

# THE DETERMINANTS OF THE STRUCTURE OF GOVERNMENT EXPENDITURE IN SOUTH AFRICA

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## **Abstract**

This study investigates the determinants of the distribution of the public budget in South Africa among the various functional categories during the period 1977 -2006. We specify a system of equations for the relative shares of various functional components of the public budget and estimate it using the Iterative Seemingly Unrelated Regression Estimation (ITSURE) procedure. Evidence from this study shows the evolution of reprioritization of government expenditures over the period up to 2006 with an increasing share of the budget directed at socio-related expenditures. It is also found that defence spending is the main casualty during this period. Further evidence shows that per capita income, relative size of government to GDP and demographic variables are critical determinants of the distribution of the public budget to various functional components in South Africa.

*Key words: Public budget distribution; seemingly unrelated regression; South Africa.*

*JEL: H5; H50*

## **1.0 INTRODUCTION**

The structure of the public budget has attracted attention in the field of public economics since the pioneering work of Samuelson (1954). While recognising that the size and composition of public expenditure is one of the principal components of fiscal policy a number of studies have investigated whether or not the structure of

government expenditure is important in influencing macroeconomic outcomes. For example, Barro (1990) and Devarajan, Swaroop and Zou (1996) find evidence to support the notion that the manner in which government expenditure is structured has a strong bearing on economic growth outcomes.

Other studies have focused on the factors that drive the allocation process of the public budget. For example, Bocherding and Deacon (1972), Bergstrom and Goodman (1973), Gramlich and Rubinifeld (1982) and Takero (1999), used the median voter framework to analyse the structure of public spending at the local government levels. Another strand of literature highlights the role of governance matters in the distribution of the public budget. For example, Nader (1992) investigated the influence of human rights on the distribution of the public budget and found strong evidence to the effect that high levels of human rights are associated with larger budget allocations of health, education and social welfare. While Mauro (1998), and Gupta et al, 2000, 2001; Delavallade (2006) find evidence in support of the influence of corruption in the allocation of the public budget away from social sectors of the economy.

Recently a model developed by Tabellini and Alesina (1990) shows how public debt can be used strategically to influence expenditure priorities of government when the political parties alternate in office. Further theoretical and empirical evidence regarding the role public debts is also available in Beetsma and Bovenberg 1999, 2002; Mahdavi, 2004 and Ouattara, 2006). The role of the structural adjustment programmes of the International Monetary Fund is also cited as instrumental in influencing expenditure priorities of governments in developing countries.

The rest of the paper is organised as follows: Section 2 discusses the structure of government expenditure while Section 3 presents the analytical framework and discusses the model to be estimated. Section 4 presents the estimation results and Section 5 concludes.

## 2.0 REVIEW OF BUDGET STRUCTURE IN SOUTH AFRICA: 1983-2006

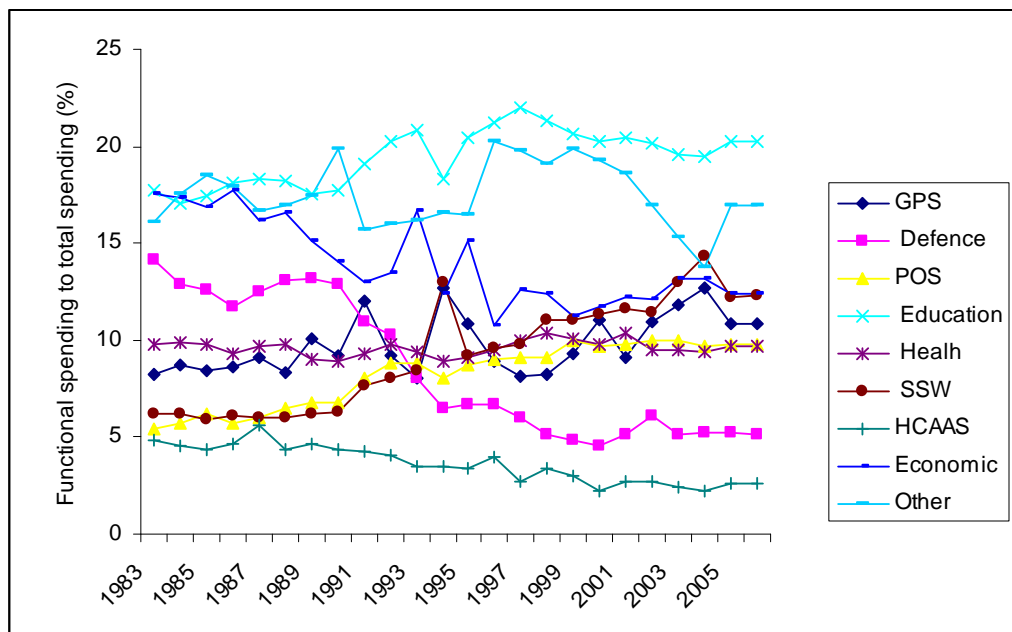
The structure of the public budget in South Africa has undergone tremendous changes, which is a reflection of changing strategic, security and social priorities as well as changing economic conditions over time. From Figures 1, 2 and 3, it is observed that the various functional budget components experienced dramatic changes. During 1983-2006 the general public services (GPS) accounted for approximately 10 per cent of the total public budget growing by an average of 3.6 per cent per annum. However a look at the period 1983-1993 it is found that it only accounted for 9.1 which rose to 10.6 during the period 1994-2006. It is also found that there was a rapid expansion of general public services spending which averaged 5.9 per cent per annum. The expansion of this expenditure may be attributed to the changed priorities of the post-apartheid government.

During the early 1980s the defence budget as a share of the total public budget remained high, which may be explained by a number of factors, *inter alia* South Africa's involvement in Angola, Namibia and Mozambique; and the deteriorating internal security situation which was brought about by violent protests to apartheid in black townships. By 1986, the defence budget was lowest in the 1980s partly because of the state of emergency of 1986. However, it started to increase again reaching its highest level in 1989 (13 per cent). Thereafter it started to decline because of the end of the end of the cold war which necessitated withdrawal of South African troops from Angola and Namibia; the lifting of a ban imposed earlier on all opposition groups in 1990 and political prisoners were released while the anti-apartheid activists in exile were allowed to return to South Africa. And the state of emergency imposed in 1985 was lifted. By 1989, the South Africa economy had deteriorated that it could not afford a bloated defense force and was forced to reduce the size of the force. After 1994 the defense budget continued to decline which is a reflection of the changed priorities of the post-apartheid regime.

In the case of public order and safety (POS) it accounted for 2.8 per cent of the national budget. During the apartheid era it stood at 6.8 per cent rising to an average

of 9.4 per cent during the post apartheid era. It grew by 2.8 per cent which included 5.1 per cent during the apartheid era and 0.9 per during the post apartheid era. The higher growth during the apartheid era may be explained by the fact that public order and safety sector complemented the efforts of the defence department during this period. During the post-apartheid era this expenditure item has also seen some growth as the government is committed to deal with the challenges posed by violent crimes in the country.

**Figure 1: Trends of selected functional spending in South Africa: 1983-2006**

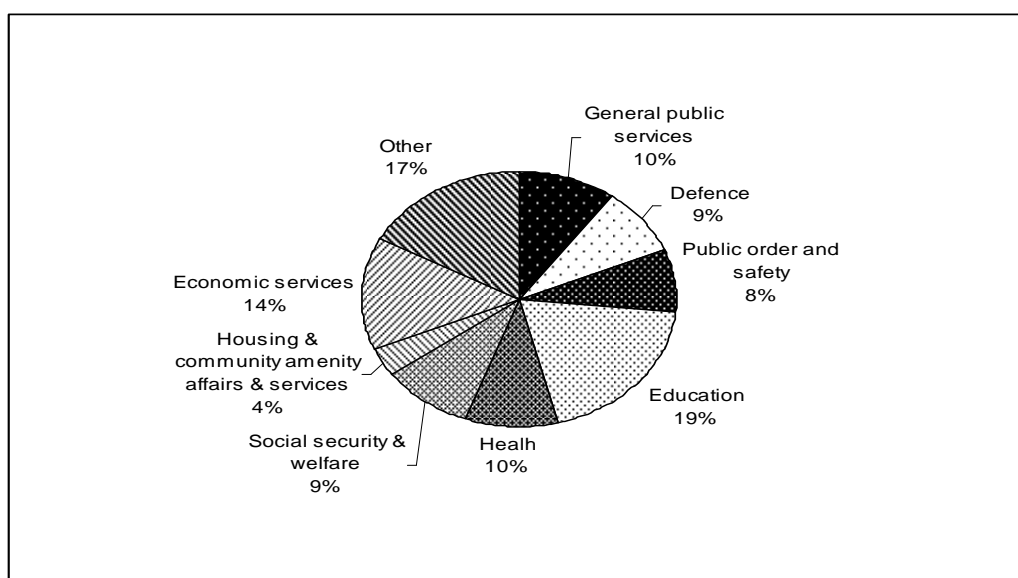


Source: South African Reserve Bank, Quarterly bulletin, various issues

With regard to the social sector expenditures it is found that education expenditure accounted for 19.4 per cent of the total budget with no significant difference observed during the apartheid era (18.4 per cent) and post-apartheid era (20.3 per cent). This illustrates the fact that irrespective of the regime in place education has been a priority of the South African government as it took a larger slice of the budget. On the other hand, the health budget stood at 9.6 per cent on average and grew marginally during the entire period with no significant differences during the apartheid and post-

apartheid periods. In terms of the social security and welfare (SSW) it is found that its average share stood at 9.3 per cent but with significant differences during the apartheid era (6.6 per cent) and post-apartheid era (11.7 per cent). And it is also noted that it expanded more rapidly during the post-apartheid era which may be attributed to the introduction of more forms of social security products such as child grants, old age grants and disability grants during this period. Besides, the recipient base of these benefits as widened compared to the case during the apartheid era.

**Figure 2: Average distribution of public budget (1983-2006)**

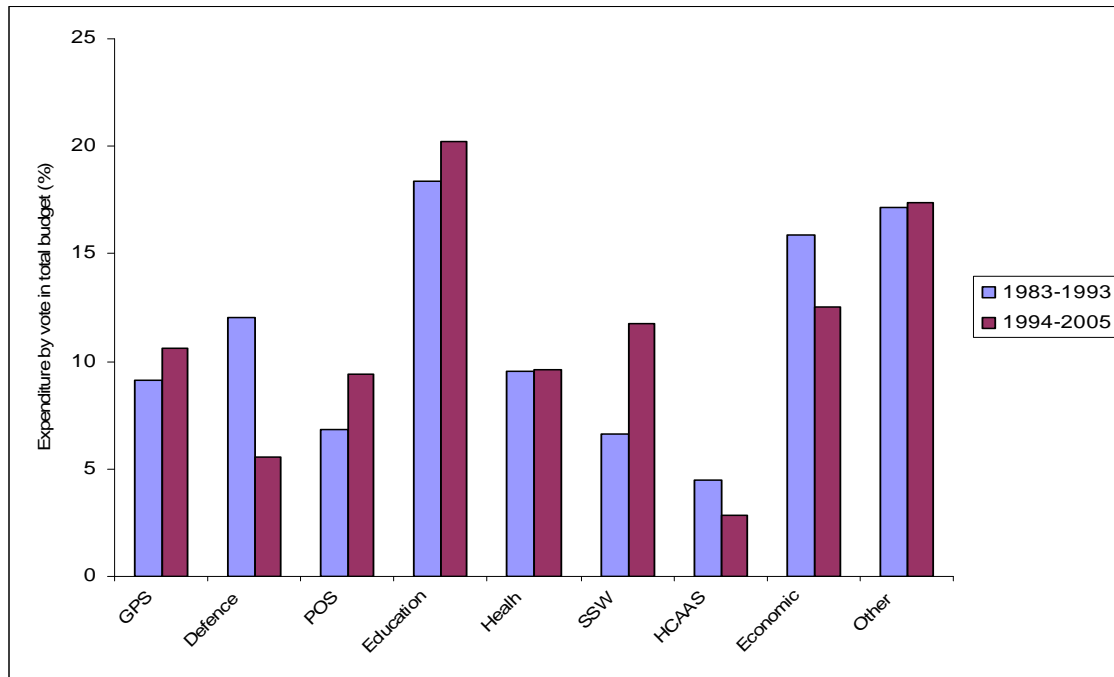


*Source:* South African Reserve Bank, Quarterly Bulletin, various issues

From Figure 2, it is evident that, besides “other” spending, the public budget in South Africa has largely remained in favour of education spending (19 per cent) and economic services (14 per cent). Health spending accounted for 10 per cent of the budget with social security and welfare accounting for 9 per cent. This therefore indicates that the social sector accounts for nearly 40 per cent of the public budget. It is also observed that defence spending remained low at 9 per cent on average. Further analysis shown in Figure 3 shows that the shares of general public services; public order and safety; and social security and welfare increased during the post-apartheid era. On the other hand, defence; economic services; and housing &

community amenity affairs and services (HCAAS) declined substantially during the post-apartheid period. The share of health expenditure has remained largely unscathed during the two regimes.

**Figure 3: Comparison of budget structure before and after 1994**



Source: South African Reserve Bank, Quarterly Bulletin, various issues

### 3.0 METHODOLOGY

#### 3.1 Analytical framework

This study uses a public choice framework developed by Hewitt (1992, 1993). The current study extends the framework in order to analyse any type of spending by partitioning government spending into the various functional categories. Here we let government spending,  $G$ , be a composite of the functional spending category,  $g_i$ , such as military spending, health spending or education spending and 'other' spending  $g_j^1$ , such that:

<sup>1</sup> In this case,  $g_j$  is the total spending outlay less the spending on the  $g_i^{th}$  category.

$$G = g_i + g_j \quad 1$$

Assuming that that government spending is financed through taxation such that:

$$G = T \quad 2$$

where G is the government spending and T is the tax revenue. Equation 2 is therefore a budget constraint of the government. We also assume that the tax function, T, is stated as follows:

$$T = \tau Y \quad 0 \leq \tau \leq 1 \quad 3$$

where Y is the level of income. In order to maximise the welfare function we assume a utility function of Cobb-Douglas type stated as:

$$U(C, g_i, g_j) = C^\beta g_i^\gamma g_j^\delta \quad 4$$

This utility function is assumed to be twice-continuously differentiable on private consumption (C) and government spending (G), with  $U_f > 0$  and  $U_{ff} < 0$  for  $f = C, G$ , where  $\delta = 1 - \beta - \gamma$ . Finally, for simplicity, we assume no private investment and also omit time indices for notational simplicity. The model is founded on the conventional utility maximisation problem stated as:

$$\text{Max } U(C, g_i, g_j) = C^\beta g_i^\gamma g_j^\delta \quad 5$$

Subject to

$$Y = C + G \text{ and } G = g_i + g_j \quad 6$$

The optimal values of the above problem is:

$$\frac{g_i}{G} = \frac{\gamma}{\beta}(1-\gamma)\frac{Y}{G} \quad \text{and} \quad \frac{g_j}{G} = \frac{\delta}{\beta}(1-\gamma)\frac{Y}{G} \quad 7$$

In equation 7, if tax rate  $\tau$  is given, the share of spending category  $g_i$ , in total government expenditure, depends on the parameters of the utility function  $\gamma$  and  $\beta$ . Similarly, for a given level of tax rate  $\tau$ , the proportion of the 'other' spending category,  $g_j$ , in total government expenditure depends on the parameters of the utility function  $\delta$  and  $\beta$  in the  $j^{\text{th}}$  expenditure category. This, therefore, suggests that a lower  $\gamma$  relative to  $\beta$ , leads to a decrease in  $g_i$  relative to private consumption. The same is true for a lower value of  $\delta$  relative to  $\beta$ , which also leads to a decrease in  $g_j$  relative to private consumption. From equation 7 we notice that:

$$\frac{g_i}{G} = f\left(\tau, \frac{Y}{G}, K\right) \quad 8$$

Where K are other variables that are usually included in the total or functional government expenditure models.

### 3.2 The model

In the literature a number of factors are listed that explain government expenditure in general and specific functional categories. The level of income per capita which proxies the level of development has been highlighted various authors (see Davoodi et al 2001, Gupta et al, 2000, Delavallade, 2006, Nyamongo, 2007) who have found mixed signs in the case defence spending. In the case of education spending, Mauro, (1998) finds a positive relationship. In the health spending category, the expected signs are mixed signs ( see Frijters, Haisken-DeNew and Shields,2005; Gerdtham and Lothgrem,2000; Di Matteo and Di Matteo,1998; Blomqvist and Carter, 1997; and Hansen and King,1996). In the case of Social security and welfare we expect a positive sign with the level of economic development as higher levels of economic development will tend to occasion government to allocate more resources to the social welfare programmes. In general public services, public order and safety,

and housing and community services we do not have prior expectations regarding the signs as we have not sighted any study that has investigated these functional expenditures.

Size of government as proxied by the share of government expenditure to GDP to measure the burden of government on the economy is also found to influence the direction of public expenditures. As suggested by Mahdavi (2004) large governments are associated with inefficiencies which largely occasion governance concerns. Thus large governments will therefore tend to shift resources towards defence, and public order and security. Otherwise, smaller governments will tend to allocate large budgets to the social welfare expenditures such education, health and social welfare. And also, economic services spending. This therefore suggests that we expect a negative relationship between size of government and defence spending, and public order and safety while we expect a positive relationship with the remaining functional categories.

The role of political stability is also highlighted by a number of studies as being influential in the internal distribution of the public budget (see, Davoodi et al, 2001; Nyamongo, 2007; and Kimenyi and Mbaku, 1995). In this regard we expect that higher levels of political instability will tend to shift the budget in favour of functional components that seek to restore order such as defence, and public order and safety while higher stability will tend to favour social welfare and economic services sectors.

The influence of demographic factors has been highlighted variously in the literature. For example, the proportion of urban population in the whole population ( see Gupta, 2000; Devallade, 2006;). The dependency ratio of the population ( see Gupta, 2000; Devallade, 2006;). The proportion of the population under 15 years (Mauro, 1998; Nyamongo, 2007). In the cases of education, health and economic services we expect to have a positive relationship with all the demographic variables used in this study. We do not have prior expectations of the impact of population and dependence ratio on general public services, defence and other spending.

In view of this discussion we specify a model to characterise the functional spending priorities of government as:

$$S_{it} = \alpha_i + \beta_i(DUM94)_t + \gamma_i(LYPP)_t + \delta_i(LDEM)_t + \kappa_i(Lgov) + \tau(Ldet) + \mu_{it}$$

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Where,  $S_{it}$  is the expenditure of the  $i^{\text{th}}$  vote in total public budget at time  $t$ ;  $Lypp$  is the real per capita GDP that serves as a proxy for the level of development;  $Lgov$  is the ratio of total government spending to GDP. It measures the relative size of the government;  $DUM94$  is the dummy variable that characterises our sample into two periods;  $DEM$  is a vector of demographic variables while  $Ldet$  is public debt to GDP. Equation 9 above, which depicts the expenditure as a share of the total expenditure, imposes an additivity constraint on the dependent variable. That is:

$$\begin{aligned} \sum_{i=1}^9 S_{it} &= \sum_{i=1}^9 \alpha_i + \sum_{i=1}^9 \beta_i(DUM94)_t + \sum_{i=1}^9 \gamma_i(LYPP)_t + \sum_{i=1}^9 \delta_i(DEM)_t \\ &+ \sum_{i=1}^9 \kappa_i(Lgov)_t + \sum_{i=1}^9 \tau_i(Ldet)_t + \sum_{i=1}^9 \mu_{it} = 1 \end{aligned} \quad 10$$

In light of the constraint imposed by equation 10, above it implies that the error terms in various equations are correlated due to the restriction that the relative spending shares in the  $j^{\text{th}}$  country at time  $t$  must necessarily add up to one or one hundred per cent. The adding up restriction imposes further implications on the parameters suggested by equation 10. Since equation 10 must necessarily and identically hold true for each annual observation, it imposes the following further restrictions on the parameters of the share equations:

$$\sum_{i=1}^9 \beta_i = \sum_{i=1}^9 \gamma_i = \sum_{i=1}^9 \delta_i = \sum_{i=1}^9 \kappa_i = \sum_{i=1}^9 \tau_i = 0$$

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Another implication is with regard to the error term, which follows from the fact that that since for the  $j^{\text{th}}$  country in period  $t$ , underestimation of the share of some spending category is associated with overestimation of the remaining shares, then

the sum of the error terms from all the share equations will sum to zero, which is formally stated as:

$$\sum_{i=1}^9 \mu_i = 0 \quad 12$$

In view of equation 11, which imposes restrictions on estimated parameters of the share equations and equation 12 which gives the expected value of the errors from the share equations then it follows that:

$$\sum_{i=1}^9 \alpha_i = 1 \quad 13$$

This therefore, suggests that the error terms across the share equations comprise a seemingly unrelated system of equations which suggests that since our system comprises of nine equations only eight are independently estimated and the coefficients of the ninth one are recovered via the restrictions in Equations 11 and 13.

### **3.3 Estimation Procedure**

In view of the expected simultaneity arising from the correlation of the error terms the share equations implied by equation 10 are estimated as a system using Seemingly Unrelated Regression (SUR) estimation method proposed by Zellner (1962).

### **3.4 Data sources and type**

Data for the functional government expenditure during the period 1983-2006 is obtained from the Quarterly bulletins of the South African Reserve Bank. To obtain functional expenditure categories for 1977-1982, we backcast the available functional classifications. A dummy to capture changed priorities is constructed with a value of zero during the period before 1994 and one for the period after 1994. The data on demographic variables is obtained from the World Bank CD-RM while data on

government expenditure and GDP per capita is obtained from the South African Reserve Bank. All the data is of annual frequency.

#### 4.0 ESTIMATION RESULTS

The estimations are conducted using the iterative seemingly unrelated regression procedure and this is conducted at 2 levels. At the first level we seek to analyse whether or not there is significant break in budget priorities using a bivariate estimation with DUM94 as the only independent variable with the budget shares of budget being dependent variables as shown in Table 1.

The bivariate estimations shows that the budget allocation to general public services stood at approximately 9.1 per cent before 1994 but it increased by nearly 1.5 per cent during the post apartheid era. In the case of defence budget it stood at nearly 12 per cent during the apartheid era but it declined significantly by 6.4 per cent. Public order and safety, education, health and social welfare also posted higher budget allocations during the post apartheid era. However, the spending categories of housing and community amenities and services declined by 1.6 per cent while the allocation to economic services declined by 3.3 per cent during the post apartheid era. This therefore suggests that sectors that have suffered major impact during the post apartheid era are defence, economic services, and housing and community amenities and services.

**Table 1: Bivariate estimation results: Dependent variable is share of budget**

N=30	GPS	DEF	POS	EDUC	HET	SSW	HCAS	ECONS	OTH
DUM94	0.015** (2.35)	-0.064*** (-11.87)	0.026*** (6.61)	0.019*** (4.06)	0.001 (0.75)	0.051*** (8.14)	-0.016*** (-6.76)	-0.033*** (-5.53)	0.016 (n/a)
Cons	0.091*** (19.89)	0.12*** (30.55)	0.068*** (23.97)	0.184*** (55.70)	0.095*** (76.87)	0.066*** (14.65)	0.045*** (26.24)	0.159*** (36.75)	0.238 (n/a)
R <sup>2</sup>	0.21	0.87	0.68	0.44	0.03	0.76	0.69	0.59	(n/a)

\*\*\* significant at 1 per cent; \*\* significant at 5 per cent; and \* significant at 10 per cent. t-values in brackets and N is number of observations.

The multivariate system estimation results in Table 2 show that the dummy variable is negative but statistically insignificant in the general public services spending which shows that during the period after 1994 the slice of the budget allocated to this sector had actually declined although such decline was not large. The coefficient of the dummy in the case of defence spending shows it to be negative and significant at 1 per cent level of significance which suggests that there was a major shift away from defence spending during the post apartheid era. It is also found that the estimated coefficient of the dummy in the education and social welfare expenditures was positive and significant at 10 per cent level of significance which point to the fact that the post-apartheid government had actually structured its budget in favour of these sectors. In the case of public order and safety, health and economic services the estimated coefficients are negative but insignificant at the conventional levels of significance.

The size of population was also included as an explanatory variable and it was found that it has a negative and significant sign in the case of general public services. It was found to be positive in the case of education spending which suggests that higher populations will demand higher government expenditures on education. Although, the population segment that benefits from education is that of less than 15 years old, and considering that the majority of the population in South Africa is young age the estimated coefficient here will tend to reflect preferences for education spending as the population size grows. In the case of health spending the estimated coefficient was found positive and significant at 1 per cent level of significance which implies that higher population will demand larger budget slice in the provision of health care services.

In the economic services spending category the estimated coefficient of population size is positive and only significant at 10 per cent level of testing which suggests that there is evidence to support the notion that higher population size will tend to favour government investment in economic services such as infrastructural facilities. However, it was found that in the case of the defence spending, public order and safety, and housing and community services the estimated coefficients are not

statistically significant which suggests the size of population *per se* does not influence government decisions to channel budgetary resources to these sectors.

The population dependence ratio variable which proxies the burden on the economically active population was found negative and significant in the general public services, public order and safety, which suggests that higher population dependence ratio will occasion budgetary resources to shift from these sectors. This may be because higher dependence ratio will imply heavier burden on the economically active population. However, increasing government expenditures on general public services, and public order and safety will not directly contribute to reducing the burden this burden. Therefore, the government will tend to respond to the rising burben by shifting budget resources to those components which will directly ease the burden on the economically active population. For example, shifting resources from these sectors to education, health and social security and welfare will directly contribute to improved conditions of the economically active population.

On the other hand, the estimated coefficients of population dependence ratio are positive and significant in the education and health spending which suggests that high dependence ratio will trigger budget reallocation in favour of education and health sectors. These results imply that higher dependence ratio suggests that the burden to provide by the working class citizens is heavy and therefore government will tend to ease this burden by allocating a larger budget to education and health with a view to making these services affordable. In the case of the social security and welfare the estimated coefficient of population dependence ratio is negative which suggests that higher dependence ratio will occasion less resources to be channelled to the social security and welfare which supports Delavallade (2006).

**Table 2: System estimation results**

N=30	GPS	DEF	POS	EDUC	HET	SSW	HCAS	ECONS	OTH
Dum94	-0.001 (-0.110)	-0.039*** (-5.540)	-0.001 (-0.210)	0.009* (1.650)	-0.001 (-0.220)	0.026** (2.580)	-0.004 (-0.940)	-0.001 (-0.030)	0.012 (n/a)
Lpop	-0.275*** (-3.650)	-0.064 (-0.210)	-0.027 (-1.130)	0.078*** (2.910)	0.067*** (3.100)	-0.111 (1.660)	-0.000 (-0.010)	0.1438* (1.760)	0.188 (n/a)
Ldep	-0.647*** (-3.590)	0.042 (0.330)	-0.227*** (-3.950)	0.108* (2.080)	0.109** (2.040)	-0.391** (-2.380)	0.088 (1.290)	0.505** (2.57)	0.413 (n/a)
Lgov	-0.150* (-1.930)	-0.121** (-2.300)	0.012 (0.470)	0.100*** (3.180)	0.016 (0.710)	0.021 (0.290)	-0.013 (-0.440)	0.181** (2.170)	-0.046 (n/a)
Lypp	0.082 (1.550)	0.126*** (3.750)	-0.112*** (-6.670)	-0.161*** (-5.150)	-0.004 (-0.300)	0.071 (1.430)	-0.007 (-0.360)	0.187*** (3.510)	-0.182 (n/a)
C	-0.135 (-0.210)	-0.635 (-1.530)	1.094*** (5.420)	1.404*** (4.320)	0.047 (0.270)	-0.731 (-1.230)	0.186 (0.810)	-2.308*** (-3.500)	2.078 (n/a)
R <sup>2</sup>	0.68	0.97	0.96	0.79	0.53	0.91	0.88	0.77	(n/a)
Adj. R <sup>2</sup>	0.59	0.96	0.95	0.74	0.42	0.86	0.85	0.71	(n/a)

\*\*\* significant at 1 per cent; \*\* significant at 5 per cent; and \* significant at 10 per cent. T-values in brackets and N is the number of observations.

The estimated coefficients of government expenditure to GDP which proxies size of government relative to GDP is found to have different signs and levels of significance in different functional categories. In the case of general public services and defence the estimated coefficients are found to be negative and significant at the conventional levels of testing. This suggests that as the size of the government becomes large relative to GDP less of the budget resources will be earmarked for public order and safety and defence. Although this finding contracts that of Mahdavi (2004), it is plausible because it may be the case that when the government expenditures increase these sectors are not the beneficiaries, at least in the South Africa context, as they do not support many of the institutions that normally bloat government. For example, large government manifests itself in expenditures on large authorities, and state enterprises. The funds to these levels of government are normally channelled through the relevant department which may explain why defence and general public services have a negative relationship with this variable. On the other hand, it is found that the estimated coefficients in the case of public order and safety, health, social welfare and housing are not significant.

Further evidence shows that education and economic services spending categories are the main beneficiaries when government expenditure increases relative to GDP. In the case of education it may be the case because education expenditure is one of the priority areas of the South African government as it accounts for nearly 20 per cent of the budget over the period under investigation. Therefore, any development in the education sector such as high enrolment rates, construction of schools and expanding the exist ones together with demand for better salaries by the educators, who constitute the bulk of the public sector workforce, will inevitably feed into the budgeting process which will lead to the sector getting a larger slice of the budget. In the case of economic services spending, the demand for infrastructure such as roads, water, and electricity is also a priority of government policy which also suggests that increases in government expending relative to GDP will tend to favour this sector as well.

In the case of the estimated coefficients of GDP per capita which proxies the level of economic development shows that it is positive and statistically insignificant in the case of defence expenditure. This suggests that as a country becomes developed it tends to favour expenditure on defence which may be explained by the fact that defence is a pure public good which is normally provided by the national government and therefore citizens will expect their legitimate government to provide them with protection. On the other hand, it was found that public order and safety expenditure is negatively related to income per capita. This is a surprising result as it was expected that higher levels of development will occasion the citizens to lobby their government to provide more resources to public order and safety.

It is found to be negative and insignificant in the case of health and housing spending. Further evidence also show that higher levels of GDP per capita is associated with higher budgetary resources going to the economic services, obviously to support the heavy capital investments in this sector. In the case of education expenditure it is found that the estimated coefficient of GDP per capita is negative and significant at 1 per cent level. This suggests that a higher level of economic development does not favour larger budget allocations to the education

sector. The possible explanation is that education is a merit good and not a pure public good which require full government provision.

## **5.0 CONCLUSION**

The purpose of this study was to investigate the factors that determine the allocation of the public budget in South Africa among the various functional categories over the period 1977- 2006. This was conducted by using a framework that recognises functional government as a share of total government expenditure. The estimations are conducted using seemingly unrelated regressions (SUR) procedure.

From the estimated results it is found that the structure of the public budget in South Africa has undergone major shifts. During the post-apartheid era the budget has seen significant decline in defence spending while major improvements were posted in the education and social welfare spending. Further evidence shows that the size of the population impacts positively on education and health expenditure and economic services while it is found to negatively affect the budget allocation to social welfare. However, the population dependence ratio was found to influence the allocation to general public services, public order and safety negatively while it impacts positively on education, health and economic services spending categories.

Furthermore it is found that high levels of GDP per capita tend to favour defence and economic services spending at the expense of public order and safety and education. While it is also found that as the government becomes large relative to the economy more budget resources tend to shift to education and economic services at the expense of general public services, and defence.

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