

A STUDY OF PUBLIC FINANCE AND  
THE ATTITUDES OF THE GENERAL PUBLIC  
(WHITES AND COLOUREDS) OF CAPE TOWN  
TOWARDS THE ALLOCATION OF PUBLIC FUNDS

by

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Thesis presented in fulfilment of the requirements  
for the Degree of Master of Social Science  
at the University of Cape Town

Department of Sociology

1980

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A C K N O W L E D G M E N T S

This study is in some ways the outcome of group effort. I am indebted to a number of colleagues at the University of Cape Town for their generous contribution of time and thought:

Daphne Venturas of the School of Economics constructively criticized the theoretical part.

Mick Couper and Bill Cowan gave valuable assistance in carrying out the computer work.

Paul Hare, Professor of Sociology, offered a new dimension to the statistical analysis.

Velma Vulliamy collaborated with me in editing and typing a complex text.

Max von Broembsen, Head of the Department of Sociology, carefully supervised the total effort.

C O N T E N T S

	<u>Page</u>
ACKNOWLEDGMENTS . . . . .	ii
ABSTRACT . . . . .	iv
<u>CHAPTER 1:</u>	
General Introduction to Public Finance and Introduction to Public Finance in South Africa . . .	1
<u>CHAPTER 2:</u>	
Measuring Attitudes of the Public . . . . .	42
<u>CHAPTER 3:</u>	
Survey Research on the Alloca- tion of Public Funds . . . . .	51
A The Problem . . . . .	51
B The Method . . . . .	53
(i) The Questionnaire . . . . .	53
(ii) The Sampling Procedure . . . . .	56
(iii) Coding . . . . .	58
C The Analysis . . . . .	59
D The Results . . . . .	66
E Conclusion . . . . .	71
APPENDIXES . . . . .	74
REFERENCES . . . . .	91

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ABSTRACT

A theoretical introduction to Public Finance is presented with a summary of the role which the South African government plays in the economic sphere. In addition, part of survey research data collected by the Department of Sociology, University of Cape Town, has been statistically analyzed in order to discover what demographic factors influence trends in citizen preferences and attitudes towards the allocation of public funds.

The hypothesis on which the research was based, i.e. that demographic variables such as sex, marital status, age, income, education and race produce significant differences in public opinion towards the allocation of public funds, has been partly rejected by the findings.

CHAPTER 1GENERAL INTRODUCTION TO PUBLIC FINANCE  
AND INTRODUCTION TO PUBLIC FINANCE  
IN SOUTH AFRICA

Public finance is now an exciting field of scholarship, and for a very simple reason. Scholars have only recently begun to look at fiscal phenomena through a different window. Much remains obscure but new insights are appearing; new relationships are being derived; old and established institutions and ideas are being subjected to critical analysis. Paradigms have not yet emerged to fix irrevocably the thought patterns of professionals. The theory of public goods remains in a pre-paradigm stage of development.

How do publicly-supplied goods and services get organized in large-number groups? Who decides, and on what basis, which goods and services are to be publicly supplied? Who decides, and on what basis, how much of each good and service to provide? Who decides, and on what basis, how costs are to be shared among members of the community? Who decides, finally, on who is to decide?

"What is to be maximized by the allocation of limited funds among the various public sectors?" asks Buchanan (1965).

Social welfare? Public interest? But what do these terms mean? They mean different things to different people. Some budgetary allocations are better than others to me. What is the criterion of efficiency? The official in the government department or agency, or the fiscal expert in the Bureau of the Budget, or the legislator, use some criterion which is not objective. For high level decisions on the allocation of public expenditures the task of the analyst is to inform decision makers of alternative courses of action. Rationality must replace 'efficiency'. There is no basis, other than the purely subjective one, upon which the presumed 'expert' can say that we need an additional \$10 billion spent on missiles. Systems analysis, operations research, and cost-benefit calculations are various terms used to define separate related efforts, to provide some scientific guidance in the decision-making process. Moreover, we must not neglect the limits that a bureaucratic structure places upon the carrying out of any assigned governmental task. The spending of disagreements does not necessarily mean corruption.

These are not simply philosophical questions. The purpose of the study is to contribute, not to propose something different. It examines alternatives; it does not recommend alternatives. Its aim is to show the difficulty of making choices in a complex and uncertain world, not to criticize those who have to make them.

Public finance is both a science and an art because its data can be classified and used for fairly accurate predictions and because its application to the very pressing and immediate problems of the State requires skill in performance. But what, actually, is public finance all about?

Bennett and Lippincott (1949) define public finance

as the study which deals with supplying all the requirements of the State. Buehler (1948) refers to public finance as the study of the divisions of expenditures, the raising of funds by taxation, borrowing, and the financial administration of governments. In other words it is the financing of those public needs that are supplied by governments. Due and Friedlaender (1973) think that public finance is the study of government which, in turn, is essentially the study of tax and expenditure policy. Buchanan (1965) maintains that public finance studies the economic activity of government as a unit. Dalton (1923) offers another definition: Public finance is one of those subjects which lie on the borderline between economics and politics. It is concerned with the income and expenditure of public authorities and with the adjustment of the one to the other. Due (1963) gives a more detailed definition. For him, public finance deals with the determination of the levels of government activities and expenditures, with the means by which the funds to carry on these activities are raised, and with the effects of the expenditure and revenue measures upon the private sector of the economy. Shoup (1969) views public finance as the discipline which describes and analyses government services, subsidies and welfare payments, and the methods by which the expenditures to these ends are covered through taxation, borrowing, foreign aid, and the creation of new money. Ventura (1979)

regards public finance as the study of revenue and expenditure activities of a government in terms of budgets, taxation, government expenditure and public debt. Public finance is an analytical tool to be used in the attainment of specific economic goals. Finally, Davie (1972) points out that public finance is the use of government expenditures and revenues to pursue policy objectives.

The list of similar definitions could be endless. The presentation of the above few serves a purpose - we now know the two keywords on which the whole field of public finance is based: revenue and expenditure. In the present thesis emphasis is given to the expenditure concept.<sup>1</sup>

The subject-matter of public finance falls into five divisions, according to Bennett and Lippincott (1949):

1. Public expenditures or needs of the State.
2. Financial administration which deals with the proper relation of expenditures and revenues, with collecting, handling, and disbursement of public funds, and with government budgeting.
3. Government borrowing and public debts and their economic repercussions.
4. Increases in taxation.

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<sup>1</sup>"Although they are clearly related, it is pedagogically convenient to divide the study of public finance into two major divisions: public expenditures and public revenues. Public finance texts have traditionally emphasized government revenues with many chapters devoted to different types of taxes. The fact that revenues were usually raised to finance expenditures was merely recognized." (Davie, 1972).

5. Public revenues and the sources of the State's income.

Related to these divisions is the classification of the government activity which is restricted to the performance of certain clearly defined services:

1. Those that must necessarily be performed by the State (police systems, courts of justice, regulation of monopoly and competition).
2. Those that can best be performed by the State (such as education, street lighting, etc.).
3. Economic activities that the State should not perform (certain private enterprise activities).

Governments, unlike profit-seeking corporations, are maintained primarily to promote the welfare of society rather than of certain individuals. The State lives on after the individual is gone; it serves generation after generation. Governments endeavour, as a rule, to render services rather than to secure profits and expend their resources on activities and projects that are considered desirable in the interests of society. To finance their services, governments may compel taxpayers to contribute to the public treasury, or they may coerce the public to buy their bonds.

There is a great tendency, at present, for people to rely more and more extensively on the State for certain aids and services and, at the same time, to complain bitterly about increases of public expenditure and taxation.

In the Western world the governmental sector constitutes a minority segment of the economy, most economic activity being conducted by private households and business firms. But the governmental sector has grown in importance over the last hundred years until the activities of government have reached such a magnitude that they exercise an important influence over the functioning of the entire economy. For two centuries or more the principle that the market or free enterprise form of economy is superior to other forms has been generally accepted in the Western world. Now this principle is not only being questioned - it is being altered, too! The State should, and does, maintain more than the legislative, executive, and judiciary departments, and an army and a navy. It should, and does, aid the farmer, the unemployed, the socially handicapped, during periods of business recession. In other words, the market mechanism in advanced capitalist economy is inadequate.

In private business the greater the surplus the more successful is the undertaking. On the other hand, the ideal of State economy is to establish and maintain as good a balance as possible between receipts and necessary expenditures, without having regard to profit. A government is a service institution and must act without regard to profits and losses. A government that has large running surpluses is as ill-managed as one with large annual deficits. Since by no possible chance will State income

and expenditure keep in constant balance, a policy of surplus-deficit financing is the one preferred. A balance is not expected to be struck annually. The present effort is to equate income and expenditure on a cyclical basis over a period of several years, rather than annually. Moreover, private finance determines its expenditure according to its income, while public finance determines its income according to its expenditure. In other words, while an individual adjusts expenditure to income, a public authority adjusts income to expenditure.

The activities of the State are becoming an increasingly important part of the study of modern economics. This is reflected in the quantitative growth of government expenditure and in the great expansion of direct regulation of economic life. State participation and regulation is an unavoidable reality.<sup>1</sup> No longer does modern man seem to act as if he believed "that government governs best which governs least". To understand the trend towards greater governmental authority one must maintain a sense of historical perspective.

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<sup>1</sup> By participation we mean the participation of government agencies in the ordinary function of the economy as a whole (such as production and consumption). Participation implies public ownership and use of resources. By regulation we mean the regulation of economic activities in the private sector (such as price control). Regulation implies political interference with the performance of the market. We have direct and indirect regulation.

In the early stages of State life there were few forms of property; public life was identified with the family and with religious life. There was little call for definite public expenditure.

In his introduction to public finance, Plehn (1909) writes that

... in Greece and Rome the services of a public character were performed by all citizens as a matter of course. In war they were the warriors; they furnished their own arms. By mutual effort, or by the slave labour of conquered peoples, they built their fortress-cities, ships, roads and temples. The simplicity of economic life and the absence of a money economy forbade the rise of any proper system of public revenues. Taxes were levied on conquered peoples, but the free citizen was usually exempt. In Athens we find a highly developed system of expenditure, almost communistic in character. The expenditure for public buildings and public works was particularly large, as were the extravagances of public festivals and sacrifices, of donations to the people, compensations for attending the assemblies, and the like. Peculiar to Athens was the assistance rendered at the public expense to the poor and especially to the children of those fallen in war.

In Rome the public wealth was not distinct from the private wealth of the citizens. With the increase of the provinces and the receipt of tribute from them came regular methods of public expenditure.

The items directly borne by the state were the cost of the priesthood, of buildings and other structures and roads, of the army, of the general administration, and of the distributions of food, of grain for the city population, and donations of money, oil, and wine. The army was first paid in 406 BC.

From the fall of Rome to the rise of feudalism there is a reversion to the earlier form of public life. It is the essence of feudalism that all governmental functions are placed in the hands of officials who are given the possession of lands which yield the necessary revenues for

the execution of those duties, like the organization and leadership of military operations and the crude administration of justice. As the monarchical state emerges from feudalism there is the same complete identification of the public purse with the private purse of the monarch, as there was of the state with the person of the monarch. The advance of constitutionalism changes the control of expenditure and its character. New criteria are established. An expenditure is now justifiable only when it results in some clear benefit to the people as a whole, or to the nation. Otherwise it meets the disapproval of the people.<sup>1</sup>

The demand for additional public services has never ceased. The vast extent and growth of the public sector have perhaps been the most important fiscal phenomena of the century, and in particular of the postwar period.

A functional analysis of twentieth-century expenditure and revenue trends would attempt to relate the expansion of the public sector to the more intensive application of governmental economic activity within

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<sup>1</sup> A good example of the uncertainty and changeability of the theories concerning the historical development of public expenditures is the following: Government outlay, according to an old and very common mercantilist theory is, in itself, a good thing since it "puts money into circulation" and "increases the demand for labor".

However, A Smith (Bullock, 1920) showed that all non-productive expenditure diminishes the funds destined for the employment of productive labour. He argued that particular forms of public expenditure in no way increased the industry of the country or the employment given to labour.

In other words, it was imagined by early economists like Smith and Ricardo that most of the private expenditure, which taxation checked, was "productive", while all public expenditure which taxes paid for was "unproductive". Today this distinction has been discredited.

areas of allocation previously provided by the public sector and because of the extensive movement of government into new areas of economic activity.

The latter movement involves the allocation of goods previously allocated by the private sector or of newly developed goods resulting from technological innovation, and previously allocated by neither sector.

Buehler (1948) explains the growth of expenditures by

- (i) the growth of population,
- (ii) the use of nationalism as an ideology,
- (iii) the industrial revolution which caused more government action for social welfare,
- (iv) economic changes,
- (v) rising prices,
- (vi) business cycles,
- (vii) the development of financial systems, and
- (viii) expansion of public wants.

Due and Friedlaender (1973) regard

- (i) the social functions of government,
- (ii) wars,
- (iii) depressions, and
- (iv) price rises

as the main causes of increases in public expenditure.

More specifically, Due (1963) recognizes the fact that governments spend more money today than they did twenty-five or fifty years ago

... because they perform more functions and they carry them on at higher levels. Apart from the

effects of price and population changes, the most important single factor has been the existence of the two world wars during the period and unsettled international relations since 1945. One-third of all government expenditures are made for purposes related to national defence. ... Veterans' aid, interest on the war debt and foreign aid programs are direct products of the wars. ... The attitude of society toward the responsibility of government in assisting those unable to provide themselves an adequate level of living was another factor. ... Also increased water supply, fire protection, urbanization and greater longevity, have raised the percentage of the population needing assistance from governments. ... Also the desire for better standards of performance of many government activities has led to greater expenditures. ... Technological changes played a major part. ... The automobile made better roads imperative. ... Increased recognition of the indirect social benefits of various activities of government has likewise led to an extension of expenditures. ... The realization of the increased complexity of the economy and the tendency of monopoly elements to develop have led to governmental regulatory activities and, in some cases, to government operation of production.

The influence of the wars on the public sector was tremendous indeed; governments had to perform more intensively their time honoured function of national protection, and to meet the growing demands of an urban-industrial population for education, highways, police and fire protection, public health, and other services. Ever-improving technology and related cultural adjustments connected with an urban-oriented society, help to explain the growing demands for these governmental economic products. Bullock (1920) acknowledges that the increase in the government expenditures in the nineteenth century was due to:

- (i) growth of military expenditures,

- (ii) great public works (railways, telegraphs, highways),
- (iii) the growth of public debts,
- (iv) the development of all forms of social prevention to diminish the evil in society, and
- (v) increasing participation of all the people in public affairs.

Herber (1975) emphasizes the fact that the growth of the public sector

... has been evident in absolute and relative basis. Thus while the resources allocated by both the public and private sectors have increased in absolute terms (which would be expected in an environment of expanding population, output, and complexity in economic activity) a higher proportion of total resources is now being allocated through the influence of government. ... A Wagner (1835-1917) believed that a functional "cause and effect" relationship exists between the growth of an economy and the relative growth of public sector. Relative growth of government sector is an inherent characteristic of industrializing economies. The Wagner hypothesis of increasing governmental activity holds that as per capita income and output increase in industrializing nations the public sectors of these nations necessarily grow as a proportion of total economic activity. Social progress was the basic cause of this growth. ... Wagner's theory is not interdisciplinary in its analytical framework. ... It is of economic nature, and political science and sociology are not included. ... It has attributes and defects.

Another theoretical, but more sophisticated, explanation of the growth of public sector comes from the Peacock and Wiseman hypothesis which introduces three related concepts:

- (i) the displacement effect,
- (ii) the inspection effect, and
- (iii) the concentration effect.

(i) The displacement effect: A major social disturbance like a war, a political instability, or a depression creates a displacement effect by which the previous and lower tax and expenditure levels are replaced by new and higher budgetary levels. After the social disturbance has ended, the new and higher levels which have been established make the people willing to support a higher level of public expenditure, since the society realizes that it is capable of carrying a heavier tax burden than it previously had thought possible. Therefore, when the social disturbance ends, no strong motivation exists for a return to the lower pre-disturbance level of taxation.

The study of the data of British economy shows that after 1890 the growth of British public sector has occurred on a "step-like" rather than on a "continuous" growth basis. This is explained by the "time pattern" and the displacement effect - given the crises and the disturbances which had occurred every few years in that period.

(ii) The inspection effect: After a social disturbance also, new areas require government's involvement. The necessity for governments to seek solutions to important but previously neglected problems is referred to as inspection effect. These problems could be in the private sector or caused by a technological advancement.

(iii) The concentration effect: We have concentration effect when the central government becomes a larger proportion of the aggregate public sector. It is the tendency for an increased national-central government economic activity which comes simultaneously with a decline of sub-national levels.

As Samuelson (1964) points out:

... rich countries tend, relatively, to spend more on government than do poor countries ... and the increase in collective expenditure is only part of the story. Besides larger direct participation by government in national production, there has been a vast expansion in its laws and executive fiats regulating economic affairs.

In other words, public policy touches the life of everyone living in an organized society. However, can this growth be measured?<sup>1</sup> Do the increases of State expenditures mean more efficient government and better services to the people, or do they represent waste in the handling of public funds? Why do public expenditures tend constantly to increase, but not in all departments nor for all functions of government in the same manner? In other words, why, while all departments of government have

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<sup>1</sup> The growth of public sector can be measured by considering public revenue in proportion to the gross national produce (GNP), and by reducing the absolute figures to percentages of national aggregates (for example, to reduce the figures for total public expenditures to percentages of GNP). GNP is the best overall measure of the level of total economic activity. It is the total value of goods and services produced during the relevant time period (Buchanan, 1965). Another indication of the growth of the public sector is the employment level in proportion to the total working population (Johansen, 1965).

increased their expenditures more or less over the past few years, some divisions have increased more than others? Is simply the occurrence of emergencies a satisfactory hypothesis to explain the growth of public sector? What rules should govern the extent to which various governmental activities, and thus expenditures, should be extended? In some cases, additional expenditures, beyond a certain point, on activities of high initial importance to society, will offer less, in terms of accepted social values, than expenditures on other activities of lower initial benefit. If in a small village, for instance, one or two fire trucks are sufficient to cope with an emergency situation, then it would be illogical and unnecessary to provide five. The public and private sectors of the economy must be recognized as "mutually interdependent parts of the same working economy. The public sector of the economy, no less than the private, has important functions to perform and neither sector can exist without the cooperation of the other." (Musgrave, 1959).

Commenting on the theory of expenditure growth, Musgrave (1969) states that it

... remains a fascinating but somewhat elusive problem. Even if economic factors only are considered, it is difficult to arrive at an expenditure law. Moreover, non-economic factors such as changes in technology and population are of great importance. Together with changes in social and political climate and the upheavals caused by war, they may well outweigh the effects of rising per capita income. If a historical

approach is taken, per capita income rises concurrently with changes in these variables, and it is difficult to separate one from the other. ... With a cross-section approach, change over time is eliminated, but countries with widely differing cultural, political and social settings are compared. In neither case does the evidence isolate the effects of changing per capita income in a neat fashion, so that economic hypotheses regarding the effect of changes in per capita income are not easily verified.

Defining the actual scope of government activity is a very controversial issue - opinions range from those of the followers of Adam Smith, who maintain that the government should provide only defence, justice and a few public works, to the socialists who believe that most economic activity should be controlled by the State.<sup>1</sup> Between those two extremes lie the mixed economies of the Western world where the public and private sectors interact. A substantial share of the nation's products goes to satisfy public needs; a large part of private income originates in the public budget; and public tax and transfer payments strongly influence income distribution.

Dalton (1923) mentions that public expenditure should be "carried just so far that the marginal social advantages of expenditure in all directions are equal, and just balance the marginal social disadvantages of all methods of raising additional public income."

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<sup>1</sup>"Too much reliance upon the state may prove highly demoralizing to the people." (Bennett and Lippincott, 1949). Evidence to support this assertion, however, is inconclusive.

Theoretically this basic principle is correct, but what does "carried just so far" mean in practice? How can this balance be achieved? These are some of the questions that Western governments face.

Before discussing the concept of the functions of governments, and the classification of the goods and services that the State offers to the people, let us briefly mention the sources of government funds and revenues. A government could

- (i) borrow money from another country;
- (ii) sell goods and services directly to the people;
- (iii) impose various taxes;
- (iv) secure a loan from its people;
- (v) issue irredeemable paper money;
- (vi) encourage intergovernmental grants;
- (vii) profit from industrial enterprises operated by itself or by State agents.

The fact that a government could consider all these alternatives does not mean that it will use all of them. Some governments will emphasize some alternatives, and other governments other alternatives. While, for instance, some underdeveloped Latin and African countries borrow money from developed Western and Eastern countries, others concentrate on taxation or on printing paper money, in periods of crisis. The decision rests entirely on the particular conditions under which a particular government has to operate.

Any type of economic system<sup>1</sup> must perform various functions if personal needs are to be satisfied by the use of available resources. Decisions must be made about the allocation of available resources among various products, to determine which goods are to be produced. Decisions must be made on the extent to which output will be used for immediate consumption and for use in future production or, in other words, the rate of overall real capital accumulation for society as a whole. The particular techniques of production must be selected; for example, is coal to be used as fuel for a particular purpose, or oil?

Just what are the proper functions<sup>2</sup> of the State is, at all times and in different countries, a debatable

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<sup>1</sup> Musgrave (1969) distinguishes between economic systems according to (i) whether the basket of consumer goods produced is based on individual preferences or directed by government; (ii) whether choice among jobs is left to the individual worker with wages determined in line with the worker's margin and product; or whether the allocation of labour is determined by government through conscription with wage payments determined as a matter of social policy; (iii) whether the overall savings rate, i.e. the share of GNP directed into capital formation (public or private) is determined by individual choice or by government; (iv) whether means of production (land and capital goods) are owned and managed by individuals or by government. It goes without saying that the various features tend to be mixed and that our "pure form" hardly exists in the real world.

<sup>2</sup> The concept of State functions is determined and limited by the social attitude of the political group. If the group is socialistic, the State may be expected to assume many and varied functions; whereas, if it is individualistic, the State provides a minimum of aids and services.

question upon which scarcely any two people agree. The cornerstone, therefore, is to determine the activities of the State, the expenditures required and the sources of revenue to supply these needs.

We have two main divisions of goods and services:<sup>1</sup>

- (i) those which can be provided to a society by a government, with or without charge, and
- (ii) those which can be provided to a society by private firms, with or without charge.

Petty (1650) suggested the first practical, comprehensive classification of public expenditure:

1. Public defence of the State.
2. Maintenance of government.
3. Support of religion.
4. Education.
5. Orphans.
6. Public works.

Casa (1850) divided public expenditures into:

1. Constitutional expenditures: legislative, executive and judiciary departments are responsible for them.
2. Administrative expenditures like security, well-being, etc.

Other attempts were made to classify expenditures

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<sup>1</sup> Goods and services needed to satisfy public works must be paid for out of general revenue. The goods and services must be supplied free of direct charge to the user; at the same time, they need not be produced under the direct management or supervision of the government.

under general headings such as ordinary-extraordinary, necessary-superfluous, productive-unproductive, capital-consumptive, economic-uneconomic, useful-wasteful, but all classifications were too general and indefinite to be of practical value.

Adams<sup>1</sup> classifies expenditures as:

1. Protective (army, police).
2. Commercial (industry, commerce), and
3. Developmental (improvement of living conditions).

Cohn<sup>2</sup> uses as his criterion the concept of benefit:

1. Expenditures for common benefit (education, protection).
2. Expenditures for individual benefit (for the enemployed, old, incapable).
3. Expenditures that are for individual benefit, part of which is paid by each recipient (administration of the court system, chartering of corporations, etc.).
4. Expenditures strictly for individual benefit. The individual is paying the entire cost to the State for furnishing such service (for example, service charges for passing through the Panama Canal).

Wilson and Woodrow (1918) outlined government functions as follows:

1. The constituent functions, such as the keeping of order and providing for the protection of persons and property; the fixing of the legal relations between man and wife, and

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<sup>1</sup> See Bennett and Lippincott (1949).

<sup>2</sup> See Bennett and Lippincott (1949).

between parents and children; the regulations regarding property; the punishment of crime and the administration of justice; the determination of the political duties, privileges, and relations of citizens; the protection of the State from external danger, etc.

2. The ministrant functions, such as the regulation of trade and industry and labour; the communications systems and transport; education; the care of the poor and incapable, etc.

Buehler (1948) states that expenditures can be classified into expenditures for:

1. Public safety.
2. Justice.
3. Regulation of economic enterprise.
4. Promotion of social and cultural welfare (education, social belief, health).
5. Regulation of moral standards.
6. Nature conservation.
7. Unity of State.
8. Administration of government.
9. Administration of government financial systems and fiscal control.

Schultze (1970) distinguishes the expenditures as follows:

1. Defence.
2. Health, education and welfare.
3. Housing, manpower, transportation, pollution control.
4. Law enforcement, research, development.

Another functional classification employed in presenting the federal budget document is offered by Buchanan (1965):

1. National defence.
2. International affairs and finance.
3. Technology.
4. Agriculture.
5. Natural resources.
6. Commerce, transportation.
7. Housing.
8. Health.
9. Labour.
10. Welfare.
11. Education.
12. Interest.
13. General government.
14. Veterans' benefits and services.

Dalton (1923) gives another similar classification:

1. Armed forces.
2. Administration of justice.
3. Maintenance of the ceremonial head of the State.
4. The maintenance of the machinery of civil government.
5. Public debt charges.
6. Industry, commerce, transport.
7. Social expenditures - unemployment, health, etc.

Shoup (1969) classifies the services of the State as:-

A. Services for which no planned discrimination among sub-groups is feasible:

(1) Military outputs. These consist of deterrence, damage limitation in the event of war, simple conquest and internal control for a privileged group. Military outputs are group-consumption goods, not marketable goods.

(2) Public health. It is limited to reduction of contagious or infectious diseases. It excludes medical care, which is designed to aid a particular individual. Examples of public health measures are malaria, mosquito eradication, research on cause and cure of disease, and compulsory vaccination. Public health measures redistribute income in kind by reducing the health gap between rich and poor. Public health services are preventive in character and promote economic growth, but not because they induce restriction of consumption for they do not. They improve productivity by reducing illness and early death, and some part of the resulting increase in income will be spent on investment goods.

(3) Space exploration. Its services are almost non-marketable. Space explorations benefit group identity and promote patriotic ideas in the socio-political sphere.

(4) Contract enforcement and other civil rights. They are supplied by a system of courts that stand ready to

hear disputes and a system of sanctions to enforce the decision. The hearing of any particular case is, of course, a marketable good; court fees are commonly charged. These marketable services are not collective-consumption goods.

(5) Publicly produced externalities. These are the goods which arise from services that are financed free or at a price subsidized by the government. Externality is a group-consumption good that is a joint product with a marketable good. For example, the eradication of slum housing is a public service - the improved environment is the publicly produced externality. It is useful to restrict the term externality to a non-marketable good coming from a marketable good.

B. Services for which planned discrimination among sub-groups is feasible:

(6) Fire protection which is one of the most important stimuli to economic growth. Risk in the sense of relative dispersion of possible outcomes of a venture is reduced for almost any venture by an increment to fire protection services.

(7) Prevention of crime. Protection of households and firms from illegal aggression by individuals or groups. It increases the net product of the economy, partly by inducing some individuals to produce rather than steal, partly by reducing fear, etc. It also lowers expenditures on fire protection, hospital services and court

costs.

- (8) Highway construction.
- (9) Flood control and drainage.

C. Discrimination among individuals feasible (market-able goods): Compulsory consumption:

- (10) Education.
- (11) Sewerage, and garbage and refuse disposal.

D. Discrimination among individuals feasible (market-able goods): Voluntary consumption:

- (12) Medical care. Free medical care is distinguished from public health by its marketability. It is both a preventive and a creative service.
- (13) Cultural and recreational facilities.

A good classification of public expenditures should make it easy to follow the money from the time it leaves the pocket of the taxpayer until it is consumed in the public interest, so that any irregularities in handling funds may be easily discovered. The greatest cases of public forgery and embezzlement have arisen out of a crude and careless system of accounting. In his classical book, Musgrave (1959) divides government activity into three parts:<sup>1</sup> (i) allocation, (ii) distribution, (iii) stabilization and growth.

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<sup>1</sup> Musgrave's (1959) division should not be confused with Due's (1963) four similar considerations which have led to the undertaking of governmental activity, i.e.: (1) Allocation functions which include social wants

- (i) Allocation: This part includes all the activities that provide services to society, such as defence and education. The basic function of the allocation<sup>1</sup> branch is to choose between alternative uses of resources; each choice involved an opportunity cost. A theatre, for instance, could be said to cost a certain number of clinics or schools, etc.
- (ii) Distribution: This involves adjustment of the distribution<sup>2</sup> of wealth and income through some

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(defence, protection), merit wants (education), additional social costs (use of liquor, opium, etc.), external economies, and elimination of interference with perfect competition (the impossibility of ensuring effective competition and the importance of the goods-services to the public have led to outright governmental production of the service). (2) The commercial functions: In certain situations governmental production may be more efficient (highways, power products, etc.) (3) The redistributive functions: Governmental activity to increase the relative economic well-being of certain groups, particularly those with very low incomes (old age pension programmes). (4) Stabilization functions: Governments pay attention to economic stability and rapid growth in the last thirty years. Unemployment under the free market system and unstable general price level are problems which most governments periodically face.

<sup>1</sup> How efficiently is public expenditure allocated among the competing alternatives? An efficient allocation of any scarce resource is defined as one which maximizes the return/output from any given total input.

<sup>2</sup> The distribution among its various members of the output of a society must be determined. If the society is to function, some type of institutional framework which ensures the making of these decisions is necessary. There are three general ways in which these problems can be solved, and while elements of each are found in most economies, one is usually dominant: (i) convention or custom, (ii) authority-government, (iii) operation of the market mechanism and regulation-

form of taxation. Without government intervention, the distribution of income and wealth is determined by the ownership of factors of production and by the rate of return to these factors, neither of which provide a particularly equitable distribution of income. If equitable income distribution is not seen as a desirable goal, as it is not in many capitalist economies, this branch of government does not operate on a particularly high level. How society views the proper state of distribution is a matter of social values and political pressures. In some Western advanced economies income may be unequal and some individuals may earn vast amounts, as

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coordination by the price system. The market mechanism dominates Western economies, but with considerable government influence in most of them. Furthermore, the Canadian Royal Report on Taxation (1966) states that the "Tax-expenditure system should be used to increase the resources available to those who have the least economic power and the heaviest obligations and responsibilities. The extent to which the system should redistribute resources among individuals and families is ultimately a question of judgment. ... A compromise must be reached between perfect equality of income and the continuation of differences in income that reflect differences in personal capabilities and effort. Without these differences in income, incentives to efficiency would be reduced. With reduced efficiency the rate of growth of future output also would be reduced. The question is not whether we should have a system that redistributes resources in favour of the poor but concerns the degree to which redistribution should take place. ... Public expenditures on goods and services affect the distribution of income to the extent that they confer benefits on families that are not equally distributed throughout the income scale."

long as those earning the lowest incomes have enough to live on.

- (iii) Stabilization and growth: The inherent tendency to instability in most capitalist economies has become greater as these economies become more complex. As both social and political pressures militate strongly against high unemployment and inflation, most governments must develop a compensatory fiscal policy to achieve some measure of stability. This last function is the role of budgetary policy as an instrument of stabilization in terms of employment, stable prices and growth. The government decides<sup>1</sup> how much and what should be provided on the basis of what is considered most important.

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<sup>1</sup> Whether in South Africa the provision of defence and State security is considered a higher priority than free education, in welfare States prevailing social norms place free health and educational services high above military needs. In decentralized economies where urban, regional, and provincial State representatives are elected on a "platform", as in the USA, a mechanism to show consumer preference is found in the political process of decision by voting. Musgrave (1959) comments: "True preferences are unknown, because consumers do not readily reveal them. Yet the government must determine these preferences before it can decide how to satisfy them efficiently. A way must therefore be found by which to induce people to reveal their preferences. ... A technique by which individuals are induced to reveal their preferences for social wants is voting. Voting is both the hero and the villain. It is the hero because it offers us a means by which individuals can be forced to reveal their preferences; it is the villain because the resulting budget will not satisfy everyone, except in Wicksell's unusual case of unanimous consent."

The present brief introduction to public finance would be incomplete without mentioning the most outstanding theoretical attempts which were made to provide public expenditure with a general framework.

The most influential attempt is the so-called Pareto's optimum, according to which public policies should be such as to make at least some members of the community better off without making others worse off, with the ultimate aim of reaching a situation in which it is no longer possible to make anyone better off without making someone else worse off. A Pareto optimal situation, in other words, is one in which it is impossible to take any action to increase one person's welfare without, at the same time, decreasing the welfare of another. Any action that benefits at least one person while not working to the detriment of another is Pareto optimal. The question, however, is how many projects could be found which would not leave a substantial minority feeling worse off? Moreover, since no-one is ever to be made worse off as a result of public policy, grossly undemocratic and potentially explosive inequalities of income are effectively preserved (Head, 1974).

Pareto's optimum<sup>1</sup> is a very conservative framework introduced to explain a static world situation which did

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<sup>1</sup> Pareto's optimum was further developed by Kaldor into the "hypothetical compensation principle". (Head, 1974).

not, does not, and will not exist simply because our world is not static but dynamic. Consequently, Head (1974) refers to Samuelson who declares that

... a policy is desirable only if the possibility of reaching still better positions is not excluded. In this approach the possibility of a contradiction is avoided but is being allocatively almost as restrictive as Pareto. Samuelson showed algebraically and geometrically that the Pareto optimum condition requiring equality between marginal rates of substitution and marginal rates of transformation no longer holds in the competitive market with the decentralized pricing system.

Samuelson's pure theory of public expenditure is based on the traditional continental concept of a public good.<sup>1</sup> The modern analysis of this concept has three main objectives which should be clearly distinguished: The first is to derive the requirements for optimal provision of a public good. This is the normative theory of public good. The second is to show that no decentralized market mechanism can be expected to satisfy these requirements. This is the theory of market failure in public goods.<sup>2</sup> The third is to indicate the fundamental character of the problems involved in attempting to ensure optimal provision for public goods through the political mechanism.

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<sup>1</sup> One which must be consumed in equal amounts by all.

<sup>2</sup> The crucial question is: Does the market failure justify by itself that government can do better? To the extent that the undertaking of economic activity by government is based upon the desires of the community it reflects dissatisfaction with the adequacy of the market economy in obtaining optimum welfare. Certain goods cannot be supplied through the market system -

The first and second objectives constitute the welfare economics of public goods. The third objective constitutes the welfare politics of public goods.

The theory of demand and supply of public goods vests in the analytical area of welfare economics, which considers the performance of the economy in terms of its ability to achieve certain "desirable" goals. It is "normative" in nature because it says what ought to be, whether positive economics is functional, and observes "what is".

We have three approaches to the study of welfare economics (Herber, 1975):

(i) The marginal utility approach, which provides further insight into the concept of optimal public goods allocation and the attainment of maximal welfare for the society. It relates the "marginal utility" derived by individuals in a society from the consumption of public goods to the "marginal disutility" incurred by these individuals in the payment of taxes to the public sector for the financing of the goods. The

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in some cases the market fails entirely and, in others, it functions inefficiently basically because the benefits derived from the social goods are not limited to one consumer but can be enjoyed by all; i.e. there is no exclusion principle. (For example, a public park or a bridge). The problem then becomes how much of these social goods should be provided by the central authority and how much consumers should be asked to pay for them. The market mechanism works simply as follows: Production is carried on primarily by privately owned business firms, which acquire units of the factors of production by paying the owners, and utilize them in production of goods-services, which are sold for money prices. With this money they pay owners and labour costs, etc. In turn the workers acquire the means to buy the goods by selling labour services.

disutility of tax payments is determined by the utility sacrificed in the form of private goods consumption in order to pay the taxes. Optimal intersector resource allocation, and thus the optimal supply of both "public" and "private" goods, occurs at the point where the marginal utility of public goods is equal to the marginal disutility of tax payments. However, utility and disutility cannot be quantified, therefore the point of optimal intersector allocation cannot be precisely detected in a cardinal measurement. Also, a distributional question of equity arises: How should the marginal utilities and disutilities be divided among the people of the society?

(ii) The voluntary-exchange theory of public goods allocation suggests that resources should be allocated to the public sector in a manner analogous to their allocation in the market with its price system.

An individual should buy public goods through taxes just as he elects to purchase private goods through market prices with the standard consumer equilibrium principle of "satisfaction-maximization" applying. He becomes a taxpayer-buyer who "pays taxes" for public goods in accordance with the "benefits received" from them, that is he would equate the marginal ratios of tax prices to public good benefits within the public sector. Similarly, he would equate the cost-benefit ratios on an intersector basis, between public goods and private goods. A point of optimal intersector allocation is also attained. The voluntary-exchange approach is useful because it shows the difficulty to allocate public goods in a market manner and because it provides a basis for considering the conceptual issues involved in rationalizing public sector decision-making.

(iii) The Samuelson model of public goods allocation approach shows the difference that exists between the allocation of public and private goods when traditional micro-economic principles are applied. The model constitutes a polar case in its treatment of the allocation of public goods. It may be viewed from the standpoint of either an "authoritarian" or a "democratic" political environment. The latter "democratic" approach may be divided further into (a) the rejection of interpersonal comparison of utility or (b) the acceptance of such comparisons.

If the rejection is accepted then the social

welfare of the community is merely a heterogeneous allocation of individual welfares.

If the acceptance is adopted then the comparisons are based on distributional value judgments. These ethical judgments are then applied to an economic efficiency norm in the form of a social welfare function.<sup>1</sup>

However the interpersonal comparisons of utility would require cardinal measurement of the pleasure or displeasure derived from consumption by the various members of a society.

As far as the welfare politics<sup>2</sup> are concerned, the consumers demand "private-type goods" through the market as well as "public-type goods" through the political process. A market failure by itself justifies a government intervention even in a strongly market-oriented culture. Basically the welfare economics is considered more important also because welfare politics has its own economic inefficiencies.

Public expenditures need to be controlled and for this purpose the best measure is the budget system.<sup>3</sup> The budget, it can be said, is a catalogue of proposed expenditures, sources of revenues and of debt management for the next fiscal year. It is a political document too, because it is based on different ideologies and serves the aims of a particular politico-economic system. Generally it is a "plan for government activity over a

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<sup>1</sup> Samuelson's model follows the (b) approach, i.e. the acceptance of such comparisons.

<sup>2</sup> Known also as "public choice theory".

<sup>3</sup> The principle of "do not put all your eggs in one basket" is materialized through the budget system.

designated fiscal period" or "a program for government expenditure and for government revenue raising" (Buchanan, 1965).

As a policy changes, in the same way a budget also changes.<sup>1</sup> Williams (1963) points out that the budget used to be an

... annual presentation to the people's representatives of the financial outcome of the government's stewardship of the public finances during the past year, together with any changes proposed for the coming year. As such it served a similar function to the presentation of a company's accounts to a shareholders' meeting. But with the vastly expanded role of the government in the economy during this century, this earlier function of the budget has tended increasingly to be superseded by a much more general report on the state of the economy as a whole. The budget is now deliberately used as an instrument for effecting all sorts of changes in the general economic situation, and no simple measure in it can be adequately analysed within the narrow framework of the budget accounts themselves.

Budgetary provision is needed if social wants are to be satisfied.<sup>2</sup> The effects of public expenditures upon

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<sup>1</sup> The South African budget this year (1979) gives emphasis to growth and acknowledges that this could well be at the expense of increased inflation.

<sup>2</sup> Social wants are those wants satisfied by services that must be consumed in equal amounts by all. People who do not pay for the services cannot be excluded from the benefits that result; and, since they cannot be excluded from the benefits, they will not engage in voluntary payments. Hence, the market cannot satisfy such wants. The concept of a public good or service corresponds to the concept of social wants. The one is felt by the community, the other is produced by the State. Every act of intervention on the part of the State which tends to satisfy a social want gives rise to the production of a public service or public good. The distinguishing characteristic of the public good is the indivisibility of the services among individuals.

people's ability to work and save are very important and should be taken into consideration. Just as taxation will reduce a man's ability to work if it diminishes his efficiency, so public expenditure will increase it if it increases his efficiency.

Public expenditures also have effects upon production, consumption, prices, and the whole distributive process. Under wise direction they benefit the entire population; under unwise direction they may impoverish a nation.

It has become increasingly clear that studies of the role of government in South African economic affairs have become urgently necessary. As a matter of fact there is a world-wide tendency on the part of governments, including the South African government, towards a steadily increasing participation in the economic sphere.

The South African government:

- (i) participates by government agencies in economic activity,
- (ii) regulates private behaviour in economic affairs, and
- (iii) moves towards a greater decentralization or fragmentation of political control over agencies of government.

As Weidenbaum (1977) points out:

... government officials are exercising new roles

in such traditional aspects of business decision-making as product development, production, finance, marketing and personnel. Impetus for this expanded government participation is being provided by a variety of consumer groups, environmental organizations, civil rights advocates, labour unions and other citizens' institutions. In many cases, the increasing regulation reflects public and congressional concern that traditional federal and state-local programs have not been effective. The wave of regulation is also re-enforced by the belief that the private sector itself is responsible for many of the problems facing society - pollution, discrimination in employment, unsafe products, unhealthy working environments, misleading financial reporting, and so forth.

During the 1970s, government expenditure increased much faster than during any other decade in the postwar period. This was partly due to increases in the physical volume of services rendered, but mostly to the inflation of costs. By far the greatest proportion of government current expenditures consists of expenditures on goods and services. The other main elements of current expenditure are numerically much smaller. The rapid rate of growth in government expenditure in the 1970s was mainly due to a sharp increase in defence expenditures. During the period 1971/2 to 1975/6 these expenditures increased by 357 per cent as against an increase in total expenditure of 115 per cent.<sup>1</sup>

According to Wilson's (1977) report

... efforts to apportion state expenditure and revenue according to population group in South

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<sup>1</sup> See Appendixes, page 75 and page 76.

Africa are fraught with both practical and conceptual difficulties. Neither public revenue nor public expenditure are classified in a way which makes exact apportionment possible: nor could that be. In many cases the benefit from public expenditure (e.g., on street lighting) accrues to the community as a whole and is shared by all: in other words it is a social good. Thus it is difficult, and in many cases impossible, to determine the precise extent to which either Africans or non-Africans are receiving benefits from particular items of state expenditure. Similarly with regard to public revenue it is not always possible to identify either the individual or the population group from which such revenue is derived. Apart from these problems the lack of statistical data makes calculation subject to a considerable degree of error. ... For many reasons comparing statistics of public revenue derived from one group with statistics of public expenditure on that group does not necessarily provide any answer to the question of fairness. To answer the question it is necessary to examine the criteria by which a judgement can be made.<sup>1</sup>... It should be noted that the figures of public revenue and expenditure by government provide no information as to income redistribution within a particular group.

The absence of some degree of consensus regarding the allocation of public funds is catastrophic within a

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<sup>1</sup> Wilson (1977) mentions several criteria, e.g.: Criterion A, in which the distribution of grants is to be determined by what is best in the national interest. The public revenue is regarded as a common fund for the benefit of the citizens of the country. Criterion B, which is based on the principle of equality (equal right to share benefits). Criterion C, where the concept of derivation is based. Here, public funds are returned to the area whence they were collected. Criterion D, in which the principle of needs is used as a basis. The question is: who needs more? For instance, police protection, it could be argued, is more effective in protecting white urban dwellers from assaults than blacks living in the townships. In South Africa the best criterion is the allocation of public funds based on the principle of needs. Fairness implies that expenditure by the State on some people must be greater than revenue received from them.

State. Although it is difficult to please everybody, it is important to seek some basis of agreement to avoid a conflict situation. This is especially crucial for the South African society, a society with many races, cultures, ethnic groups, etc. As the Theron Commission<sup>1</sup> indicates, in Chapter 22:

The amount of goods and services that are provided both directly and indirectly to the Coloured community by the different authorities is indeed substantially more than their direct and indirect financial contribution to the authorities concerned. ... It is a normal principle in the fiscal policy of all western countries that the lower income groups contribute a relatively smaller amount to public revenue but at the same time draw a relatively greater benefit from the transfer payments, services and facilities that are offered by the public authorities than do the relatively wealthier groups.

And, if one has to go further, this is more true for the African community which, in fact, is even poorer than the coloured community.

Therefore, the question should not revolve around the issue of the distribution of goods and services to the various poor groups, but rather whether the amount by which government expenditure on these groups exceeds the revenue received from them is sufficient, given the poor conditions under which these people live.<sup>2</sup>

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<sup>1</sup> Suid-Afrika, Verslag van die Kommissie van Onderzoek na Aangeleenthede Rakende die Kleurlingbevolkingsgroep RP 38/1976, p. 469.

<sup>2</sup> Per capita expenditure: On Africans averaged R49, on non-Africans R323 (1974, 1975).

Before we speculate on the South African future in the field of public finance and in the economy as a whole, we may identify some ways of looking at the institutional distribution of political power in economic affairs. Government agencies can be classified according to:

- (i) the way in which they operate
- (ii) the ethnic factor, and
- (iii) the geographical situation (central, provincial, local authorities).

(i) Government agencies can be classified according to the way in which they operate into three broad categories:

- (a) General government which includes all the departments of the central government, provincial administrations, local authorities, and the homeland governments responsible for typical government services such as defence, education, etc. These agencies meet demands as expressed through political processes like elections, referendums and so forth.
- (b) Government enterprises which are business enterprises directly under political control, which produce goods and services to be sold to any buyer who is prepared to pay the purchase price. Government enterprises are the South African Railways and Harbours, the

Department of Posts and Telecommunications, etc. In the case of local authorities, the following departments are organized as business enterprises: water, electricity, gas, transport, markets, abattoirs, and housing.

(c) Public corporations which are business enterprises established by the government but incorporated under the management of independent boards of directors such as the South African Iron and Steel Industrial Corporation (ISCOR), South African Coal, Oil and Gas Corporation (SASOL), Electricity Supply Commission (ESCOM), South African Reserve Bank, South African Broadcasting Corporation (SABC), etc. The government normally holds the majority of the shares in these corporations and/or appoints the majority of the directors. These corporations meet their current outlays from current income.

(ii) Distribution of political power according to the ethnic factor. The central government department concerned with the affairs of blacks, for example, duplicates many of the functions of other central government departments concerned with non-blacks. On lower levels there are the Administration Boards, each with responsibilities for a specific region in South Africa, and the community councils which are the institutions of local

authority for blacks. In addition, there are the homeland governments of particular ethnic groups in specific territories of South Africa.

(iii) Institutional distribution of political power according to the geographical situation. We have the central, provincial and local authorities, each sharing tasks with corresponding responsibilities.

Finally, there is a strong presumption in usually well-informed circles that significant structural changes are bound to come about in the sphere of public economics, and the role of the South African government in economic affairs. According to these circles the trend will be towards decentralization of public services and the greater liberalization of private production and trade. It is also expected, according to Lombard (1978) that the government will

... pursue its recently coined policy of "financial discipline in the public sector and economic growth in the private sector". This philosophy was first articulated by the Minister of Finance, Senator Horwood, in his 1978/79 budget speech. The practical implication of the Horwood philosophy under the present recessionary circumstances in South Africa is that stimulants for increased economic activity from the budget will have to be given, but on the side of tax reductions rather than expenditure increases.

CHAPTER 2MEASURING ATTITUDES OF THE PUBLIC

The concept of attitudes is probably the most distinctive and indispensable concept in contemporary American social psychology.

G Allport

In the first chapter a summarized introduction to public finance was given. One of the major issues discussed was the concept of functions of governments and the classification of the goods and services the State offers to the people. However, some questions related to this area may arise: Are these people satisfied with the present goods and services they receive from the governments? Do some people differ in their attitude towards government policy as far as the allocation of public funds is concerned? Where should the governments place emphasis?

In every democratic society there is the belief that citizen attitudes should always be taken into account and have some impact upon the decision-making process. There must be a continuous feedback between government and people; if this feedback is absent the result is the alienation of these bodies and the emergence of

totalitarianism. The impetus for the systematic study of attitudes which began in the 1940s came from problems created by the Second World War.

During that period, at Yale University, C Hovland was engaged in assessing the social-personal attitudes of bomber crews, the relations of black and white soldiers, etc. While Hovland was experimenting on the persuasive impact of the United States Army's morale films, L Festinger's school attempted a somewhat different approach to the study of attitudes: that of attitude change. Festinger was oriented toward the independent variable, and although the number of subjects he was studying was small his results had theoretical relevance.

The influence of these two schools on social psychology justified theorists as varied as Thomas and Znaniecki (1918) and J B Watson (1925) who regarded attitude as a concept so central to the field that they equated social psychology with the study of attitudes.

A series of studies undertaken after the Second World War showed this influence.<sup>1</sup>

Newcomb (1946), in his study of the effects of social climate on attitudes and information, showed the non-random character of right and wrong answers to factual questions.

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<sup>1</sup> See Sellitz et al (1951).

Seeman (1947) studied the attitudes of white persons toward Negroes.

Hammond (1948) employed an "information test" to measure attitudes toward labour-management relations, and towards Russia.

Campbell (1950) provided a formula for constructing objective tests of attitudes.

Saenger and Gilbert (1950) investigated the attitudes toward Negro sales personnel in department stores.

Weschel (1950) used various techniques in testing attitudes toward labour and management.

Adorno (1950) correlated authoritarian attitudes with anti-semitism.

Hovland and Sherif (1952) suggested ways in which judgments might be used as an indication of attitude.

Wilmer, Walkley and Cook (1955) studied the racial attitudes of white tenants in housing projects.

Jones and Kohler (1958) found that both the learning and the forgetting of controversial material were related to attitude.

W McGuire (1969) states

One general alternative style that seems deserving of more attention in the attitudes area is what Plaat (1964) calls the "method of strong

inference" currently being applied to attitudes by N Anderson and by Campbell and La Vine to intergroup relations.

The recent trend in the history of attitude research is the dynamics of attitude change; theorists now study attitudes as systems; the topic of what men believe and how their hearts and minds can be changed is still a controversial one.

The attitudes have generally been regarded as either mental readiesses or implicit predispositions which exert some general and consistent influence on a fairly large class of evaluative response. These responses are usually directed toward some object, person, or group. In addition, attitudes are seen as enduring predispositions but ones which are learned rather than innate, thus susceptible to change.

An attitude can be conceived as having three inter-related components:

- (i) a cognitive component described by the person's categorizations, and the relationship between his categories,
- (ii) an affective component described by the way the person evaluates the objects which are included in a particular category, and
- (iii) a behavioural component which reflects the behavioural intention of the person toward the objects included in a particular category.

Attitudes, in other words, involve what people think about, feel about, and how they would like to behave

toward an attitude object.

Theorists usually distinguish terms such as attitudes, values, opinions, beliefs, etc. Indeed they seem faced with a situation involving names in search of a distinction, rather than a distinction in search of a terminology. It is not the intention in this study to discuss those hazy distinctions - distinctions are permissible only if they have demonstrated consequences. Since such consequences cannot be demonstrated, the terms in this study have more or less the same meaning.

There are three broad assumptions on which most authorities are agreed:<sup>1</sup>

- (i) attitudes are learned,
- (ii) attitudes are multi-causally determined, and
- (iii) attitudes are functional or need-satisfying in character for the individual (ego-defence, etc).

It is generally recognized that attitudes are rooted in both the social environment that defines the person's existence and in those psychological processes which initiate and direct his behaviour in this environment. What factors determine the attitude of a person? First of all physiological factors such as illness, ageing and the like. Secondly, social factors, i.e. family, school, culture, etc. Thirdly, psychological factors, for instance characteristics of the personality of a specific

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<sup>1</sup> See J Harding (1969).

individual, i.e. aggressiveness, etc.

To accurately portray the general public attitude is not an easy task. Efforts to measure trends in citizen attitudes have been curtailed by the tendency of public opinion analysts to study ephemeral issues, to depend upon single questions, and to analyze issues individually rather than in relation to competing concerns.

Of the many properties that have been theoretically attributed to attitudes,<sup>1</sup> most researchers have been concerned with measuring only two: direction and magnitude.

The attitude measurement, according to W Scott (1969) "is based on the notion of a quantitative continuum along which people may be arrayed, depending on the magnitude of the attitude which they possess". Generally, attitudes have been measured by scale rating of verbal statements of objects, of other people, and of self. The types of measuring instruments vary; we have the open and closed question type, the forced choice between pairs, the single stimuli, the multiple choice, and many more such as the indirect type of measurement, etc.

Several different paper-and-pencil tests have been

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<sup>1</sup> Direction, Magnitude, Intensity, Ambivalence, Salience, Affective Salience, Cognitive Complexity, Overtness, Embeddedness, Flexibility, Consciousness (W Scott, 1969).

developed to measure attitudes. Of these tests, four have been fairly highly refined and have been used most extensively. These major techniques are: Thurstone's method of equal-appearing intervals, Likert's method of summated ratings, Guttman's scalogram, and Osgood's semantic differential. Reviews of each of these techniques are available in most text books therefore only the two basic assumptions which are common to all of them will be briefly presented here.

First of all, it is assumed that subjective attitudes can be represented by some numerical score. Secondly, all of these methods assume that a particular test item has the same meaning for all respondents, and thus a given response will be scored identically for everyone making it. Such assumptions may not always be justified, but as yet no measurement technique has been developed which does not include them.

A difference in attitude can be a direct function of three factors:

- (i) number of observations,
- (ii) magnitude of the difference, and
- (iii) variability of the response.

An obtained difference is more likely to be a significant one as the number of observations increases, as the average difference between groups in performance is greater, and as there is more variation between different groups

than there is within each separate group.

To evaluate economic performance, a system of both economic and social indicators<sup>1</sup> is necessary.

The utility, for instance, of public services cannot be measured solely in economic terms. Also needed are indicators of our social well-being. To establish a set of social indicators, we need to know the values and the goals of the members of our society and their interrelationships. The following survey was conducted both as an attempt to explore these values-attitudes of a part of the members of our society and as an application of certain statistical procedures to establish a "model" for this type of research.

Every survey represents a collection of compromises between the ideal and the possible. Perfect surveys may not be possible, but good surveys can and should be undertaken. The quality of research depends not only on the adequacy of the research design but also on the success of the measurement procedure employed.

The purpose of research is to discover answers to questions through the application of scientific procedures. To be sure, there is no guarantee that any given research undertaking will actually produce relevant

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<sup>1</sup> See R Bawer (1967).

reliable, and unbiased information. But scientific research procedures are more likely to do so than any other method known to man. This does not mean that research will always emerge with an answer, let alone a definitive answer. Research is oriented toward seeking answers; it may or may not find them. Sometimes social research results in the raising of new questions or the reformulation of old ones.

No survey fully satisfies the theoretical ideas of scientific inquiry - and the present survey is no exception.

### CHAPTER 3

#### SURVEY RESEARCH ON THE ALLOCATION OF PUBLIC FUNDS

If we want to know how people feel, what they experience and what they remember, what their emotions and motives are like, and the reasons for acting as they do - why not ask them?

F W Allport

#### THE PROBLEM

The present study, which is part of a wider survey undertaken in the period 1977-78 by the Department of Sociology at the University of Cape Town, is structurally based on Dillman's scheme by endeavouring to show the attitudes of the public of Cape Town (whites and coloureds) towards the allocation of public funds. According to Dillman and Christenson (1974) what is needed to measure trends in citizen preferences is a conceptualization of opinions in a value framework and Factor Analysis to overcome the limitations pointed out in the previous chapter. The two sets of variables of the Questionnaire,<sup>1</sup> the dependent and the independent or demographic, were assumed to be causally related to each other.

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<sup>1</sup> See Appendix, page 79.

The nature of a causal relationship asserts that a particular characteristic (X) - in our case a demographic variable - is one of the factors that determine another characteristic (Y) - in our case a dependent variable.

The emergence of the substantive hypothesis<sup>1</sup> was a logical outcome of this relationship. It was hypothesized that various groupings of people differ in their opinions and attitudes toward the allocation of public funds; it was further assumed that sex, marital status, age, education, income and race were some of the factors contributing to such differences.

For instance, it was expected that whereas a person with a high annual income might prefer public funds to be spent on entertainment and cultural activities like symphony orchestras, opera companies, and drama groups, a person with a low annual income would tend to support programmes for the improvement of the transport system or for the development of low-rent housing. Here it must be emphasized that it was not expected to find a single factor that is both necessary and sufficient to bring about a different attitude; on the contrary some of the

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<sup>1</sup> A hypothesis is an untested proposition or assertion about how things are or how things work. Hypotheses are tested by assuming their opposite to be true and by comparing this with the results of the statistical analysis (null hypothesis).

demographic variables were expected to be of a contributory, contingent and alternative nature which operates to make the occurrence of certain attitudes probable.

Moreover, it was also expected as a sub-hypothesis<sup>1</sup> that the 15 programmes in Question 3 would belong in some larger areas and would form groups, if factor analyzed, due to their homogeneity (see Appendix, page 79).

Finally, the function of a hypothesis<sup>2</sup> is, in general, to direct our search for order among the facts. It may be the solution to the problem; it is the task of inquiry to find out.

## THE METHOD

### The Questionnaire

The first step was the formulation of the research question. The next step was the design and development

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<sup>1</sup> A hypothesis does not have to be based on a theory. It can be based on findings from other studies or simply on a hunch (Sellitz et al, 1951).

<sup>2</sup> Babbie (1973) states that "nothing is ever proved scientifically. Hypotheses, explanations, theories, or hunches can all escape a stream of attempts at disproof, but none can be proved in any absolute sense. The acceptance of a hypothesis, then, is really a function of the extent to which it has been tested and not disconfirmed. No hypothesis, therefore, should be considered sound on the basis of one test. The researcher should always try to reach an honest understanding of his data, develop meaningful theories for more general understanding, and not worry about the manner of reaching that understanding."

of an interview schedule or questionnaire. The impersonal nature of a questionnaire - its standardized wording, its standardized order of questions, its standardized instruction for recording responses - ensures some uniformity for one measurement situation to another.

Preferences were assessed with reference to a list of specific government activities designed to encompass both current and potential government programmes. Several large areas of current government activities and concerns, such as transport, nature conservation, education, etc, were included.<sup>1</sup> Three questions were asked. The first two were designed to discover, from a list of 13 such areas, the two most important and the two least important for spending public money. Question three set out a further 15 specific areas of public interest and the respondents were asked to indicate whether they would place a high, medium, low or no priority on each. These 15 programmes, from now on referred to as variables, were of an ordinal nature but actually were regarded and treated as interval variables.<sup>2</sup>

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<sup>1</sup> See Appendix, page 79.

<sup>2</sup> There are four levels of measurement: nominal, ordinal, interval and ratio. Ordinal measurements reflect a rank order among the categories comprising a variable and are represented by numbers on a scale (No = 1, Low = 2, Medium = 3, High = 4) which have no meaning other than the indication of rank order. However, for the purpose of this study, a real meaning of the distances between points was desirable, so the interval level of measurement was used to enable us to regard the

The "fixed-alternative" form of questionnaire adopted in this study has the advantage of being "standardizable" (NO, LOW, MEDIUM, HIGH), is simple to administer, and quick and inexpensive to analyze. Finally, there is another set of six variables which contains the demographic information: sex (male/female), marital status (single/married), age (20-29, 30-39, 40-49, 50 and over), total household income (below R2 000 per annum, R2 000 - R3 999 per annum, R4 000 - R5 999 per annum, R6 000 - R7 999 per annum, R8 000 and more per annum), education (no school, some primary, primary completed, some high school, high school completed, some university, university completed, other post-matriculation qualification), and race (white/coloured).

The questionnaire was pre-tested on a few individuals and, finally modified, was given to interviewers. In order to reduce demand characteristics (i.e. an induced response) questions were not always ordered in a logical sequence; however, some ordering was necessary to provide continuity to the instrument.

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distances between 1 and 2, 2 and 3, 3 and 4 as equal.

If one has reason to believe that the units of his measurement are equal, then he is justified in making use of mathematical relationships among numbers which correspond to this fact.

### The Sampling Procedure

The basic distinction in modern sampling theory is between probability and non-probability sampling. In probability sampling each element has the same probability of being included in the sample, but this is not a necessary condition. In non-probability sampling there is no way of estimating the probability that each element has of being included in the sample, and no assurance that every element has some chance of being included.

Probability sampling is generally accepted as a more scientific procedure and the most respected and useful method. The nature of this survey dictated that cluster sampling was the best available method within the probability sampling procedure.<sup>1</sup>

Characteristically, the cluster procedure moves through a series of stages from more inclusive to less inclusive sampling units until one finally arrives at the population elements that constitute the desired sample. This procedure is also known as "multi-stage" sampling. A survey of urban households, for instance, may take a sample of cities; within each selected city,

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<sup>1</sup> Cluster sampling is recommended when dealing with large populations and it is either impossible or impractical to compile an exhaustive list of the elements comprising the target population. Large-scale survey studies seldom make use of simple stratified random samples. The present study deals with a large population (Cape Town).

a sample of districts; within each selected district, a sample of blocks; within each selected block, a sample of households; within each selected household, a sample of persons residing there. In other words, multi-stage cluster sampling involves the repetition of two basic steps: listing and sampling.

Cluster sampling is efficient and economical but not very accurate. The sampling error is greater;<sup>1</sup> people who live near each other tend to be more alike than people who live far away from each other (homogeneity). Therefore cluster samples tend to be more homogeneous than a simple random sample would be of the same population. In other words they tend to underestimate variance. Cluster sampling is an example of the kinds of compromise often made in social science survey research. However, in most cases this compromise is not serious.

Cluster sampling was employed in the present study as follows: Cape Town was divided into 43 districts (clusters), from which 12 were selected at random.<sup>2</sup> Because of budget limitations it was decided to take a probability sample of 315 households. This meant that

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<sup>1</sup> Sampling error can be reduced by an increase in the sample size and by an increased homogeneity of the elements being samples.

<sup>2</sup> The area covered for sampling purposes included the Peninsula municipalities, and the suburbs of Cape Town and Bellville. No attempt was made to stratify the population in any way. The 12 selected areas (clusters)

26 households from each district had to be sampled. However some districts were more densely populated than others (i.e. Sea Point against Fish Hoek). To have a proportionate cluster sample, the total number of households drawn from each cluster was based on the size and population density of that cluster. Therefore the number of households to be sampled in each district was reduced or increased on judgment. Hence, while Sea Point district had 40 households sampled, Fish Hoek had only 15.

Personal interviewing techniques were utilized. A staff properly selected and trained elicited the required information. The response rate was satisfactory: 304 out of the total 315 households responded, 11 refused. This yielded a 96,5% response rate.

#### Coding

When the last questionnaire had been returned, the tasks of checking them against the addresses selected and editing were begun.

- The marked questionnaires were transferred onto code sheets, the answers to the items being represented by numbers and letters.

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were: Mitchell's Plain, Athlone/Crawford/Hazendal, Bellville/Oakdale, Goodwood/Parow, Sea Point/Mouille Point/Bantry Bay, Tamboers Kloof/Vredehoek/Gardens, Mowbray/Rosebank/Rondebosch, Dieprivier/Bergvliet, Muizenberg, St James/Fish Hoek, Simonstown, Hout Bay. The clusters appear to be well distributed throughout the study area. (See Appendixes, page 77 and page 78.)

- Next, the code sheets were transferred onto IBM cards through the key-punching procedure.
- The cards were then tabulated and put onto a computer sheet.
- The gathered data was checked, verified and all the tabulations and computations cleaned and corrected.
- The corrected file was printed and analysis of the data followed.

### THE ANALYSIS

Empirical research is first and foremost a logical operation rather than a mathematical one. Mathematics is merely a convenient and efficient language for accomplishing the logical operations inherent in good data analysis. Statistics is the applied branch of mathematics especially appropriate to a variety of research analyses. The superficiality and approximations involved in all scientific research are simply more apparent in surveys. Since the survey analyst has described precisely how his measurements have been developed and made, the reader knows precisely what they represent. The heart of survey analysis lies in the fact that the analyst makes measurements of variables and then examines the associations among them. Before analyzing the data they must be presented in a manageable, organized, summarized and meaningful way. The simplest way of doing

this is by counting up the number of answers of each kind; this is called frequency distribution. (See Appendix, page 85.)

Since for this analysis a factor technique<sup>1</sup> was employed, it would be useful to write in some detail about Factor Analysis.

Factor Analysis is a statistical tool invented by psychologists. It has its roots around Spencer, Galton, McDougall, et al, but it was Spearman who started the growth of Factor Analysis through a paper, in 1904, on the nature of intelligence. Thurstone developed more general models in the 1930s and, with the advance made in electronic computers and their associated programmes, new techniques were developed.

Factor Analysis supplies methods for reducing a

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<sup>1</sup> Factor Analysis is a similar technique to Regression Analysis. However, there are several differences: in Regression Analysis the question is how well the data for a particular vector will fit into the vector space defined by a set of vectors and what will be the dependence of the particular vector on each vector of the set, while in Factor Analysis the question is what is the smallest number of linear independent dimensions that will span the vector space defined by data on a set of vectors.

While in Regression Analysis loadings identify the contribution each known dimension makes toward the fit of a vector to this space, in Factor Analysis loadings identify unknown dimensions. There is no knowledge of the loadings and the elements of the vectors. In conclusion, although the models are similar, the question asked of the data, and thus the usage of the model, is different.

large number of observed variables to a lesser number which are, in some ways, more fundamental - these are usually called factors. This is done through an analysis of inter-correlations between the observed variables. In other words, it is a type of Multivariate Analysis used to discover patterns of relationships among the variations in values of several variables by creating artificial dimensions or hypothetical entities - factors.

That Factor Analysis has a wide field of application as a descriptive condensing aid would appear to be indisputable. Factor Analysis gives a description of a large number of variables in terms of a few relatively independent factors. Moreover, Factor Analysis is a flexible instrument applicable to a wide range of research designs. It is used in research on personality, crime, urbanism, primitive societies, conflicts, national characteristics, attitudes, voting behaviour, etc.

Factor analysts are asking whether the same amount of variation in the data can be represented equally well by dimensions smaller in number than the columns necessary to tabulate the data.

Factor Analysis can be carried out either as an exploration or as a test of hypotheses. In hypothesis-testing, in particular, Factor Analysis is made according

to theories established in advance that certain tests, for instance, are loaded with certain definite factors. Factor Analysis is carried out in such a way that these factors, if present, will become apparent. If the analysis supports the hypothesis, this is an indication of the correctness of the hypothesis. Conformity, however, is only to be considered as a necessary, and not as a sufficient, basis for the correctness of the hypothesis, since, with regard to factorial structure, many other hypotheses may also prove to be concordant with the nature of the data.

Factor Analysis has made important contributions to the behavioural sciences, both directly and indirectly, by emphasizing and defining the concept of dimensionality. Through Factor Analysis the variation in relatively large data can be described. By factoring the matrix into its basic dimensions, one has a reduced representation of the variables.

Harman (1967) states:

The new computing techniques, the objective procedures for determining simple-structure solutions, and the statistical tests of hypotheses are largely responsible for bringing modern Factor analysis out of the abyss of a psychological fetish to the heights of a respected branch of statistical multivariate analysis.

Factor Analysis tells us, in effect, what tests or measures belong together and which ones measure the same thing. It extracts a maximum amount of variance as each

factor is calculated. Items (or variables) sharing strong statistical communality, i.e. loading heavily on a given dimension, share strong substantive homogeneity.<sup>1</sup>

Factor Analysis of the 15 items of Question 3, using the varimax rotation,<sup>2</sup> yielded four factors:

FACTOR I	(Variables 14, 27, 28)	RECREATION <sup>3</sup>
FACTOR II	(Variables 16, 18, 20, 22, 24, 25)	ENVIRONMENT
FACTOR III	(Variables 15, 17, 19, 21)	DEVELOPMENT
FACTOR IV	(Variables 23, 26)	AGRICULTURAL DEVELOPMENT

---

<sup>1</sup> The proportion of a variable's total variance that is accounted for by the factors and is the sum of the squared loading for a variable is called communality.

By loading, we mean a weight of a factor which measures the variance the factor makes to the data vector. Loading measures which variables are involved in what factor and to what degree, and they are correlation coefficient between variables and factors.

Approximations to communality are: the average correlation of a variable, the highest correlation, and communality through re-factorings. However, it should be noted that the communalities cannot be precisely determined until the common factors are defined.

<sup>2</sup> Varimax is the best analytic orthogonal rotation technique. The programme is based on a normalogical varimax rotation of principal axis factors. Dillman and Christenson (1974) explain that "this is an orthogonal rotation computed by maximizing the variance of the squared factor loadings. The transformation matrix is based upon the angle for all possible pairs of factors. Rotation is iterated through several cycles until differences in successive values of the varimax criterion for the whole matrix achieves a desirable minimum."

<sup>3</sup> Recreation is the common characteristic of the variables 14, 27, 28; environment of the variables 16, 18, 20, 22, 24, 25; development of variables 15, 17, 19, 21; and agricultural development of variables 23, 26 (see Appendix, page 79).

Each item (variable) was included in only one factor grouping, the one for which its highest loading existed.<sup>1</sup>

Having established the four factors, the dependent variables were cross-tabulated with the demographic variables. These cross-tabulations would enable the age, sex, marital status, income, education and race, as well as the responses of the population sample to each one of the 15 dependent variables, to be established.

The next step was to find the rank order of the 13 areas in which government spends public funds (Questions 1 and 2 in the Questionnaire). The 13 areas were lettered from A to M, and the most frequently occurring letters were considered to represent the most important areas for spending more money.<sup>2</sup>

Analysis of variance in both the dependent variables separately and in the factor scores dividing by groups based on the demographic variables, indicated the demographic variables most responsible for the differences in attitudes.

The first impression that race had the most impact

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<sup>1</sup> Cut-off point: 40. Total factor variance: 8,8268. Total variance: 15,000. All four factors account for 59% of the total variation among the items.

<sup>2</sup> The total number of negative choices for each option (Question 2) were subtracted from the total number of positive choices (Question 1), weighting first and second choices in the ratio of 2:1, which provided an index of popularity. This was used to rank order the options.

on variance in the dependent variables led to a cross-tabulation of race against the other demographic variables, in an attempt to find out if the race was really responsible, or possibly a combination of other demographic variables (income and education, for instance).

To get a clearer picture of the relationships between the demographic variables, they were all cross-tabulated, controlling for race. Given the apparent differences between coloureds and whites, these groups were separately factor-analyzed to find out whether, or to what extent, the original Factor Analysis still held for the two groups separately. The degree of inter-correlation between the factors was also checked.

The cross-tabulation of demographic variables showed, amongst other things, an overlap of coloured and white respondents in the low-income groups, and, within the white low-income group, a division in terms of age and education, which suggested a small but significant group of students. This led to the final breakdown of respondents into four categories: high-income whites, low-income whites (excluding students<sup>1</sup>), students, and coloureds. An analysis of variance was carried out on the basis of these groups to find out whether they

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<sup>1</sup> The reason for having the low-income whites excluding students was to select a group from whites in which all the demographic variables, other than race, were as similar as possible to coloureds.

displayed significant differences in attitudes towards the allocation of public funds.

### THE RESULTS

A perfectly designed, carefully executed, and brilliantly analyzed survey will be altogether worthless unless the researcher is able to communicate his findings to others. Although the writer of this thesis encountered the problem of reporting in a language other than his own, an effort has been made to present the findings in a logical, clear and honest way.

The ethics of survey research require that researchers should not fall victim to the temptation to "save face" by describing empirical findings as the products of pre-planned analytical strategy when this is not the case. In this case the factor-analyzed variables of Question 3 yielded four factors, as had been expected.

The findings of the statistical analysis partly confirmed the substantive hypothesis. In this hypothesis it was assumed that there were significant differences in the opinions of the general public (whites and coloureds) of Cape Town as far as its preferences and attitudes towards the allocation of public funds were concerned. These differences, according to the hypothesis, were the

outcome of several demographic variables, i.e. sex, marital status, age, income, education and race.

The analysis of variance, which was made separately in both the dependent variables and in the factor scores divided by groups based on the demographic variables, indicated that race and partly income and education were responsible for these differences in attitudes.<sup>1</sup>

To determine the first impression that race had the most impact on variance in the dependent variables, race was cross-tabulated against the other demographic variables. All the demographic variables were cross-tabulated, controlling for race. The results confirmed the first impression.

The cross-tabulation of the dependent variables with the independent (demographic) variables showed the responses of the population sample to each one of the 15 dependent variables (see Appendix, page 85).

The rank order of the 13 areas in which government spends public funds (Questions 1 and 2 in the Questionnaire, see Appendix, page 88) demonstrated that

- (i) "assistance to those in poverty" and "public education" were the high priority;
- (ii) "clearing squatter camps" and "assistance to

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<sup>1</sup> In South Africa race, education and income are highly correlated. For example, a black is more likely to belong in the low income group and be less educated than a white.

the cultural arts" were the areas in which expenditure cuts had to be made if the government were to spend less money (see Appendix, page 88); and

- (iii) the rank order of coloureds and the rank order of whites differed significantly; for instance, the area of "health and medical care" was placed fourth by the coloureds and eighth by the whites, and the area of "control of air and water pollution" was placed eleventh by the coloureds and third by the whites (see Appendix, page 88).

A comparison of the means of the factors showed the high priority factors (environment  $\bar{x} = 8,0493$  and development  $\bar{x} = 20,582$ ) and the low priority factors (recreation  $\bar{x} = 12,612$  and agricultural development  $\bar{x} = 4,9868$ ). (See Appendix, page 86).

Logically, the rank order of the 13 areas should be in accordance with the rank order of the four factors which resulted from the 15 dependent variables of Question 3 that were factor-analyzed.

If the development factor can include the areas A, B, F, H, I, K and M, the environment factor the areas D and E, and the recreation factor the areas G and L<sup>1</sup> (which was attempted in this study), one would have expected the development factor to top the rank order because it included the A and B areas ("public education" and "assistance to those in poverty"). This was not the

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<sup>1</sup> There is no area which can be included under the agricultural development factor.

Moreover, the variables C and J ("crime" and "defence") cannot be included in any of the four factors.

case, however. As can be seen in a previous paragraph, the highest priority factor is that of environment. A possible explanation is that the rest of the areas (F, H, I, K and M) of the development factor figure relatively low in the general rank order (see Appendix, page 88).

As far as variables were concerned, variable 25 ("prevent serious industrial pollution of water") yielded the highest mean ( $\bar{x} = 3,59$ ) while variable 26 ("provide agricultural price supports to protect farm income") yielded the lowest mean ( $\bar{x} = 2,42$ )<sup>1</sup> (see Appendix, page 85).

Generally, examination of the variable means<sup>2</sup> revealed that within each area (factor) they were of similar magnitude. This finding provided further confidence that the rank of overall factor means was meaningful.

The total number of selections was  $1\ 216^4$ , including 348 times in which there was no expression of

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<sup>1</sup> The same variable (26) yielded an absolutely even split response in its percentages (see Appendix, page 82).

<sup>2</sup> The mean of the variables' means is 3,12.

<sup>3</sup> Widely divergent variable means within an area (factor) would make the overall mean suspect as an indicator of hierarchical rank.

<sup>4</sup> The figure 1 216 when divided by four, which represents the number of areas in which the writer was interested, yields 304 which was the number of people who responded to the questionnaire.

opinion - represented by Z.

The analysis of variance of the high-income whites, low-income whites (excluding students), students<sup>1</sup> and coloureds (see page 65) showed in which questions and factors there were group differences of opinion, and in which questions and factors there were no differences (assuming no overall tendencies for one group to answer more positively than another), as well as which groups were most different.

The results<sup>2</sup> provided the ground for the construction of a possible ex-post-facto hypothesis:  
 c o l o u r e d s show a higher interest in the allocation of public funds. This can be broken into two components:

- (i) A higher interest, one would expect, would produce a higher overall mean for this group (i.e. all variables combine).
- (ii) A higher interest would also imply greater discrimination amongst different areas of allocation of funds (i.e. a greater range in factor means).

Both components have been confirmed: coloureds have a higher overall mean and a greater range in factor means (see Appendix, page 89).

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<sup>1</sup> Students were defined as the group of people with annual income of less than R4 000, age less than 30 years, and with university education. Total number of students: 23.

<sup>2</sup> In most of the variables, coloureds' means were higher than the other groups, a fact which indicated more concern (see Appendix, page 89).

As far as the four factors are concerned:

Factor I (Recreation) showed a significant difference of attitudes between the coloured group and the high-income white and low-income white groups.

Factor II (Environment) produced no significant differences<sup>1</sup>. However, the coloured group still had the highest mean in absolute terms.

Factor III (Development) showed a clear coloured preference. Coloureds differed quite strongly from the other groups.

Factor IV (Agricultural development), finally, was the exception. In this factor the low-income white group enjoyed the highest mean and the coloured the lowest.

#### CONCLUSION

To interpret the above results, i.e. why race is the chief determinant of differences in attitudes and

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<sup>1</sup> After it seemed that race would be the demographic variable most responsible for variance in attitudes, the Factor Analysis was repeated for the separate groups (coloureds and whites) to check the validity of the original factors for these groups.

Three out of four factors maintained the validity and only the environment factor did not hold together for coloureds as it did for whites.

In general, however, Factor Analysis was useful and its usefulness can be increased when dealing with a greater number of variables.

why coloureds show a greater interest in the allocation of public funds, one must not forget the fact that in South Africa race is interwoven with education and income.

It is logical to expect that coloureds who in their majority have limited access to recreational facilities and activities will demand more.

It is logical to expect that coloureds who in their majority do not own private transport, or who live in slums and in rural areas, will ask for an increase in public funds spending on programmes to remedy those conditions.

On the other hand they withdraw their support from the farmers who in turn are supported by all the other groups. A possible explanation could be the excessive privileges and special attention that farmers enjoy from the State.

The impression gained from reading the results of the survey and from studying the appendixes is that people's attitudes are those of an expectation and a demand directed toward the government for an increase in the spending of public funds in specific services offered by the State.

Although these findings emerged from an analysis of only a part of the total survey research, they confirmed the observed wish of people towards a steadily increasing

participation by governments, including the South African government, in the spending of public funds.<sup>1</sup>

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<sup>1</sup> See page 35.

APPENDIXES

	<u>Page</u>
1 Summary of Expenditure from State Revenue Account	75
2 Defence Expenditure	76
3 Areas Sampled	77
4 Responses by Area	78
5 Questionnaire	79
6 Responses to Questions	82
7 Frequency Distribution of the Variables Analyzed	85
8 Correlation Matrix	86
9 Descriptive Statistics	86
10 Rotated Factor Matrix	87
11 Proportion of Variance by Factor	87
12 Rank Order of Areas in which Government spends Public Funds	88
13 Factor Means and Summed Scores	89
14 Significance of Factor Means Differences	90

OPSOMMING VAN UITGAWES UIT STAATSINKOMSTERFKENING  
SUMMARY OF EXPENDITURE FROM STATE REVENUE ACCOUNT

Begroting en diens Vote and service	Bewillig Voted	Uitgawes Expenditure	Surplus wat teruggestort moet word Surplus to be surrendered	Ongemagtigde uitgawes Unauthorised expenditure
	R	R	R	R
<i>(1) Begrotingsposte Votes</i>				
1. Staatspresident State President.....	329 000	310 383,01	18 616,99	—
2. Parlement-Parliament.....	2 658 000	2 626 550,49	31 449,61	—
3. Eerste Minister-Prime Minister.....	12 817 000	12 710 946,52	106 053,48	—
4. Verdediging Defence.....	1 654 000 000	1 650 490 876,78	3 597 152,27	88 029,05
5. Buitelandse Sake Foreign Affairs.....	33 900 000	27 678 773,73	6 221 226,27	—
6. Plurale Betrekkinge en Ontwikkeling Plural Relations and Development.....	471 004 000	457 255 265,16	13 748 734,84	—
7. Onderwys en Opleiding Education and Training.....	117 419 000	109 575 059,77	7 843 940,23	—
8. Vervoer-Transport.....	157 692 000	157 206 622,71	485 377,29	—
9. Arbeid Labour.....	21 503 000	20 865 688,41	637 311,59	—
10. Mynwese Mines.....	168 001 000	161 729 248,72	6 271 751,28	—
11. Inligting Information.....	15 370 000	13 246 471,67	2 123 528,33	—
12. Binnelandse Sake Interior.....	9 520 000	9 166 964,42	353 035,58	—
13. Staatsdienskommissie Public Service Commission.....	10 330 000	9 400 233,38	929 766,62	—
14. Staatsdrukkery Government Printing Works.....	13 350 000	12 298 071,44	1 051 928,56	—
15. Volkswelsyn en Pensioene Social Welfare and Pensions	396 074 000	392 051 302,60	4 022 697,40	—
16. Nasionale Opvoeding National Education.....	303 946 681	290 572 788,23	13 373 892,77	—
17. Sport en Ontspanning Sport and Recreation.....	2 705 000	2 545 402,56	159 597,44	—
18. Landbou-ekonomie en -bemarking Agricultural Econo- mics and Marketing.....	175 408 000	173 332 995,09	2 075 004,91	—
19. Landboukrediet en Grondbesit Agricultural Credit and Land Tenure.....	50 507 000	47 756 399,29	2 750 600,71	—
20. Landbou-tegniese Dienste Agricultural Technical Ser- vices.....	66 000 000	65 260 230,73	739 769,27	—
21. Gesondheid Health.....	136 983 000	134 893 299,65	2 089 700,35	—
22. Beplanning en die Omgewing Planning and the Environ- ment.....	55 386 000	49 356 417,71	6 029 582,29	—
23. Statistiek Statistics.....	5 510 000	5 174 025,31	335 974,69	—
24. Tesourie Treasury.....	2 311 061 480	2 257 626 655,22	53 434 824,78	—
25. Suid-Afrikaanse Munt South African Mint.....	1 878 500	1 771 357,72	107 142,28	—
26. Binnelandse Inkomste Inland Revenue.....	18 500 000	17 944 424,20	555 575,80	—
27. Doeane en Aksyns Customs and Excise.....	8 919 000	8 292 527,87	626 472,13	—
28. Oudit Audit.....	4 747 000	4 371 517,82	375 482,18	—
29. Handel Commerce.....	75 150 000	73 309 995,15	1 840 004,85	—
30. Nywerheidswese Industries.....	253 686 050	203 005 058,55	50 680 991,45	—
31. Justisie Justice.....	42 391 000	40 805 985,92	1 585 014,08	—
32. Polisie Police.....	210 340 000	208 702 767,57	1 637 232,43	—
33. Gevangenis Prisons.....	80 750 000	79 969 512,58	780 487,42	—
34. Indiërsake Indian Affairs.....	85 310 000	81 827 045,89	3 482 954,11	—
35. Gemeenskapsbou Community Development.....	284 446 600	283 862 712,14	583 887,86	—
36. Toerisme Tourism.....	6 550 000	6 263 669,24	286 330,76	—
37. Openbare Werke Public Works.....	264 852 050	241 892 129,51	22 959 920,49	—
38. Immigrasie Immigration.....	11 524 000	5 211 235,26	6 312 764,74	—
39. Waterwese Water Affairs.....	161 460 050	154 134 352,74	7 265 697,26	—
40. Bosbou Forestry.....	38 939 000	37 037 071,91	1 901 928,09	—
41. Kleurling-, Rehoboth- en Namabetrekkinge Coloured, Rehoboth and Nama Relations.....	245 685 000	239 908 731,53	5 776 268,47	—
<i>Totale Totals</i> ..... R	<b>7 986 542 411</b>	<b>7 751 440 768,10</b>	<b>235 189 671,95</b>	<b>88 029,05</b>

* Oorspronklike appropriasie (Wet 110 van 1977) Original appropriation (Act 110 of 1977).....	R	7 897 615 000
Addisionele appropriasie (Wet 26 van 1978) Additional appropriation (Act 26 of 1978) .....		88 927 411
<i>Totaal Total</i> .....		<b>R7 986 542 411</b>

DEFENCE EXPENDITURE AS PERCENTAGE OF  
TOTAL CENTRAL GOVERNMENT REVENUE

Country	%
Brazil (1977)	10,2
Canada (1976)	8,4
France (1975)	8,2
Germany (1976)	10,9
Greece (1977)	29,5
Israel (1976)	53,4
Italy (1975)	6,6
New Zealand (1976)	5,2
South Africa (1977)	20,3
United Kingdom (1977)	15,3
United States (1976)	26,9

Source: International Monetary Fund, Government Finance Statistics Yearbook, Volume II, 1978.

FUNCTIONAL (PURPOSE) DISTRIBUTION OF THE REAL EXPENDITURE  
(CURRENT AND CAPITAL) OF GENERAL GOVERNMENT  
(INCLUDING HOUSING), 1971/72 - 1975/76

R millions

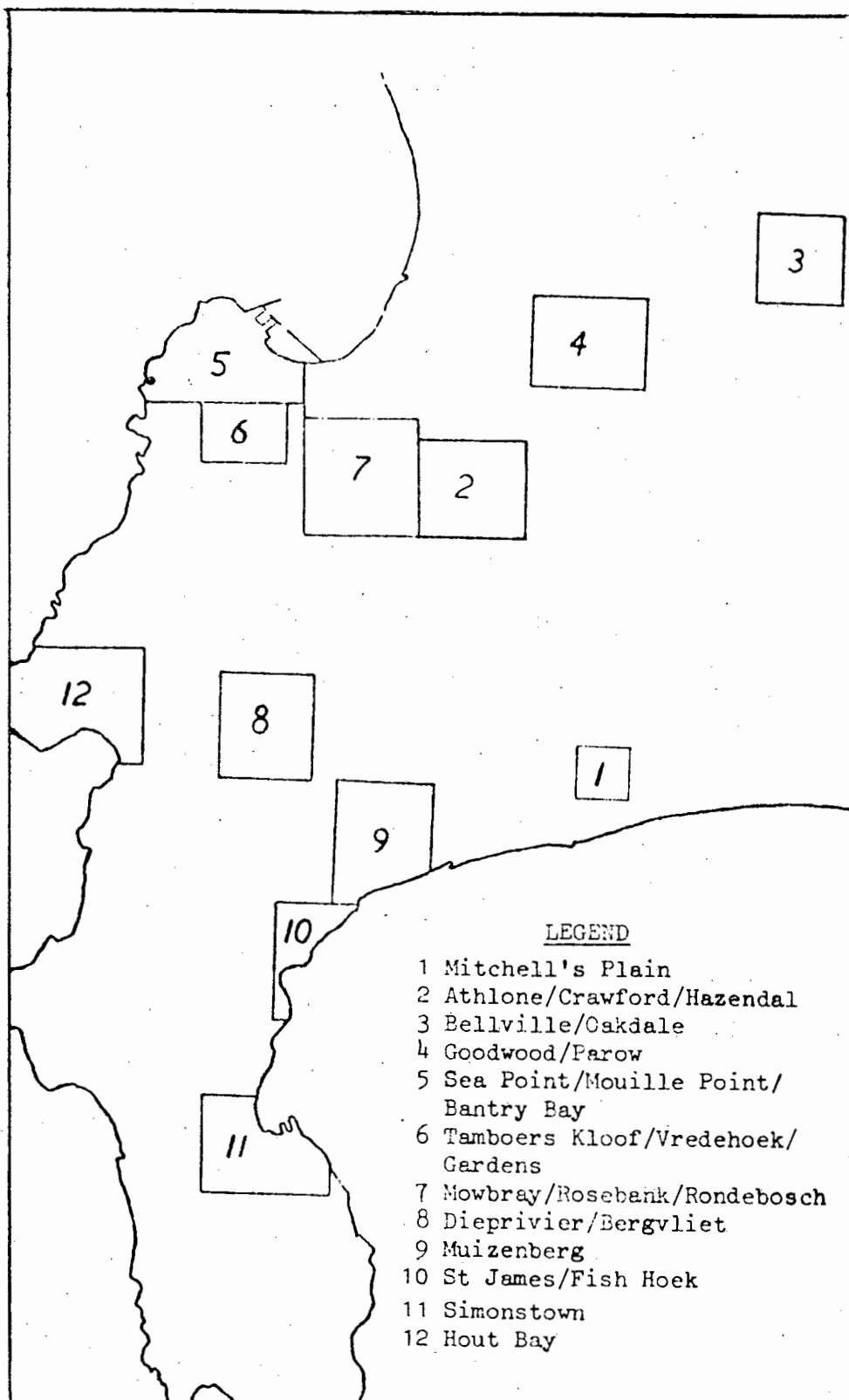
Function (purpose)	1971	1972	1973	1974	1975
	-72	-73	-74	-75	-76
General administration	270	305	363	514	556
Public order and safety	235	251	300	366	420
Defence	228	241	274	412	1 043
Education	524	537	644	793	952
Health	388	437	507	616	778
Housing and community services	243	268	346	353	493
Economic services	688	712	799	1 009	1 325
Other services	152	152	145	235	285
Total	2 728	2 903	3 378	4 298	5 852

Source: Estimates based on published and unpublished data obtained from various institutions.

PERCENTAGE SHARE OF THE PUBLIC SECTOR  
IN THE TOTAL VALUE ADDED (GDP)  
- SELECTED YEARS

Year	Gen. govt.	Govt. enterprises	Public corpns.	Total: Public sector
1950	7,7	10,2	1,5	19,4
1960	8,5	11,1	3,2	22,8
1970	9,5	9,9	3,6	23,0
1977	9,9	9,9	5,7	25,5

Source: Department of Statistics.

AREAS SAMPLED

NUMBER OF HOUSEHOLDS SAMPLED  
AND RESPONSES BY AREA

Map No.	Area	Race <sup>1</sup>	No. of Households sampled	Response <sup>2</sup>	Percentage
1	Mitchell's Plain	Coloured	15	14	4,6%
2	Athlone/Crawford/ Hazendal	Coloured	35	34	11,2%
3	Bellville/Oakdale	White	30	31	10,2%
4	Goodwood/Parow	White	30	29	9,5%
5	Sea Point/Mouille Point/Bantry Bay	White	40	30	9,9%
6	Tamboers Kloof/ Vredehoek/Gardens	White	30	30	9,9%
7	Mowbray/Rosebank/ Rondebosch	White	30	30	9,9%
8	Dieprivier/Berg- vliet	White	20	18	5,9%
9	Muizenberg	White	20	21	6,9%
10	St. James/Fish Hoek/Kalk Bay	White	15	21	6,9%
11	Simonstown	White	25	25	8,2%
12	Hout Bay	White	25	21	6,9%
Total			315	304	100,0%

Response rate: 96,5%

<sup>1</sup> Whites: 84,2%  
Coloureds: 15,8%

<sup>2</sup> With some minor alterations: for instance, in No 10 St. James/Fish Hoek, the Kalk Bay area was added.

QUESTIONNAIRE

Government (City, Provincial and State) spends public funds in many areas. Listed below are 13 of these areas.

- (A) 1 Public education
- (B) 2 Assistance to those in poverty
- (C) 3 Crime prevention and control
- (D) 4 Protection of natural areas for public enjoyment
- (E) 5 Control of air and water pollution
- (F) 6 Improvement of transportation systems
- (G) 7 Assistance to the cultural arts
- (H) 8 Urban renewal and slum clearance
- (I) 9 Health and medical care
- (J) 10 National defence
- (K) 11 Population control
- (L) 12 Provision of sports facilities
- (M) 13 Clearing squatter camps

Question 1

If it were possible for the government to spend more money in only two of these areas, to which should priority be given?

Area No \_\_\_\_\_ Most important area for spending MORE money

Area No \_\_\_\_\_ Second most important area for spending MORE money

Question 2

If the government were to spend less money in only two of these areas, in which areas should expenditure cuts be made?

Area No \_\_\_\_\_ First area in which to spend LESS money

Area No \_\_\_\_\_ Second area in which to spend LESS money

Question 3

Here are some more specific areas of public interest. Please indicate which of the following best describes how you feel about spending public funds on each programme.

	NO means "nothing" . . .	No public funds should be spent on this				
	LOW means "a little" . . .	We should spend something, but not much				
	MEDIUM means "not too much" . . .	We should spend a reasonable but limited amount				
	HIGH means "as much as is needed" . . .	We should spend whatever is needed to get the job done				
(14)	1 Develop available forest, mountain river and other waters for public recreational use	NO	LOW	MEDIUM	HIGH	
(15)	2 Develop mass transport systems	NO	LOW	MEDIUM	HIGH	
(16)	3 Control industrial air pollution	NO	LOW	MEDIUM	HIGH	
(17)	4 Tear down slums and develop low-rent housing	NO	LOW	MEDIUM	HIGH	
(18)	5 Preserve areas of natural unspoiled beauty for the future	NO	LOW	MEDIUM	HIGH	
(19)	6 Redistribute population by aiding industrial growth in rural areas	NO	LOW	MEDIUM	HIGH	
(20)	7 Control air pollution from motor vehicles	NO	LOW	MEDIUM	HIGH	
(21)	8 Provide greater support to colleges and universities to keep the cost to students low	NO	LOW	MEDIUM	HIGH	
(22)	9 Take measures to protect endangered species of plant and wild life	NO	LOW	MEDIUM	HIGH	
(23)	10 Payments to farmers to encourage conservation practices	NO	LOW	MEDIUM	HIGH	
(24)	11 Prevent serious agricultural pollution of water	NO	LOW	MEDIUM	HIGH	

- (25)12 Prevent serious industrial pollution of water NO LOW MEDIUM HIGH
- (26)13 Provide agricultural price supports to protect farm income NO LOW MEDIUM HIGH
- (27)14 Assist major symphony orchestras, opera companies, and drama groups so that they might survive and grow NO LOW MEDIUM HIGH
- (28)15 Further subsidies for museums and historical monuments NO LOW MEDIUM HIGH

DEMOGRAPHIC INFORMATION

Would you please indicate below which of the categories best describes your situation?

- (29) 1 Your sex  male  female
- (30) 2 Your marital status  single  married
- (31) 3 Your age
  - 20 - 29
  - 30 - 39
  - 40 - 49
  - 50 and over
- (32) 4 Total household income
  - below R2 000 p a
  - R2 000 - R3 999 p a
  - R4 000 - R5 999 p a
  - R6 000 - R7 999 p a
  - R8 000 and more p a

(33) 5 Education

(a) No school	
(b) Some primary	
(c) Primary completed	
(d) Some high school	
(e) High school comp.	
(f) Some university	
(g) University comp.	
(h) Other post-matric qualification	

(34) 6 Your race<sup>1</sup>  white  coloured

<sup>1</sup> Race was inferred from residential address.

RESPONSES TO QUESTIONS<sup>1</sup>

Responses to Question 14: Develop available forest, mountain river and other waters for public recreational use.

No or low spending	33,22%
Medium or high spending	65,79%
No response	,99%

---

Responses to Question 15: Develop mass transport systems.

No or low spending	23,03%
Medium or high spending	75,66%
No response	1,32%

---

Responses to Question 16: Control industrial air pollution.

No or low spending	6,58%
Medium or high spending	92,44%
No response	,99%

---

Responses to Question 17: Tear down slums and develop low rent housing.

No or low spending	8,55%
Medium or high spending	90,14%
No response	1,32%

---

Responses to Question 18: Preserve areas of natural unspoiled beauty for the future.

No or low spending	6,58%
Medium or high spending	92,77%
No response	,66%

---

Responses to Question 19: Redistribute population by aiding industrial growth in rural areas.

No or low spending	30,59%
Medium or high spending	68,10%
No response	1,32%

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<sup>1</sup> For more details see Appendix, page 85.

Responses to Question 20: Control air pollution from motor vehicles.

No or low spending	21,05%
Medium or high spending	77,63%
No response	1,32%

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Responses to Question 21: Provide greater support to colleges and universities to keep the cost to students low.

No or low spending	20,40%
Medium or high spending	78,94%
No response	,66%

---

Responses to Question 22: Take measures to protect endangered species of plant and wild life.

No or low spending	5,59%
Medium or high spending	93,75%
No response	,66%

---

Responses to Question 23: Payments to farmers to encourage conservation practices.

No or low spending	40,46%
Medium or high spending	58,88%
No response	,66%

---

Responses to Question 24: Prevent serious agricultural pollution of water from fertilisers, pesticides and animal waste.

No or low spending	9,21%
Medium or high spending	89,80%
No response	,99%

---

Responses to Question 25: Prevent serious industrial pollution.

No or low spending	5,27%
Medium or high spending	94,74%
No response	1,32%

---

Responses to Question 26: Provide agricultural price supports to protect farm income.

No or low spending	49,34%
Medium or high spending	49,34%
No response	1,32%

---

Responses to Question 27: Assist major symphony orchestras, opera companies, and drama groups so that they might survive and grow.

No or low spending	37,50%
Medium or high spending	61,18%
No response	1,32%

---

Responses to Question 28: Further subsidies for museums and historical monuments.

No or low spending	42,76%
Medium or high spending	55,59%
No response	1,64%

---

FREQUENCY DISTRIBUTION OF THE VARIABLES ANALYZED

Distribution Variables	1/No	2/Low	3/Medium	4/High	No Response	Total	$\bar{X}$	sd
14	27 8,88%	74 24,34%	128 42,11%	72 23,68%	3 ,99%	304 100%	2,81	,886
15	23 7,57%	47 15,46%	108 35,53%	122 40,13%	4 1,32%	304 100%	3,09	,912
16	2 ,66%	18 5,92%	97 31,91%	184 60,53%	3 ,99%	304 100%	3,54	,605
17	5 1,64%	21 6,91%	70 23,03%	204 67,11%	4 1,32%	304 100%	3,58	,665
18	2 ,66%	18 5,92%	99 32,57%	183 60,20%	2 ,66%	304 100%	3,53	,796
19	36 11,84%	57 18,75%	118 38,82%	89 29,28%	4 1,32%	304 100%	2,89	,962
20	11 3,62%	53 17,43%	114 37,50%	122 40,13%	4 1,32%	304 100%	3,16	,821
21	11 3,62%	51 16,78%	101 33,22%	139 45,72%	2 ,66%	304 100%	3,22	,834
22		17 5,59%	104 34,21%	181 59,54%	2 ,66%	304 100%	3,55	,566
23	58 19,08%	65 21,38%	113 37,17%	66 21,71%	2 ,66%	304 100%	2,62	1,019
24	2 ,66%	26 8,55%	113 37,17%	160 52,63%	3 ,99%	304 100%	3,44	,648
25	4 1,32%	12 3,95%	89 29,28%	195 64,14%	4 1,32%	304 100%	3,59	,601
26	65 21,38%	85 27,96%	110 36,18%	40 13,16%	4 1,32%	304 100%	2,42	,963
27	29 9,54%	85 27,96%	120 39,47%	66 21,71%	4 1,32%	304 100%	2,74	,895
28	39 12,83%	91 29,93%	120 39,47%	49 16,12%	5 1,64%	304 100%	2,59	,899

CORRELATION MATRIX OF FACTORS

	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1	1,000			
Factor 2	,402	1,000		
Factor 3	,430	,413	1,000	
Factor 4	,261	,392	,141	1,000

DESCRIPTIVE STATISTICS PACKAGE -  
UNBIASED ESTIMATES

	Sum	Mean	Standard Deviation	Variance
Factor 1	2 447	8,0493	2,1787	4,7467
Factor 2	6 257	20,582	3,1371	9,8414
Factor 3	3 834	12,612	2,5396	6,4495
Factor 4	1 516	4,9868	1,8039	3,2540

ROTATED FACTOR MATRIX

Var./Factor	1	2	3	4
1	,226	,522	,300	-,016
2	-,067	,364	,485	-,096
3	,636	,060	,443	-,095
4	,165	,136	,613	-,002
5	,639	,367	,188	,072
6	,092	,031	,779	,201
7	,502	,109	,446	,135
8	,131	,306	,577	,192
9	,596	,461	,063	,160
10	,327	,160	,055	,781
11	,741	-,014	,001	,312
12	,744	-,017	,036	,187
13	,133	,108	,158	,843
14	,092	,784	,227	,093
15	,032	,848	,068	,211

Number of Rotations = 7

PROPORTION OF VARIANCE BY FACTOR

Factor Number	Factor Variance	% of Total Factor Variance	% of Total Variance
1	2,7648	31,3	18,4
2	2,2525	25,5	15,0
3	2,1596	24,5	14,4
4	1,6499	18,7	11,0
All	8,8268	100,0	58,8

Total Variance is 15,000

RANK ORDER OF AREAS IN WHICH GOVERNMENT SPENDS PUBLIC FUNDS

Rank Order			Symbol	Area	Score
Total	Coloureds	Whites			
1	2	1	B	Assistance to those in poverty	349
2	1	2	A	Public education	316
3	11	3	E	Control of air and water pollution	160
4	3	5	H	Urban renewal and slum clearance	157
5	8	4	K	Population control	149
6	4	6	C	Crime prevention and control	130
7	10	7	D	Protection of natural areas for public enjoyment	94
7	4	8	I	Health and medical care	94
9	6	9	F	Improvement of transportation systems	77
10	12	10	J	National defence	26
11	7	12	L	Provision of sports facilities	- 1
12	9	13	G	Assistance to the cultural arts	-13
13	13	11	M	Clearing squatter camps	-44

FACTOR MEANS AND SUMMED SCORES

Factor Means for:

	Coloureds	Students	High-income whites	Low-income whites	Total
Factor I	3,161	2,899	2,617	2,614	2,706
Factor II	3,504	3,486	3,448	3,444	3,457
Factor III	3,768	3,174	3,087	3,176	3,201
Factor IV	2,231	2,587	2,510	2,656	2,512
Range	1,537	,899	,938	,830	,945

Summed Scores for:

	Coloureds	Students	High-income whites	Low-income whites	Total
Factor I	354	200	1 358	515	2 447
Factor II	813	481	3 572	1 357	6 257
Factor III	584	292	2 133	829	3 834
Factor IV	174	119	866	348	1 516
Total	1 925	1 092	7 929	3 049	14 054
N	39	23	174	67	303
Mean	3,29	3,16	3,03	3,03	3,09

SIGNIFICANCE OF FACTOR MEANS DIFFERENCES  
 AMONGST COLOURED, STUDENTS, HIGH WHITES, LOW WHITES  
 (F TESTS)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Ratio	Significance Probability
<u>Factor 1</u>					
Mean	6 566,699	1	6 566,69897	8 158,41	,0000
Groups	31,526	3	10,50877	13,06	,0000
Within Groups	<u>718,775</u>	<u>893</u>	,80490		
Total	<u>7 317,000</u>	<u>897</u>			
<u>Factor 2</u>					
Mean	21 514,29370	1	21 514,29370	43 713,81	,0000
Groups	,78251	3	,26084	,53	,6617
Within Groups	<u>883,92360</u>	<u>1 796</u>	,49216		
Total	<u>22 399,00000</u>	<u>1 800</u>			
<u>Factor 3</u>					
Mean	12 285,441	1	12 285,44116	16 070,58	,0000
Groups	59,020	3	19,67327	25,73	,0000
Within Groups	<u>913,539</u>	<u>1 195</u>	,76447		
Total	<u>13 258,000</u>	<u>1 199</u>			
<u>Factor 4</u>					
Mean	3 785,0818	1	3 785,08167	3 793,01	,0000
Groups	9,1635	3	3,05451	3,06	,0277
Within Groups	<u>594,7548</u>	<u>596</u>	,99791		
Total	<u>4 389,0000</u>	<u>600</u>			

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