Pareto efficient allocation of resources that does not leave scope for any improvement in the welfare of society.

It is fairly obvious in modern societies, however, that efficient resource allocation is not necessarily socially desirable. In addition to the crucial issue of fairness, a variety of reasons exist for government intervention in the economy, without which the welfare of society would have been threatened, either in economic terms or in terms of socio-political instability.

The rationale for the existence of public services that is briefly discussed below is based on arguments that have been developed over more than two centuries. Their logical validity will be supported, where feasible, with empirical evidence as to their bearing on practice.

2.1 National defense

Adam Smith, widely regarded as the founding father of the system of free enterprise, acknowledged more than two centuries ago that: “national defense matters more than national opulence” (Smith 1976). Agreement exists in every democracy in the world that a government should protect its people from external violence. As a result of this consensus, most governments possess a monopoly on coercive power. It should be noted that a well-equipped national defense force meets the requirements for a public good, as its benefits accrue to all citizens.

2.2 Law and order

Liberty, as expounded in the works of Adam Smith and other classical economists, was never construed to exclude the concept of order. A market economy always involves the assumption of a framework of law and order, essentially to prevent the freedom of one person or group to interfere with another person or group’s freedom. In particular, contractual law and the protection of tangible and intellectual property rights, are regarded as prerequisites for the effective functioning of a free enterprise system.

2.3 Public goods

Markets can only respond to the needs of consumers when rivalness in consumption exists. Certain goods and services do not possess this characteristic and, in the absence of some form of government intervention, they will not be provided at all or only to a sub-optimal extent. When a good is non-rival in consumption, it means that once it has been provided, the additional cost (in terms of resources) of consumption is zero or negligible. Examples include police stations, a public library and a road.

The second key characteristic of a public good is that of non-exclusion. When it is either impossible or very expensive to prevent someone from utilising a good or service, market forces will not function effectively. Examples are street lights and a busy street in an urban area. It stands to reason that society requires certain quantities of goods and services classified as public goods. Even though many taxpayers will invariably assign some degree of value (of marginal utility) to such goods, these valuations will differ substantially from one person to another, and they will tend to be underestimated (the so-called free rider problem). An onus

therefore rests upon government, subject to the results of cost/benefit analyses and overall fiscal affordability, to ensure that adequate levels of public goods be provided.

Public sector expenditure in the area of capital formation is particularly relevant for a country like South Africa. In most developing countries, the record of success in the adequate and cost-efficient provision of infrastructure is closely related to government's capacity to establish, finance and operate infrastructure projects such as roads, telecommunications and water schemes.

Examples abound in underdeveloped countries, particularly in urban areas, of worsening poverty as a direct result of infrastructure expansion lagging behind population growth. Although public sector capacity constraints in the area of infrastructure provision may be countered by public/private partnerships, the responsibility for the facilitation and fiscal provision of socio-economic infrastructure remains in government's hands.

Consensus exists that infrastructure investments exert a strong impact on economic growth. Research by Easterly and Rebelo (1993), covering a large sample of developing countries, confirmed the existence of a rate of return of 63% on transportation and communication projects. Research by Bregman and Marom (1993) found that projects relating to transportation, power, water and sanitation in Israel resulted in output increases of between 31% and 44% for every monetary unit of increase in the level of infrastructure.

Public sector capital formation represents an indispensable element of economic activity. The productive investments of the private sector to augment new output capacity through factories, machinery and equipment need to be supplemented by social and economic infrastructure in order to integrate a society's economic activities. For example, increased agricultural output for export purposes will simply rot in the absence of sufficient transport, storage and harbour facilities.

The pervasive nature of the way that infrastructure stimulates economic activity is illustrated by the following causal effects:

- Clean water and sanitation, safe disposal of solid waste and efficient urban road networks provide broad-based environmental benefits to society.
- Access to water contributes directly to the alleviation of various health-related indicators of poverty.
- Electricity exerts a positive influence on investment in human capital by expanding the reach of knowledge through the electronic media and the internet; as well as the time that can be spent reading and studying.
- Modern communications facilities facilitate all aspects of trade, including the conducting of electronic transactions in financial markets.
- Roads, railways, airports and harbours facilitate the import and export of goods and services and allow both products and production factors to have physical access to their respective markets.
- Public investment in transport lowers transport costs, which stimulates economic development in rural areas through increased access to markets.
- New irrigation projects result in higher yields of agricultural products.
- Improved roads and communications facilities lowers the banking sector's cost of doing business in rural areas, which results in the expansion of credit to the business sector.
- Areas adjacent to those that benefit directly from new rural infrastructure often establish themselves as service centres for increased output, particularly agricultural products, through the establishment of food processing facilities, maintenance of infrastructure and support services.
- The construction and maintenance of certain types of infrastructure, especially roads and water schemes, contributes to poverty reduction through the employment of relatively unskilled rural workers, many of whom are not equipped to find employment in the urban areas.

New infrastructure creation has proven to be the most elusive of the key objectives of the South African government's macroeconomic strategy. Although the quantification of total infrastructure spending by public authorities is a complex exercise (due, *inter alia,* to the existence of public/private partnerships and inconsistent reporting formats across different spheres of government), the SARB publishes gross fixed capital formation data for all three spheres of government. Research by Botha (2002:1) has shown that negative real growth has occurred in capital formation by central government during the first decade of democracy,

whilst capital formation for the public sector as a whole has recorded an average annual real growth rate of well below that of the economy as a whole.

As a result of having lowered the budget deficit/GDP ratio to fundamentally sound levels, government has indicated a change in its policy stance towards a more expansionary role. The first indication of government's commitment to increasing public expenditure on infrastructure and service delivery was provided in the National Budget for the fiscal year 2004/2005. The new infrastructure acceleration programme is expected to be fairly broad-based and will be supported by an expanded public works programme and the preparations required for the 2010 Soccer World Cup.

2.4 Externalities

In a modern society, the economic activity of citizens often partially negate the exclusion principle (referred to in the previous sub-section). These phenomena are commonly referred to as externalities or spill-over effects. When an industrial firm pollutes the air or a river, some residents of the particular community are the victims of a lowering of utility levels, as measured by a variety of costs to society. These are referred to as external costs, due to the fact that the costs are not borne by the polluting firm. Examples of the practical manifestation of external costs may include increased transport costs as a result of having to travel further to find a suitable picnic or fishing spot or a decline in property values.

The implication of negative externalities is that the market process involved does not fully account for all the costs associated with the production of the particular good. As a result, the equilibrium output level will, necessarily, be larger than the socially efficient output level. Government involvement in the area of negative externalities may involve selective taxation (e.g. of polluting firms) or statutory regulations, which may serve to force a polluting firm to absorb the costs of a more environmentally-friendly production process. Rosen (1999) provides a comprehensive analysis of the nature of externalities as well as the full range of policy options available to government in its attempts to "internalize" negative externalities, i.e. shift the cost back to the firm that is responsible.

2.5 Promotion of competition

Competitive markets are one of the prerequisites for efficiency in the supply of goods and services to society. In some cases however, competition is thwarted, which may lead to higher prices, lower output levels and an inefficient allocation of resources.

The most common example of non-competitiveness is monopoly, where only one seller controls supply. Such a situation can arise as a result of state-sponsored regulations that restrict entry into a particular market, or by patent rights, or by technological factors that are so complex as to inhibit competition. It should be noted, of course, that the incentives provided by the establishment and protection of intellectual property rights have played a pivotal role in the development and refinement of modern technology and inventions in general.

To the extent that the existence of monopoly power is abused and acts to lower the welfare of society, a government should enact the necessary remedial measures. In this regard Phelps (1985) points out that the classical view of monopoly power requires pro-active government intervention to thwart such power, due to the fact that it leads to inefficiency in the allocation of resources. Eliminating monopoly power or curbing its exploitation is therefore warranted in order to correct the inefficiency.

Until the Second World War, competition policy did not feature high on the public agendas of industrialized countries. Since the middle of the 20th century, however, competition policy has come to the fore in the format of legislation. Between 1948 and 1980, a total of nine Acts of Parliament were passed in the UK with the specific purpose of promoting competition.

Specific policy measures that are encountered in the area of competition policy include the removal of barriers to entry; the statutory prohibition of monopolies; dissolving the monopolistic enterprise; restrictions on mergers and acquisitions; subsidies to incentivise higher output (a monopoly produces an inefficiently low output level); the imposition of a price ceiling; and moral suasion by the authorities. According to Vane and Caslin (1987), the activities of the Monopolies and Mergers Commission in the UK have instigated remedial action that has led to price

reductions, a closer relationship between cost and price, wider consumer choice and the removal of some practices designed to inhibit entry.

A second form of non-competitiveness is associated with a group of producers whose purpose is to maintain prices above the normal competitive level, usually via the manipulation of supply. In microeconomic terminology, this phenomenon is referred to as oligopoly, and a cartel represents a practical example. In most countries, legislation exists that specifically prohibits certain of the non-competitive activities associated with individual firms or groups of firms.

2.6 Maintenance of standards

At the heart of the efficient functioning of the market system lies the incentive to generate a positive return on a given level of investment. Key to realising a profit is attempting to keep costs as low as possible. In an unfettered free enterprise environment, this objective is often accompanied by very subtle negative externalities, associated with a neglect to conform to some minimum level of standard, either in terms of quality or in terms of technical specification.

Examples of inferior quality abound in modern societies, particularly those with sizable levels of informal sector activity. Refrigeration requirements for butchers and the licensing of long-term insurance providers are fairly common examples of government intervention to safeguard the interests of the public at large. Safety concerns over the use of certain apparatus, especially electrical equipment, also warrant public sector involvement in setting standards for the design, production and marketing of a variety of goods.

2.7 The regulatory framework

In addition to specific regulations aimed at redressing negative externalities, maintaining law and order or maintaining acceptable levels of technical standards in economic life, governments are also compelled to establish a general regulatory framework, *inter alia* for the purposes of environmental control and to assist the establishment of a national statistical database. Official requirements relating to air traffic control and speed restrictions on public roads serve as further examples of regulations that are beneficial to society.

2.8 Stabilisation policy

Each member of society must accept the common monetary system that exists in the particular economy. The task of ensuring that the monetary system is protected against volatility in the value or purchasing power of the monetary unit can only be conducted by government, usually represented by a country's so-called central bank. The functions involved with the regulation of financial institutions and the control of money supply, credit, and interest rates, are associated with the goal of price stability.

Four other conventional stabilisation goals also exist, namely with regard to securing adequate economic growth; preventing unemployment; maintaining balance of payments stability; and ensuring fairness in the distribution of income. The latter stabilisation policy objective is fairly subjective and the determination of what constitutes "fairness" in income distribution will depend on the ethical and political views of society, as represented by the government in power.

In attempting to redistribute income, care should be taken not to erode the incentives for productivity that eventually become manifested in the taxation base, without which redistribution on a meaningful scale would not be possible. Governments in developing and high-income countries alike have, over the past century, developed four key instruments through which income is distributed more fairly. They are:

- Progressive taxation, which impose higher marginal tax rates on the higher income groups than the lower income groups.

- Income transfers, which provide a social security net for needy groups in society, particularly the aged, disabled and unemployed.

- Commodity equalisation, which occurs when particular services are provided free or at a negligible cost to all members of society. Education and health are common examples.

- Subsidisation schemes, whereby poor people are assisted in the consumption of particular basic goods and services. Food, housing and water are common examples.

2.9 Development policies

Stabilisation policies, as discussed above, are applied in virtually every country in the world, irrespective of the particular stage of economic development. In addition to these conventional economic policies, economies that are relatively underdeveloped also require more specific and more comprehensive government interventions aimed at facilitating the process of economic development. Although it is generally recognised that meaningful economic development is not possible without adequate levels of economic growth, development implies substantially more than rising levels of production.

Herrick and Kindleberger (1983) provide the following nutshell definition of economic development: “It studies the causes and cures of mass poverty”. They draw attention to the distinction that has to be made between involuntary and voluntary poverty and the focus of the development economist therefore falls on the involuntary deprivation of the fundamental comforts of life.

According to Streeten, *et.al*. (1981), the only way to eliminate absolute poverty on a permanent and sustainable basis is to increase the productivity of the poor. By emphasising the basic needs approach, the poor are empowered through enablement to become productive, which is regarded as a superior strategy to merely employing consumption transfers (Chenery, *et.al*. 1974).

Income levels in the poorer groups of society are usually constrained by a lack of physical and human capital and inadequate access to infrastructure. A policy of investment transfers can reallocate public resources in such a way that a powerful mechanism is created for removing these constraints. Modern development theory recognises the need for government involvement in the area of investment transfers, facilitated through the normal budgetary processes of taxing and spending.

A novel approach towards development policy would also incorporate alternative financing methods, especially through the issuing of public sector “development bonds” on the capital market. Although the basic principles involved with debt financing of development projects are closely related to Keynesian demand-side policies, the refinement of statistical data relating to input-output analysis now enables more accurate cost-benefit analysis of such projects.

The essence of this approach is to calculate, on the basis of realistic assumptions over the initial effects of a particular development intervention, the total economic impact that is induced by increases in final demand in all the backward and forward-linked sectors. These multiplier effects can be utilised to determine, with some measure of accuracy, the combined effect on the economy with regard to changes in gross domestic product (GDP), employment creation, and taxation revenues.

From a policy perspective, the latter effect is particularly important, as it indicates the level of the so-called “fiscal backflow” accruing to the Exchequer. It stands to reason that development projects that produce a large enough increase in the taxation base qualify for debt financing techniques, as they do not require higher rates of taxation.

As discussed earlier, development strategies in South Africa are particularly relevant where past discriminatory constitutional policies had resulted in widespread inequalities in economic opportunities. The Reconstruction and Development Programme (RDP) remains the cornerstone of the South African government’s development strategy, and the key functional areas of involvement, including project examples, are:

- Health (primary school nutrition supplements, clinic building and subsidised health services)

- Land reform (land restitution and agricultural support services for emergent farmers)

- Housing (subsidisation for low-income groups and comprehensive urban renewal programmes)

- Water (rural and urban water supply and improved management of water catchment areas)

- Education (adult basic education and training and the fostering of a culture of learning)

- Constitutional development (the Masakhane campaign, which aims to encourage local communities to stimulate local economic development through re-establishing a culture of payment for services)

- Public works (a variety of infrastructure projects emphasising job creation and community involvement)

- Agriculture (small-scale farmer programmes and land reforms)

2.10 Natural monopolies

In some cases, it may be to society's advantage for government (or a parastatal agent) to produce a particular good or service. Government involvement in production is necessary when the production of a good or service is subject to continually decreasing average costs – the greater the level of output, the lower the cost. This phenomenon is known as a natural monopoly and examples include electricity, rail transport and highways. Private sector provision of such goods and services may lead to public exploitation through the realisation of monopoly profits whilst also securing an output level that is below the optimal one.

3. TAXATION

3.1 Nature and definition of taxation

Benjamin Franklin wrote in 1789 that: "...in this world nothing can be said to be certain, except death and taxes". The Penguin Dictionary of Modern Humorous Quotations (Metcalf 1987) contains this and several other entries that reflect on the mirthful side of the topic. In reality, however, taxation is not something to joke about, for it acts to reduce the extent to which individuals and firms exercise command over their respective productive efforts. Taxation can be defined as:

A compulsory transfer of funds from individuals, businesses and other organisations to the government.

Taxes impose costs to society. For an individual taxpayer, the most obvious of these is the direct cost associated with a decline in disposable income. It needs to be pointed out, however, that an indirect *quid pro quo* exists at all times. This is reflected in the existence of a public sector that provides a host of services to society – from courts of law to public schools and from a system of national defence to public clinics.

Taxation is also no novelty to humankind. Recorded evidence has been found in Egypt that points to the existence of census lists and tax registers during the third century B.C. A system of personal income tax was first implemented in the United Kingdom as early as 1642 and this type of taxation has developed into the single most important source of government revenue in the developed world.

3.2 Terminology

The abundance of terms relating to taxation requires a brief explanation of those that are regarded as important from an economic perspective.

- *Tax avoidance*. The arrangement of one's financial affairs within the law in such a way that one's taxation burden is kept at a minimum.

- *Tax evasion*. Illegal attempts to escape the payment of taxes, e.g. by deliberately understating earned taxable revenue or overstating tax-deductable expenditures.

- *Tax burden*. This is the total amount of money that a tax entity must pay in taxes, inclusive of direct and indirect taxes and also the costs associated with tax compliance, e.g. a payment to an accountant for assistance in completing a tax submission.
- *Tax base*. The object to which a particular tax rate is applied, e.g. value added, income or the value of a property.

- *Tax impact*. The point at which a tax burden initially rests, e.g. in the case of an excise duty on tobacco products, the tax impact will be on the manufacturers of such products.

- *Tax incidence*. The point at which the tax burden ultimately rests.

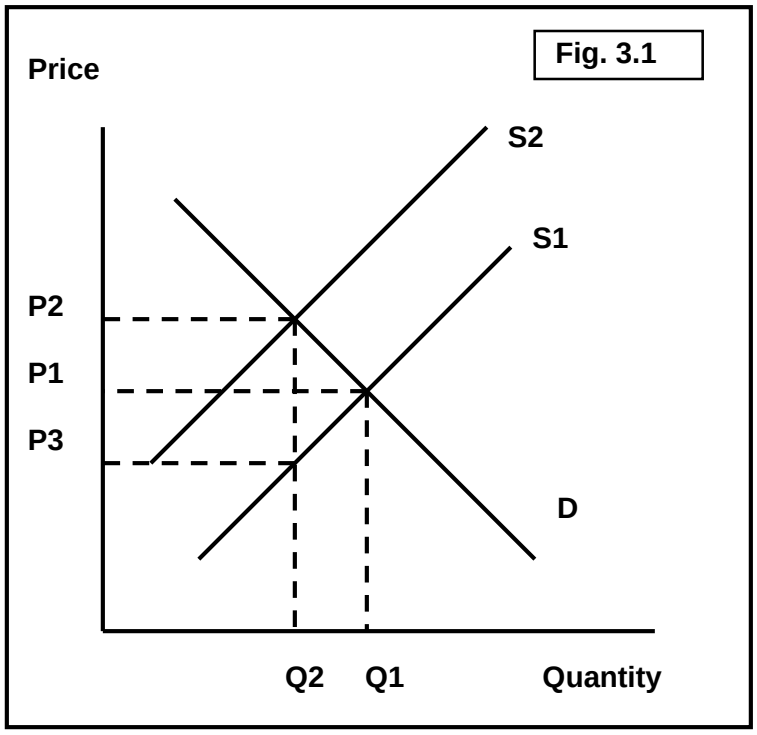


Fig. 3.1

In the case of an excise duty, the tax burden is typically shared by the manufacturers and the consumers of a particular commodity, due to the existence of supply and demand elasticities that are neither infinite nor zero. The imposition of an excise duty therefore has the effect to shift a portion of the tax burden to consumers. This may be illustrated by figure 3.1, where the tax shifts the supply curve from S1 to S2, but the price increase from P1 to P2 is less than the tax rate (P1P3).

- *Progressive tax*. Although often confused with the concept of increasing marginal tax rates, a tax system is, in fact progressive when the average tax rate increases with income (see table 3.1).

Table 3.1: Progressive tax with a fixed marginal tax rate and a tax exemption of R10 000

Income (R)	Tax liability (R)	Marginal tax rate (%)	Average tax rate (%)
10 000	0	20	0
20 000	2 000	20	10
40 000	6 000	20	15
100 000	18 000	20	18

- *Regressive tax*. Conversely, if the average tax rate declines with income, it is regressive.

- *Proportional tax*. This is a situation in which the ratio of taxes paid to income remains constant, regardless of the income level.

- *Unit tax*. Levied as a fixed amount per unit of a commodity that is sold, e.g. R1 per pack of 20 cigarettes.

- *Add valorem tax*. Levied as a percentage of the price of a commodity.

- *Double taxation*. When a tax entity or a commodity is taxed twice during any one fiscal period. An example would be the taxation of the dividends received by an individual (as income) that has already been taxed as company profits.

- *Direct taxation*. Levied on individuals, businesses or organisations. It is important to note that in the final instance, the full burden of taxes is borne by individuals. The reason is simply that companies are ultimately owned by individuals and profits accrue to the shareholders of companies (at least that portion of profit that is distributed). The company tax, therefore, effectively acts to reduce the dividends paid to shareholders.

- *Indirect taxation*. All other forms of taxation are regarded as indirect. The most common form of indirect taxation is that which is levied on the processes of value added (appropriately called value added tax), consumption (which may be either a sales tax, an excise duty or, in the case of imported goods, an import tax, and wealth holdings (a property tax).

- *Excess burden of taxation*. Due to the fact that taxes distort economic decisions, they often cause a loss of welfare to society over and above the nominal value of the taxes paid. This is called the excess burden of taxation and is most commonly associated with a selective commodity tax (such as an excise duty), which results in changes between the relative prices of taxed commodities vis-à-vis those commodities that are not subjected to such a tax. A distortion of relative prices eventually influences the allocation of resources in an economy in a negative way. In terms of microeconomic analysis, the reason may be found in the violation of the conditions for Pareto-optimality.

3.3 Functions of taxation

The primary and most important function of taxation is to supply government with the funds that are necessary for the financing of its expenditures. Taxes should, therefore, be viewed as the *quid pro quo* for the variety of public services that are at the disposal of a society. An early observation with regard to equity should be made at this point. It is fairly obvious that individual taxpayers do not access public services in an equi-proportional manner. Relatively poor people will tend to make full use of public health and public education, but will not have made a sacrifice (in terms of taxation) that is proportional to their levels of consumption of such public services. Relatively rich people, on the other hand, will tend to contribute a proportionally larger share of taxation than the value of their consumption of public services.

To the extent that a government deliberately pursues redistributive objectives in the design of a tax system, income redistribution constitutes a second function of taxation. A third function of taxation relates to attempts by governments to influence the pattern of economic activity in society. This is often directed at consumption (e.g. an excise duty on cigarettes, in order to discourage the habit of smoking). A second target may be production, where so-called tax holidays or other beneficial tax arrangements are offered to firms as an incentive to establish or expand a particular industry. Such a policy is often supplemented by import duties on the relevant product, in order to provide protection from foreign competitors. A third intervention is encountered in countries that exhibit a high level of imbalance in the geographical spread of economic activity. Tax incentives are

then provided for investment in designated areas, often in an attempt to stem the tide of migration from rural or peri-urban areas to metropolitan areas. Finally, the tax system can be utilised to encourage savings by exempting a certain level of interest earned from taxable income. This policy is applied in most countries, but with widely differing levels of exemption.

3.4 The principles of taxation

Two broad principles of taxation have evolved since the trend for governments in high-income countries to command a relatively high share of the total expenditure on GDP, namely the principles of equity and efficiency.

3.4.1 Equity

This principle relates to the fairness of taxation and represents a topic that has remained high on the agenda for public debate for more than a century. Until the middle of the 20th century, supporters of the concept of maximising economic freedom in society remained sympathetic to John Stuart Mill's argument against tax progression. Beyond an exemption of a minimum subsistence level, Mill argued that a progressive income tax acts to impose a penalty on people for having worked harder and saved more than others. His injunction to tax progression was formulated as follows: "A just and wise legislature('s) … impartiality between competitors would consist in endeavouring to see that all should start fair, and not in hanging a weight on the swift to diminish the distance between them and the slow" (Mill 1985).

In a society without a large degree of income inequality, the principle of equity would, in fact, be best served by proportionality in taxes. In practice, however, large economic inequalities do exist in virtually all societies, and the requirement of fairness is therefore pursued. It is usually based on the following two tenets:

- Ability to pay, in terms of which an individual's tax burden should be positively correlated to his or her command over income and wealth. This remains a highly subjective issue, due to differences of opinion

over the definitions of revenue, wealth and also the degree of progression that should be implemented.

- Benefit received, which implies that people who benefit from particular government services should also bear the corresponding tax burden.

It stands to reason that a significant degree of income tax progression will remain part and parcel of the taxation system in a country like South Africa, where levels of income inequality are high and also quite visible (e.g. through the co-existence of informal settlements adjacent to affluent neighbourhoods). In a globalising world economy, however, highly skilled professionals are becoming increasingly mobile and this phenomenon limits the leeway that governments possess in designing tax policies.

A significant degree of international convergence continues to take place with regard to the fundamental components of macroeconomic policy, a trend that is manifesting itself in marginal to modest differences in the tax rates, inflation rates, import duties and interest rates between most high-income countries and several of the stable emerging market economies. It would amount to nothing short of economic irresponsibility to place the emphasis of income redistribution on the revenue side of the fiscal process. A more pragmatic approach (which is, by and large, being followed by the South African government) would be to ensure that the tax system is as efficient as possible in raising the revenues that are required for allocation to a large variety of expenditure programmes that benefit the poor.

3.4.2 Efficiency

A responsible government will realise that taxation serves to reduce disposable income (for individuals) and profits (for businesses). Lower incomes translate into lower demand, with a lagged ripple effect into lower output and increased unemployment. Lower company profits exert a dualistic negative effect on the economy. Firstly it means a reduction in dividend payments, which has the same effect as sketched above (to the extent that individuals receive the dividends). Secondly, undistributed profit

levels decline, which reduces the ability of the private sector to invest in new productive capacity. A company tax is, therefore, *de facto* a tax on future growth and employment creation. These arguments constitute a sound endorsement of the need to pursue efficiency considerations in the formulation of a tax system.

Fiscal authorities are today guided by the following principles that underpin this important objective:

- Simplicity. This requirement entails that the tax system should not be difficult to understand and that the costs involved with the administrative compliance by individuals and businesses be kept as low as possible.

- Low administration costs. The collection of taxes entails a cost to the fiscus (and, ultimately, to the taxpayer), that is not related to any public service embodying an element of value added to the economy. A government should, therefore, ensure that the system of national revenue collection is administered in such a way as to keep its cost as low as possible.

- Matching of tax impact and incidence. In the event of the imposition of selective commodity taxation, the fiscal authorities need to ensure that their objectives with regard to the tax impact (the so-called statutory tax incidence) are not thwarted by substantial differences in the economic incidence of the taxes. In order to ensure that no mismatch occurs between tax impact and tax incidence, it is necessary to be aware of the elasticities of supply and demand of the particular commodities. As a general rule, a high degree of tax shifting will occur when the elasticity of demand is low and the elasticity of supply is high.

- Diversity of the tax base. The existence of a variety of tax sources protects a government from the negative impact of an unexpected decline in revenue from any one particular source of taxation. A

relatively broad tax base also has the advantage of being able to keep marginal tax rates as low as possible.

- Flexibility. This principle is not applied in practice to the extent that some economists would recommend. In essence, the principle of flexibility maintains that tax rates and sources should be subject to regular policy amendments in order to meet changing economic conditions. An example would be to lower personal income tax rates during a recession, thereby allowing for discretionary anti-cyclical fiscal policy.

- Moderate rates of progression. It has been pointed out that an overdue emphasis on progressive income tax has the twin dangers of eroding the productivity of an economy and of shrinking the tax base. This is particularly true when marginal rates are relatively high and the tax ceiling is relatively low (by international standards). The existence of an exemption level for low-income earners automatically introduces an element of tax progression. Attempts to effect a more rapid progression of the average tax rate may eventually yield an inferior amount of revenue than a more moderate rate of progression (over the medium to long term).

- Minimising excess burden. This principle is not as prone to subjectivity as those related to flexibility and the redistributive aspects of taxation. Consensus should exist with regard to minimising the costs associated with the distortions induced by various taxes, particularly those that are levied on commodities. To keep the excess burden of commodity taxes at a minimum, the marginal excess burden of the last unit of revenue raised from each commodity must be the same. To satisfy this requirement, the inverse elasticity rule has been developed by Frank Ramsey (1927), which states that, as long as goods are unrelated in consumption, tax rates should be inversely proportional to elasticities. The logic behind this rule is related to the fact that excess burden is a consequence of distortions in quantities demanded. To minimise this burden, tax rates should be differentiated in such a way that changes

are in the same proportion. Efficient commodity taxation therefore requires that relatively high rates of taxation be applied to goods with a relatively inelastic demand, and vice versa.

3.5 A note on the economic effects of taxation

3.5.1 The income tax

Economic behaviour is affected by the imposition of an income tax, most notably through the direct effect of lowering personal disposable income. Two other important effects of the income tax that need to be considered relate to its distortion of the opportunity cost of leisure activities. This analysis is by no means abstract, because time represents the ultimate scarce resource for most individuals and income earning activities are by no means the only way in which individuals use time. Leisure activities may include a host of, arguably, more pleasant ways to spend one's time, including reading, playing sport, watching sport, listening to music, watching a movie, visiting friends, pursuing a hobby or dozens of other forms of relaxation.

The income tax reduces the wages earned by an individual and, therefore, lowers the opportunity cost of rather spending time at leisure. This may be illustrated by figure 3.2. It is assumed that a total time endowment of 50 hours per week is available for either work or leisure activities. The person in the example chooses the combination of work and leisure indicated by E1 (20 hours of leisure).

This represents the point where the person's utility is maximised, as it is the point of tangency between the indifference curve and the budget constraint AB. The budget constraint indicates the different combinations of income and time spent at leisure that is available. Assuming an hourly wage rate of R100, it is possible to calculate the following:

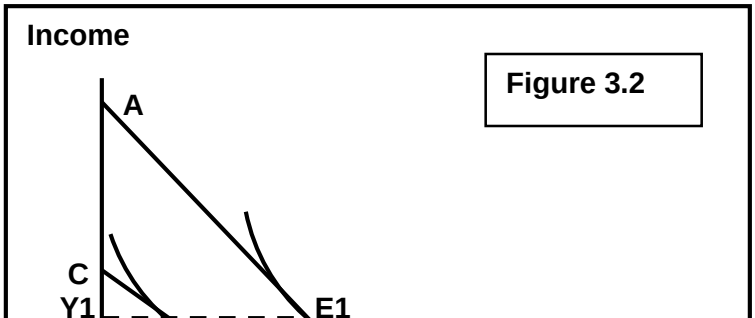


Figure 3.2

(i) Equilibrium income is R 3,000 (working time is the reciprocal of leisure time, namely 50 hours minus 20 hours).
(ii) The vertical intercept of the budget constraint is R 5,000 (zero leisure time results in 50 hours working time @ R100 per hour).
(iii) The horizontal intercept of the budget constraint translates into zero income (50 hours of leisure time leaves no time for work).

The next step is to introduce a tax on income earned. Assuming a tax rate of 25%, figure 3.2 indicates the first effect of the tax, namely a lowering of income, as represented by the new budget constraint CB. It follows that the new point of maximum utility can only be obtained on an indifference curve that is closer to the origin (reflecting a decline in total utility).

It is uncertain, however, whether the new equilibrium will result in an increase or decrease in labour productivity (as represented by hours worked). This ambiguity is caused by the following two offsetting effects:

- The income effect is represented by the fact that income has declined and, for certain persons, the only available means to maintain consumption at the pre-tax level will be to increase the hours worked. Assuming that the person in our example fits this mould, the new equilibrium point will be E2 and productivity in the

economy would have been enhanced. (note, however that the productivity gain of 10 additional hours per week worked should be offset against productivity losses incurred through a decline in leisure-related activities (e.g. lower revenues of a golf club)

- The substitution effect relates to the fact that leisure has become less expensive. Prior to the tax, the opportunity cost of one hour at leisure was R100. After the tax, this declines to R75. An incentive has been created, therefore, to substitute time spent at leisure for time spent working. Assuming a case where a taxpayer enjoys access to income sources derived from investments (funded by previous savings), and is more than capable of supplementing the loss in disposable income caused by the income tax, it is possible for the new point of equilibrium to be at E3, particularly in the case of a leisure-loving person. In such a case, the income tax will have a negative effect on productivity through fewer hours worked.

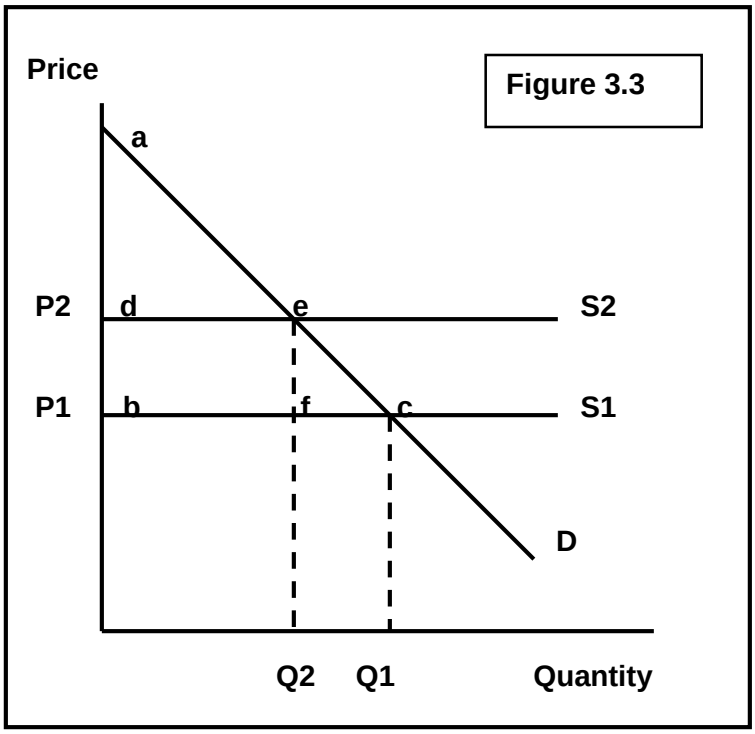
  In practice, an individual's labour supply decision will be affected by several variables, including the following:

  - The level of total income (higher levels of revenue will tend to strengthen the substitution effect)
  - The composition of income
  - Marital status and gender (empirical studies have found that married women exhibit higher labour supply elasticities than men)
  - Age
  - The propensity of a particular society to engage in leisure activities, which is influenced by factors such as cultural attitudes, sporting tradition and geophysical characteristics such as climate, accessible coastline, fauna and flora, etc.

3.5.2 A commodity tax

The way in which a commodity tax distorts economic efficiency can be illustrated either by using budget constraint/indifference curve technique or

simply with demand and supply schedules. The latter technique will be utilised to explain the occurrence of excess burden of a commodity tax.



In figure 3.3, D is the demand curve for a commodity and S1 represents the supply curve prior to the tax. (Note that supply is assumed to be perfectly elastic, which is not unrealistic in the short term for most commodities). A tax a rate t is now imposed and the price therefore increases to (1+t)P, which shifts the supply schedule to S2.

In order to determine the excess burden of this tax, it is necessary to utilise the concept of consumer surplus. The latter is a microeconomic term that refers to the latent benefit of the fact that certain consumers are prepared to pay a higher price for a commodity than the ruling market price. In fairly common terminology, consumer surplus can be thought of as representing a “bargain” to those consumers that are paying less for a product than the values of their particular levels of marginal utility. Prior to the tax, the consumer surplus is represented by the triangle *abc*. After the tax, this area shrinks to *ade*. Note that the tax revenue raised by the tax is represented by rectangle *defb*. It follows that triangle *efc* represents the net loss to

society as a result of a lower level of consumer surplus that is not compensated for in the format of tax revenues.

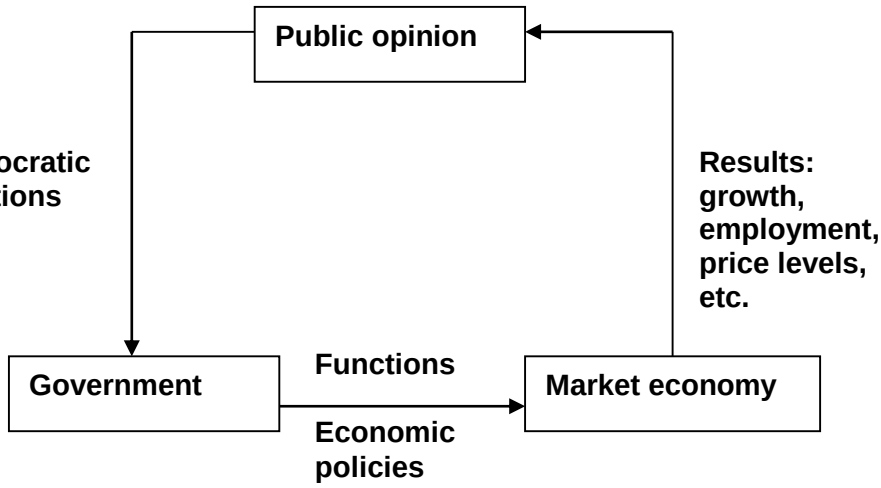
The above analysis has important implications for the cost-benefit assessment of public projects. It means that any public project must produce marginal benefits to society of more than the combined cost of the marginal revenue raised and the marginal excess burden. Three general rules for minimising the excess burden of a commodity tax are:

- Do not tax commodities for which consumption expenditure levels are high
- Avoid the taxation of commodities with high levels of elasticity of demand
- Keep tax rates as low as possible.

4. THE POLITICAL/ECONOMIC CYCLE

The relationship between government and an economic system can be analysed from the perspective of a simple flow diagram:

Diagram 3.1: The political/economic cycle



Three spheres of influence exist in the above diagram, which may be described as a political/economic cycle. It is important to note that this cycle only exists in

societies that are democratic and that rely on free enterprise as the guiding economic principle. The spheres of influence are:

- *Government and the economy*
  Once a government has been elected, its representatives are expected to fulfil certain functions. (The detail of government's functional involvement in the economy is presented in the next section). In order to operate at all levels of public administration, a government necessarily exercises a huge demand for goods and services, as well as being a large employer. This utilisation of scarce resources, combined with its economic policy initiatives (stabilisation function) exerts a major influence on the economy and has a bearing on the performance of an economic system, as measured by indicators such as total output; investment; employment creation; price stability; balance of payments stability; etc.

- *The economy and the public opinion*
  The results of an economic system's operation, as manifested in the above-mentioned indicators, serve as a clinical indication of the efficiency of such a system. Three major groups of influences determine the performance of an economy: Firstly the spontaneous interaction of supply and demand by individual firms and households within the framework of market forces. Secondly, the influence of government and thirdly, external factors such as the climate and international commodity prices. It stands to reason that the electorate will judge the performance of an economy prior to any elections. In a sophisticated society, the perceived ability of a governing party or an opposition party to influence the level of socio-economic welfare plays a major role in determining the outcome of an election.

- *The public opinion and government*
  In this influence sphere the electorate has the opportunity to decide which individuals (representing specific political parties, policy approaches and ideologies) should govern the particular society. Normally, the electorate consists of all members of society above a certain age limit. It should be noted, however, that particular individuals and organisations wield a considerably larger influence on the public opinion than a single voter.

Examples include politicians; lecturers; parents; trade unions and the media.

- *The element of cross-control*
  A safety mechanism exists within the above cycle that prevents governments from perpetuating damaging economic policies. Between 1979 and 1980, the governing parties in three of the world's most dominant economies (America, England and Germany) were defeated at the polls as a direct result of the interventionist policies that had been pursued by them during the 1960s and 1970s.

  In the case of England, in particular, the labour government had pursued socialism in such a way that the country was faced (in 1979) with high unemployment, high taxes, low economic growth and declining productivity levels. Margaret Thatcher's subsequent election victory was the direct result of a firm belief amongst the British electorate that her Conservative Party would reverse these negative economic trends.

  In South Africa, this dynamic control element arguably still needs to develop itself. Voter sentiments during the first three rounds of democratic elections were based mainly on socio-political issues and, prior to 1994, the absence of universal franchise also meant the absence of the element of cross-control in the country's political/economic cycle.

4. THE NATIONAL BUDGET

The obvious starting point in a discussion of a government's functional role in the economy is to analyse the expenditure side of its budget. In this regard the concept of government usually includes central, regional and local government structures.

The following table provides the consolidated functional classification of expenditures by the central and provincial government for the fiscal years ended in March 1994 and March 2006 (budgeted figures). Average annual growth rates (in real terms) have also been calculated. This comparison serves to illustrate the changing nature of government expenditure priorities during the early post-democratic era.

Table 3.2: Composition of government expenditure			
	FY 1994 R billion	**FY 2006 R billion**	**Avg. annual change (%)**
General services	**9.8**	**25.9**	**2.4**
Protection services	**23.1**	**68.6**	**3.5**
Defence	10.7	25	1.3
Police	8.9	28	4
Prisons	2.1	9.5	7.4
Justice	1.4	6.1	7
Social services	**58**	**216**	**5.6**
Education	27.8	81.1	3.3
Health	14	47.2	4.7
Social security & welfare	10.8	68	10.6
Housing & community dev.	5.4	12.7	1.4
Economic services	**18.2**	**54.9**	**3.6**
Water	1.3	6.8	8.4
Fuel & energy	0.3	2.8	14.5
Agriculture, forestry & fishing	3.7	7.9	0.5
Mining, manuf. & construction	1	2.4	1.6
Transport & communication	6.6	18.9	3.2
Interest on debt	**22.2**	**54**	**1.7**
Total	**131.3**	**419.4**	**4.2**

Note: The average annual change is expressed in real terms

The following concise observations can be made:

- Firstly, government spending on defence and most of the economic services has been assigned a lower priority.
- Secondly, social service expenditure has become significantly more important, particularly social security and welfare.
- Thirdly, the public finances are under substantially better control than before 1994, as reflected in the low increase in the interest burden. This is a welcome development and is the result of the indirect effect of three key

variables – sustained fiscal discipline, strong revenue growth and lower capital market interest rates.

It should be noted that certain government functions require the involvement of a central authority (e.g. national defence and foreign affairs), whilst other functions are ideally provided on a regional basis (e.g. road maintenance and health). Local authorities are mostly involved with providing basic municipal services, for which user charges are utilised to cover the cost (e.g. electricity and water).

5. MACROECONOMIC POLICY

5.1 Policy goals

In a developing country, the involvement of government in the sphere of economic policy is considerably more pronounced than in the highly industrialised countries of the world. The major reason for the larger involvement of developing countries' governments in this sphere is related to huge differences in living standards between rich and poor countries. It has become part of the public sector's responsibility in the developing world to address the issue of providing its citizens with basic human needs (which does not necessarily translate into higher ratios of public expenditure to GDP).

It is sensible, therefore, to provide the following classification of economic policy goals:

- *Traditional* (universal)
  - (i) Sustained and high levels of economic growth
  - (ii) Prevention of unemployment
  - (iii) Price stability
  - (iv) Exchange rate stability
  - (v) Balance of payments stability
  - (vi) Economic equity

- *Development strategies* (developing countries)
  - (i) Education and training
  - (ii) Health

(iii) Urban development
(iv) Rural development
(v) Further democratisation
(vi) Small business development
(vii) Import substitution
(viii) Export promotion

5.2 Policy instruments

A wide range of specific policy instruments can be utilised by a government in its endeavours to attain the above-mentioned policy objectives. These instruments are traditionally classified as follows:

(i) *Fiscal policy*, as defined by the manipulation of government expenditure levels and tax rates for the explicit purpose of influencing macro-economic variables.

(ii) *Government expenditures*, which do not include the normal functional areas of government expenditure. The RDP provides some good examples.

(iii) *Monetary policy*, as defined by the monetary authorities' explicit intervention to influence monetary aggregates; the availability of credit; interest rates; and the exchange rate. The objective is normally the protection of the value of the currency (both in domestic and international terms), but monetary policy can also be used to stimulate economic activity such as investment and production. The four most commonly used monetary policy instruments are:
- Open market transactions
- Repurchase transactions
- Discount policy
- Cash and liquid asset reserve requirements for the financial sector

(iv) *Import tariffs*

(v) *Export incentives*

(vi) *Supply-side policies*. Following the demise of the way in which Keynesian demand management was applied by most developed countries during the 1950s and 1960s, economists were forced to have a re-think on the appropriateness of providing governments with a license to spend and interfere with the market economy. The simultaneous occurrence of high inflation and economic recession in the mid 1970s brought to an abrupt halt the belief in governments' ability to "manage" aggregate demand towards a point of full employment, whilst maintaining price stability. For the past two decades, the emphasis worldwide has been on so-called "supply-side" policies, combined with a gradual withdrawal of the heavy hand of government from the economic sphere. It can be explained by the following equation:

Y = **C** + **L** + **N** + **E**.....(3.1)

where **Y** = National output
C = Capital
L = Labour
N = Natural resources, and
E = Entrepreneurship

Supply-side policies can increase Y in the following ways:

- A more practical training policy can increase the quality of **L**
- Technology information can increase the efficiency of **C**
- Deregulation can improve the rate at which **C**, **L** and **N** are combined by **E**
- Improved health care can lead to productivity gains for **L**
- Appropriate competition policy can increase **E** quantitatively
- Privatisation can lead to a change in the composition of **Y** (from the public sector to the inherently more productive private sector)
- Restricting the power of trade unions can lead to lower levels of increases in the remuneration of **L**, which will result in lower

inflation and increased international competitiveness. It cab also increase productivity through fewer work stoppages.

6. THE DANGERS OF EXCESSIVE GOVERNMENT INVOLVEMENT IN THE ECONOMY

It is abundantly clear from the discussion above that government's involvement in an economy is pervasive and diversified. Most public finance textbooks contain a section dedicated to an explanation of the trend whereby public sector activity has grown at a faster pace than aggregate economic activity for most of the twentieth century. This phenomenon has, to a large extent, been halted since the early 1980s, and the new vigilance with which societies view the scope and nature of public sector intervention in the economy is briefly discussed in the following sub-section.

The purpose of this sub-section is to identify the major reasons for concern over unbridled growth in the involvement of government in social democracies. It needs to be pointed out that government activity is not possible without utilising the economic resource base, and that the latter is permanently confronted with short-term capacity constraints. It is also worth noting that, apart from the fairly comprehensive justification of public service provision and policies identified in the previous sub-section, only one specific principle exists with regard to the assessment of government's involvement in the economy. This is the age-old principle of *maximum social gain*, which remains a cornerstone of the theory of public sector economics and may be regarded as the most important guiding principle for public sector activity.

It is postulated as follows:

> *The public sector, in undertaking any activity, should choose that alternative for which the gains to society exceed the costs by the greatest amount and should refrain from any activity if its benefits do not exceed the costs.*

Although the logic of this principle is straight-forward, its application can be quite complex, due to the presence, at times, of intangible costs and benefits that cannot be measured. The use of input/output table analysis, particularly with regard to the

estimation of the fiscal dividends of different public sector projects, should nevertheless be incorporated whenever feasible.

6.1 The threat to liberty

Scholars of economic thought and economic systems are often misled by the proposition that the demise of central economic planning and the totalitarian state has been a universal phenomenon. Whilst it is certainly true that authoritarian states have been replaced by social democracies in more than 100 countries since the late 1970s, two caveats exist with regard to the universal nature of this trend. A number of nations still cling to some form of totalitarianism, either constitutionally or by virtue of alliances with the armed forces. Notable examples include Zimbabwe, Cuba and North Korea.

Secondly, as eloquently discussed in Friedrich Hayek's Nobel prize-winning dissertation *The road to serfdom* (1944), consistent increases in the level of government intervention in a so-called free market system can eventually reduce personal liberty to a pathetic minimum. History has shown that the loss of vital liberties do no necessarily take place in a single step, but that it can happen in degrees. This incremental move towards socialism (so-called "creeping socialism") has, in the past, been reflected in an ever-increasing ratio of public sector activity to private sector activity.

The believer in individual economic liberty will, therefore, recognise and appreciate the need for government activity, including limited restrictions on human activity (for the sake of order and justice), but will also keep a vigilant eye on the indicators of public sector interventions.

6.2 Counter-productivity of a high-tax regime

Broadly speaking, two different approaches exist with regard to the fundamental characteristics of a tax system. Free marketeers emphasise the principle of efficiency, in terms of which the economy should be encouraged to maximise its output levels. The underlying logic is clear and simple: government's tax revenue is a function (with a positive correlation) of different kinds of economic activity or asset ownership. A growing and expanding economy allows government to collect

more tax revenues, with which it can address both its functional obligations and its equity objectives.

The key to the free enterprise approach towards a tax system is that equity objectives should be pursued mainly via the expenditure side of the budget, and not via the revenue side.

Opposed to this view one finds the approach linked to socialism, namely that the tax system should play a key role in pursuing equity objectives, particularly through high levels of tax progression. Fiscal policies emphasising income distribution have contributed to the dismal failure of socialist countries. Their inability to match the pace of economic progress and welfare creation experienced in North America, Western Europe and several South East Asian countries over the past five decades eventually led to their demise.

The following specific dangers exist when redistribution policies are pursued without due cognisance of the causalities that underpin human behaviour in the macroeconomic equation:

- Theoretical and empirical proof exists that income taxes can lead to a decline in the number of productive hours worked in an economy, with a concomitant decline in aggregate output. Several economists have investigated this inverse causality between high marginal tax rates and revenue collections, particularly Arthur Laffer (1979). Econometric analysis has indicated that high income tax rates tend to lower the labour force participation rates of married women.

- The taxation function can be postulated as: T = t (EA)……..(3.2)
  Where T = aggregate tax revenue
  t = the relevant tax rate, and
  EA = the relevant taxation base (mainly vested in economic activity)

  It stands to reason that excessively high taxation rates can exert a negative influence on T as a result of lower levels of economic activity. For example,

high transfer duties and property taxes can act as a disincentive to purchase property and an incentive to rent.

- Highly skilled employees possess a large degree of international career mobility, and attempts to increase taxes beyond a certain limit may induce many of these people to emigrate, thereby depleting a key component of an economy's resource base.

- According to Rosen (1999), the existence of a valid argument in favour of income redistribution does not necessarily translate into the desired results. The direct and indirect costs of bureaucratic intervention in the process of income redistribution may outweigh the equity gains achieved.

- Bureaucracies that are responsible for the administration and implementation of redistribution policies are often subject to the vagaries of public sector inefficiency, combined with a trend towards the "crowding-out" of the private sector by the public sector.

6.3 "Crowding-out" of private sector investment

One of the long-standing criticisms of undue reliance on fiscal demand side stimulation of the economy is related to its effect on interest rates. Public sector borrowing, if allowed to rise out of proportion to the pool of funds available in the domestic capital market, will tend to place upward pressure on both long-term and short-term interest rates. As a direct inference, the marginal cost of capital required for private sector investment in new productive capacity will increase. At some point, higher interest rates lead to the annulment of or, at best, postponement of new private sector capital formation projects. This phenomenon is commonly referred to as "crowding-out".

6.4 The public debt burden

Public sector borrowing for the purposes of infrastructure development, particularly in developing countries, has not been questioned since the successful implementation of Keynesian demand-side policies during the 1950s and 1960s.

The practice of debt financing of current expenditures is, however, regarded as a sign of inherent macroeconomic instability and should be avoided at all costs.

The obvious underlying reasons for permanent concern over the levels and growth of public debt are related to a variety of so-called “public debt burdens”, namely additional or higher taxes (to finance the interest payments), inflationary pressures, and the “crowding-out” of private sector capital formation through higher interest rates (as discussed in the previous sub-section).

A relatively large outstanding state debt undermines the flexibility of fiscal policy. In times of sluggish economic growth, unemployment benefits and welfare payments tend to increase, whilst revenue growth is curtailed. Both of these effects lead to an increased fiscal deficit. The result will manifest itself in higher levels of interest payments on the public debt and exacerbate the fiscal deficit growth in ensuing debt servicing rounds.

6.5 The relative size of government

No universally accepted quantitative standard exists for the ratio of government expenditure to GDP. Consensus nevertheless exists with regard to one specific norm, namely that current government expenditure should never be allowed to exceed current government revenue. Fiscal authorities are nevertheless guided by inter-country comparisons of public spending/GDP ratios. Such comparisons are only useful when analysed against the background of other economic indicators, especially those that relate to the particular stage of economic development and the size and level of sophistication of the taxation base.

In general, developing countries lack the diversity and scope of economic activity that serve to support a broad taxation base. As a result, government spending/GDP ratios are required to adjust to lower levels than those encountered in high-income countries.

Table 3.3 compares the above ratios for a number of African countries, as well as selected high-growth developing countries in South East Asia. This comparison suggests that South Africa has a relatively large public sector. Empirical evidence also suggests that each country possesses a benchmark level for the size of

government, beyond which national productivity becomes threatened (Scully 1998).

As alluded to in the introduction, most of the high-income and middle-income countries of the world introduced reforms to the role of government in the economy since especially the late 1970s, mainly as a result of clear indications that the undue proliferation of public sector activity had been undermining macroeconomic stability. Empirical research confirms that, since the late 1980s, an inverse correlation exists in most countries between the propensity to lower the level of involvement of the state, on the one hand, and output growth, on the other hand.

Table 3.3: Current govt. spending/ GDP ratios - selected developing countries (2003)	**%**
Egypt	23
South Africa	22
Chile	18
Ivory Coast	17
Philippines	16
Venezuela	16
Malaysia	15
Peru	14
Korea	14
Sierra Leone	13
Indonesia	12
Singapore	12
Thailand	12
Guinea	10