

STATE EMPLOYMENT IN SOUTH AFRICA

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Naturally opinions expressed or conclusions reached are those of the author and are not to be regarded as necessarily a reflection of the opinions and conclusions of the above.

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## A B S T R A C T

The thesis has two objectives: First to establish what has happened to employment by the State and the causes behind changes. And second , to establish the role the State has adopted as a labour market operator for white labour and the effects of this role. The work is divided into three parts:

PART I: This establishes some of the economic foundations of the factors affecting State employment. The factors which affect total demand for State employment are those factors which determine the total demand and supply of public output. There are four interested parties who are affected by the supply of public output: Consumers who demand public output through voting and non-voting pressure; the government which designs public output to suit the median voter and to some extent overcomes the political uncertainty problem through the implementation of ideology; producers who affect public output through non-voting pressures; and the bureaucracy which produces public output under the criteria of:(i)when a pure public good is produced this is to the full extent of the bureau budget without regard for average and marginal cost conditions and(ii)in the production of a pure private good the bureau produces efficiency only if the trading surplus accrues to the bureau

PART II: This presents the collected data and discusses problems

encountered in the establishment of the data. Employment is presented by race for the various sectors of the State (for example the Central Authorities or the Railways) and for the various types of activity undertaken by the State (for example the provision of Economic Services or Educational Services).

PART III: This tackles the two objectives of the work and emerges with four findings.

The most surprising result of the study was while State employment has grown, the growth in black employment was proportionately far greater than the growth in white employment. This growth is largely centred around the growth of black bureaucrats and teaching services in the employ of the Central Authorities in the 1950s and Homeland governments since the 1960s.

Second , State employment by activity shows the interesting result that half of all State employment is involved in providing economic services. In 1980, education employment ranked as the second most important type of employment having constituted twenty per cent of State employment.

Third , the State views its role as a white labour market operator as that of an 'employer of last resort' for white labour which it achieves by means of always having posts vacant for whites, especially at lower skilled white positions. The results of this are first , to set a

minimum wage for whites and second , is likely to cause the State to operate inefficiently.

Fourth , it appears that certain sectors of the State were constrained by fixed factor proportions. In the public service, the Railways and the Provincial Administrations, the ratio of black to white employed rarely exceeded 1:1 until very recently. The effect of this has been to limit the growth in employment of some of the sectors as a result of the State's difficulties in attracting white labour.

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## I N T R O D U C T I O N

At the time that this thesis was started there existed a number of important issues which were related to employment by the State and in need of rigorous investigation. These issues can be divided into two categories:

First, it was necessary to establish what had happened under State employment in terms of growth and size and to explain how the present picture had evolved. This is discussed in terms of growth by sector and by activity. Second, it was important to establish the role that the State has adopted for itself with regard to white labour and what the effects of this have been on the State and on the economy.

Naturally, the problems which were encountered in the investigation were out of proportion to those which had been expected: The first problem which presented itself was that there existed no complete set of data for employment by the State; this necessitated many months of work in collecting and collating data in order to render a complete data set which was both comparable over time, and which enumerated employment by sector and by activity. Second, in order to interpret the picture behind the data, recourse was needed to the theoretical aspects of the factors which

might affect employment by the State; unfortunately no such body of theory existed, so it became necessary to develop a general theory of State employment. Finally, only after the theoretical part of this work was established and the data was sifted, could any progress be made with the real issue of the thesis: the interpretation.

In order to present the thesis as simply as possible it has been divided into three distinct parts: Part I attempts to establish the theoretical economic foundations against which changes in employment can be discussed. Part II presents the data which became available and discusses the difficulties encountered with data. In Part III the two issues which initially presented themselves are discussed: State employment by sector and by activity, and secondly, the role the State plays with regard to white labour.

P A R T I

ECONOMIC FACTORS AFFECTING STATE EMPLOYMENT

Any work which attempts to examine economic data must be preceded by some theoretical model to assist the researcher in his compilation and give direction to his interpretations. The area and spread of the data being examined will dictate the extent to which the macro economic overview and the relevant micro economic foundations of the model must be extended.

As the ultimate intention of this thesis is to examine State employment in South Africa, an economic theory is needed that explains the role of the State as a demander of labour. This part of the thesis is an attempt to develop a model which might have some relevance in the final interpretation of the South African scenario.

As State labour is utilized in the production of all State output, a necessary part of the theory underlying State employment must be an examination of the demand for and supply of State output. While State output is often discussed theoretically as the production of public goods it is realised that this output is rarely confined to pure public goods. State output consists both of goods and services, and of public and private goods. Pure public goods are traditionally referred to as those goods to which the exclusion principle cannot be applied.

Possibly the only pure public good which exists is the provision of defence as all other so-called public goods can at some time be subjected/ ...

subjected to the exclusion principle. The traditional example of a lighthouse acting as a (public) beacon becomes subject to the exclusion principle when the shipping lanes become congested. The services of the police force cannot be seen as a pure public good because the use by one person of this service prevents some other person from using it for however briefly. In that sense the exclusion principle applies and the price paid for using the police force is the queuing time while waiting for the congested services to become available. The other traditional example of roads, highways and bridges as pure public goods again falls away when the exclusion principle occurs with growing congestion or the erection of toll gates. State output also comprises those goods and services which fall in the traditional domain of the State such as law courts, prisons and education (these could be called semi-public goods) and pure private goods and services. The extent to which a State produces pure private goods and services is determined by a multitude of social, economic and political factors. A discussion lies outside the realm of this study. That a State should provide a mix of public, semi-public and private goods is largely irrelevant to this study. State output is referred to below as public output and this must be read to include all State output. When the production of pure public goods is discussed below these are referred to as public goods.

The development of a theory of State employment realises that State labour is used in the production of public output. Consequently the first section of this work attempts to develop a model of the macro economic foundations of the demand for and supply of public output. With the /...

the model developed the second section examines the micro economic foundations of public output to determine whether State production might exhibit behaviour different from that of private sector production. With the macro and micro theory of public output examined the third section examines the micro economic theory of the inputs into the production of public output, specifically the labour component of that input. Finally, based on the above, the theoretical expectations about the growth of State employment are summarised.

## 1-1 : A MACRO ECONOMIC THEORY OF THE PRODUCTION OF PUBLIC OUTPUT

### Introduction

The level of State employment is directly affected by the level of public output. If the production technique of public output is held constant, it can be said that the greater the level of output the greater the level of all productive inputs and the lower the output is the less will be the use of productive inputs. It is therefore important in the analysis of State employment to have a definite model which explains the demand for and supply of public output. An important area of this work is the development of a model which usefully analyses the variables affecting public output as a stepping stone to a better understanding of State employment/ ...

employment.

Traditionally, many economists still regard public output in the framework of Pigovian Welfare Economics. This is the model in which the State acts as an omnipotent modifier of those factors which might cause a Pareto non-optimal situation. It attempts to place a country in a situation such that any further change can make some person better off only at the expense of making some other person worse off. (This is further discussed in Section 1-1-1 below.) That this model is a poor description of the real world and leaves little scope for useful analysis has brought it under considerable criticism. Over the past thirty years many writers on Public Finance and Public Choice Theory have criticised the model on various grounds and in some cases have offered alternative theories of public output. (This is further discussed in Section 1-1-2 below.) However, apart from a few surveys of the Public Choice literature, there appears to be no model which consolidates all the criticisms of the original Pigovian work and offers an acceptable alternative model of public output based on these criticisms.<sup>1</sup> This section of the work is an attempt to do exactly that.

The development of the model which might usefully explain public output is done in three stages. Section 1-1-1 discusses the Traditional model of public output. Section 1-1-2 discusses the criticisms of the Traditional model. And, Section 1-1-3 is an attempt to use the criticisms of the Traditional model in order to develop a working model of public output.

1-1-1 : THE TRADITIONAL APPROACH TO PUBLIC OUTPUT - A SUMMARY

This is the model which was, until recently, taught at undergraduate level as the place of the public sector within a market economy.

"Positive analysis was restricted almost exclusively to theories of tax shifting and incidence. ... Comparative statics offered a plausible predictive framework for analysing tax alternatives. ... For this strictly positive analysis, which could also yield empirically refutable propositions, the economist had no reason to inquire about the political purpose of taxation, no reason to introduce external evaluation of alternative tax instruments."<sup>2</sup>

The model views the economy as three distinct sections viz. Consumers, Producers and the Government. Consumers are utility maximisers who purchase goods and services within a budget constraint so that the marginal rate of substitution of all goods and services is equal. Producers are profit maximisers who utilize available factors of production in a profit maximising combination to produce the commodities which are purchased by the consumer. Maximum social welfare in the model is achieved at the point of Pareto optimality and is attainable through the voluntary market interactions of individuals. The position of Pareto optimality is defined as the state where no individual's welfare can be increased without decreasing the welfare of some other individual(s).<sup>3</sup>

The Government plays a two part role in this model. Firstly, the government is responsible for the provision of public goods i.e. goods to which the exclusion principle cannot be applied. These goods are produced using a combination of factor inputs which are technically efficient. The amount of public goods produced is such that the mix of public and private sector output is Pareto optimal. The efficient mix of private and public good output was first studied in Samuelson's seminal paper of 1954.<sup>4</sup> " ... , in which he laid down the necessary marginal conditions for allocative efficiency in the provision of public or collective goods to a defined community of persons. Samuelson extended the accepted norms of theoretical welfare economics from the private to the public sector of the economy, using individual evaluations as the building blocks."<sup>5</sup> While the defined marginal conditions can be seen as positive theory, Samuelson's resorting to the use of a Social Welfare function to determine tax shares is in principle a normative approach and emphasises his misgivings that public output can be determined through some kind of exchange process akin to exchange in the private sector. Buchanan succeeds in overcoming this normative area but only subject to the assumption of revealed preference for public goods.<sup>6</sup>

The second role the government plays in this model is the correction of any private sector market imperfections which cause a Pareto non-optimal situation. The market imperfections which might occur are imperfect competition where the selling price is not equal to the marginal cost of production, externalities in the production process and production which exhibits increasing returns to scale.

During the 1940's the restrictiveness of the Pareto optimal objective determining the role of government involvement in the economy led to Kaldor - Hicks - Scitovsky debate on optimal Social Welfare conditions. The Pareto conditions are highly restrictive on government output as even the most flexible project (output) taxation schemes are sure to leave some minority worse off than before. Kaldor suggests that policies should be analysed using the principle that if losses occur to some people as a result of some policy implementation it is possible to pay the losers compensation to the value of their loss, even though the compensation need not actually be paid.<sup>7</sup> Obviously then if the losses outweigh the benefits the project will not be undertaken. The alternative approach, as proposed by Hicks, is that a policy should be implemented if it is impossible to compensate for the potential losses should the policy not be implemented.<sup>8</sup> However, as pointed out by Scitovsky, hypothetical compensation introduces great uncertainty in matters of income distribution so that inequitable redistributions of income could occur leading to a situation where a policy is desirable in that initial gains outweigh the losses but subsequent redistribution losses outweigh the gains.<sup>9</sup> Baumol argues that the entire debate has avoided the basic problem of the interpersonal comparison of the subjective value of gains and losses.<sup>10</sup> Equal monetary losses and gains by two individuals are very likely to be valued differently by the two individuals. The only way he sees out of this problem is the formulation of explicit value judgements in order to evaluate a situation which is the equivalent of developing a social welfare function.

Given the above two areas for government in the economy, it has also been argued that there is place for merit goods in government output.<sup>11</sup>

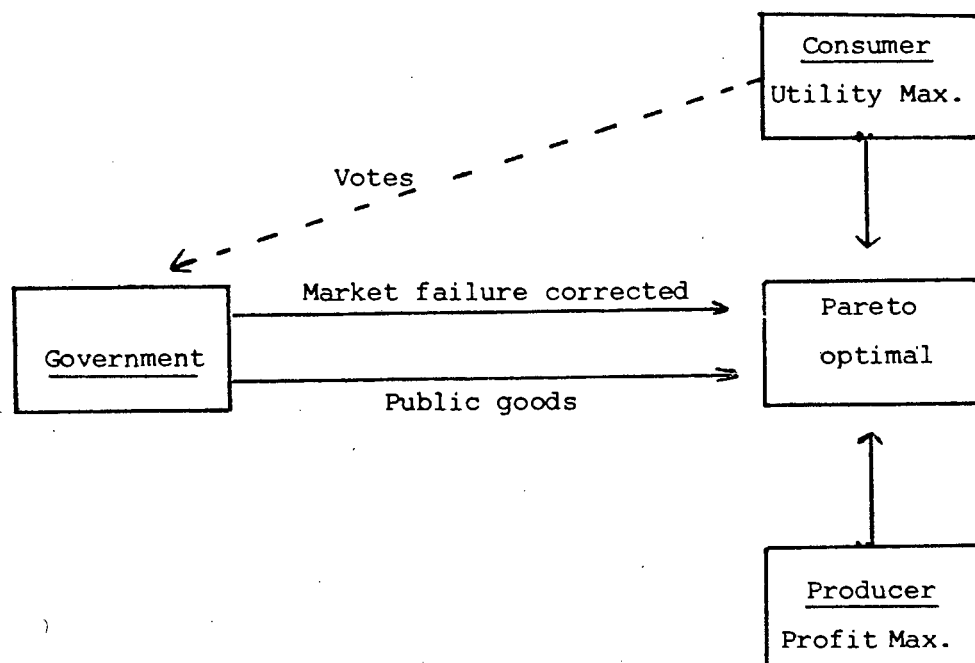
Merit goods are goods which can be subject to the exclusion principle but which are considered so meritorious that their production is funded by the government budget. Even in the Traditional approach the public production of merit goods is a normative issue and need not be discussed further here.

The final section that we deal with in the Traditional model, and the area of its greatest shortcoming, is in the supply of public goods i.e. in the supply of government intervention in the economy. The all powerful insight by which the government is able to supply exactly the correct amount of public goods, and appropriate taxes and subsidies, and correct every market failure is allegedly supplied through the voting procedure. The government is seen as nothing more than a consumer utility maximiser. Voting is such that the politician mix, i.e. those politicians voted to office, is such as to give Pareto optimal decisions. Buchanan:

"The State has no ends other than those of its individual members and is not a separate decision making unit. State decisions are, in the final analysis, the collective decisions of individuals".<sup>12</sup>

The entire decision implementing process through the bureaucracy is ignored. Laws which are enacted and the policies which are implemented pass undistorted through the decision implementing body i.e. the bureaucracy and change the economy in such a way as to be exactly Pareto optimal. The Traditional model takes no account that bureaucracy as an entity could possibly be at odds with the aims of government.

The Traditional approach views the government in the economy as in the diagram on page 9.



Consumers are utility maximisers, producers are profit maximisers and the government, through the voting procedure, produces exactly that public output so that social welfare is maximised.

1-1-2 : PROBLEMS WITH THE TRADITIONAL MODEL - A SYNTHESIS OF THE LITERATURE.

The Traditional model of the governments involvement in the economy is so far removed from the real world as regards public output, that it is little more than a philosophical fantasy. It leaves one with little analytical latitude and an inaccurate base from which to predict what might occur given some real world disturbance. The factor which obviously accounts for these problems is the serious limitations in the assumptions on which the model is developed.

Over the past thirty years the Traditional model has been extensively criticised and modified in many areas. In order to present an integrated model incorporating these criticisms it is necessary to examine the limitations of the Traditional model in some detail. These criticisms have been grouped below as problems concerning : 1-1-2-1. Voting and voting rules, 1-1-2-2. The Politicians role in public output, 1-1-2-3. Bureaucracy's role in determining public output and 1-1-2-4. The effects of Uncertainty and Influence.

1-1-2-1 : VOTING AND VOTING RULES.

In the Traditional model, consumers' needs for market correction and the correct mix of public and private goods for a Pareto optimum, float down on the government like manna from heaven. Action is then immediately taken to correct any situation which does not accord with maximum social welfare.

"The Wicksellian paradigm for fiscal exchange, ideally operating under a decision rule of unanimity without prior constraints on tax-share distribution, places the "public economy" methodologically, on all fours with the "private economy" ...

... But the world is not characterized by zero transactions costs, and these/ ...

these loom especially large when many persons must agree on single outcomes. The two-party dimensionality of private-goods trading, especially as constrained by the presence of numerous alternatives on both sides of exchange, allows the cost of reaching agreement to be minimized, and, because of this, to be largely neglected in analysis. No such neglect is possible for the complex trading process that politics embodies." <sup>13</sup>

With hindsight it seems strange that American and British writers only began studying the problems of information and transactions costs in the early 1950's. This had been studied much earlier by such European writers as J.C. de Borda (1781), M. de Condorcet (1785) and C.L. Dodgson (1875), and were "discovered" and incorporated into the works of, particularly, Duncan Black and also Kenneth Arrow. <sup>14</sup> From this point the literature flows in two related courses with theory of voting being studied on the one hand and the theory of constitutions on the other. These are discussed below.

### The theory of voting

The theory of voting, by definition, covers all types of voting viz. unanimity, specified majority (eg. seventy five percent), simple majority and point voting, and covers all areas of voting viz. democratic, parliamentary, committees and clubs. As the emphasis here is on public choice and public output it is voting solely in these areas that is examined.

A : THE MAJORITY RULE

The most popular of all voting rules, majority voting, exhibits definite disadvantages in the attainment of a Pareto optimum for public output. Even in a situation where all enfranchized persons participate directly in every government decision i.e. where there is no representative body determining governmental decision, the majority rule can be less than optimum.

Under majority voting a situation can occur where the losses being sustained as a result of a particular decision outweigh the benefits to the population as a whole. This can be illustrated by an example of five voters who would each pay a tax of R500 extra should a decision be made eg. to repair a particular road. The benefits to each voter are shown in the table below. The decision to repair the road would be taken even

<u>Voter</u>	<u>Benefits by</u>	<u>Taxed</u>	<u>Vote</u>	
			<u>For</u>	<u>Against</u>
A	R620	R500	X	
B	R510	R500	X	
C	R505	R500	X	
D	R100	R500		X
E	R20	R500		X
	<u>R1755</u>	<u>R2500</u>	<u>Vote passed</u>	

though the total social cost (R2500) outweighs the social gain (R1755).

One of the more difficult problems involved with the majority rule is that of issue cycling where it can be shown that with more than two issues a situation can occur where no equilibrium exists. The most formal proof of/ ...

of this is Arrow's so-called "Impossibility Theorem" and was shown while Arrow was attempting to establish the existence or non-existence of the Social Welfare functions.<sup>15</sup>

Arrow's approach is stated briefly here:

Arrow establishes five postulates which, he feels, any Social Welfare function should conform to. These are:

- 1) All orderings of individual preferences must be allowed.
- 2) The Pareto optimal criteria.
- 3) Any ordering of feasible alternatives is allowed.
- 4) Non-dictatorship. This, in it's weakest form can read that a minority cannot force decisions on a majority.
- 5) Independence of alternatives so that the choice between any two alternatives shall not be affected by preferences relating to other alternatives.

A simple proof of the theorem can be shown using three individuals 1, 2 and 3 and three alternative choices A, B and C. The individuals choices are such that

Individual 1 : A P B P C (read as individual 1 prefers A to B and prefers B to C therefore individual 1 prefers A to C.

Individual 2 : B P C P A ∴ B P A

Individual 3 : C P A P B ∴ C P B

therefore as individuals 1 and 3 prefer A to B and individuals 1 and 2 prefer/ ...

prefer B to C. A rational community prefers A to C but a majority of the community prefers C to A (i.e. individuals 2 and 3). The result of this is that there can be a constant cycling of issues between the voters.<sup>16</sup> The only way this can be solved with the Arrow paradigm is by the relaxation of the non-dictatorship postulate which is unlikely to appeal to a democratically minded body of theorists. However, it is felt by some that:

"This problem is almost universally acknowledged by authors working in the area of public finance, but it is generally regarded as a technical difficulty to be overcome rather than as a serious defect".<sup>17</sup>

#### B : LOGROLLING

The term logrolling is the American description of vote-trading within decision making bodies. "When voter preferences intensities on each issue are not the same, the gains of a winning majority may be less than the minority's losses. To avoid this "intense minorities" may engage in logrolling or vote trading."<sup>18</sup> It has been argued by Buchanan and Tullock that if the voting population includes vote trading (logrolling) as part of its political procedure, majority voting can become a more reliable method of achieving Pareto optimality.<sup>19</sup> (The work by Buchanan and Tullock is the most comprehensive work on logrolling produced to date.)<sup>20</sup> It is argued that the "tyranny" of majorities can lead to positions where an issue is passed which benefits the majority but discriminates against an "intense" minority to the extent that the losses/ ...

losses suffered by the minority outweigh the gains to the majority. In simple majority voting without logrolling the issue will pass and total social welfare will decrease. Should logrolling occur, implicitly or explicitly, there is a possibility that the minority can triumph against the majority vote rule by trading votes with other minority groups. This situation can be illustrated by the example below. The table shows three voters' value preferences over two separate issues P and Q. The values assigned can be pecuniary or subjective.

<u>Voters</u>	<u>Issues</u>		<u>Issues*</u>	
	P	Q	P*	Q*
A	-2	-4	-8	-10
B	10	-5	10	-6
C	-5	12	-6	12

For issue P voter B is the minority and for issue Q and C is the minority. Should simple majority voting take place none of the issues will be passed and a net social loss of six units will occur. However, should logrolling occur between B and C (who then vote insincerely on issues Q and P respectively) then both issues will be passed with a net social gain.

Logrolling can also cause a decrease in social welfare. This will occur obviously when the benefit to the logrolling minorities is less than the cost to the majority. In the above table, if issues P and Q had their values altered as reflected by P\* and Q\*, again both issues will be passed with logrolling but this will lead to a net social welfare decrease of eight units.

It should be noted that logrolling can occur only under certain conditions. The ballot must be an open and not a secret vote otherwise there can be no/ ...

no enforcement of vote trading. Secondly, the vote must be an issue vote and not a vote on a package of issues. If the vote is a package of issues, as would occur eg. at general elections, no logrolling can occur. One either accepts or rejects the package. (However, strategic voting might occur - this is discussed under the theory of the constitution.) Finally, the number of voters must be limited if any explicit vote trading is to occur.

#### C : OTHER VOTING SYSTEMS

Two other systems of voting other than majority voting are possible. Both overcome some of the limitations of simple majority voting but neither are "perfect" in their own sense. These are the unanimity vote and point voting. Unanimity, while usually unworkable as full unanimity, exhibits itself as a voting rule requiring a majority of fifty percent or more. Constitutional changes, for example, often require a vote of more than simple majority for any issue to pass. "The transaction costs barrier to general agreement may be fully acknowledged at the stage of reaching collective decisions ... But this need not imply that persons cannot agree generally on the rules or institutions under which subsequent decisions will be made, whether these be majority rule or otherwise."<sup>21</sup>

The system of point voting, on the other hand, allocates to each voter equal voter points. Ideally, voters would allocate their voting points to/ ...

to reflect the intensity of their preferences. The system has two major drawbacks:

Firstly it is unlikely to succeed in large communities due to voter apathy with information costs exceeding expected benefits.<sup>22</sup>

Secondly, point voters may attempt to use their vote insincerely by strategic voting. Voters will not use any voting points on issues which are expected to be foregone conclusions. Rather, they will use all their points on issues which are expected to be closely contested and the final result will not be Pareto optimal.<sup>23</sup>

#### Theory of constitutions

Buchanan and Tullock:

"Direct democracy, under almost any decision-making rule, becomes too costly in other than very small political units when more than a few isolated issues must be considered. The costs of decision-making become too large relative to the possible reductions in expected external costs that collective action might produce. If direct democracy were required, the individual, in his personal role as constitutional choice-maker, would leave many traditional activities of the State to be organised in the private sector, and, for those few activities that he chose to collectivize, he would tend to adopt the less inclusive decision-making rules ... , one means of reducing the interdependence costs generally is through the introduction of representative government."<sup>24</sup>

Except for very small communities it is impossible for every enfranchised person to participate directly in every governmental decision. As a result/ ...

result a constitutional system of representatives (politicians) must emerge with each representative being elected by a given (normally equal) proportion of the enfranchised population. The theory of Constitutions is the study of voting under a system of representative government.

Once representatives are elected all the problems associated with voting rules and logrolling become evident in the same way as in direct voting.<sup>25</sup> However, in the actual general election in which representatives are chosen other problems occur which make the voting process even less Pareto optimal than previously shown. Unlike private sector purchases where one can make graduations in the combination of goods and services consumed, in the public sector one must accept a candidate's entire set of electoral objectives or reject them. Voting, unlike the price system, gives each voter exactly the same "spending power" irrespective of their respective wants or the intensity of these wants. It was shown in the theory of voting how majority voting can bring about a net decrease in social welfare. In general election voting this could be especially aggravated by having to vote on a specific "basket" of issues only. That logrolling is, by definition, excluded from general election voting because of the "basket" vote and because the ballot is secret (and therefore logrolling cannot be enforced) any social benefits which might have accrued are also excluded.

Should voters use their vote strategically a position even further from Pareto optimum might be arrived at. The existence of majority voting in/ ...

in large democratic societies can lead to strategic voting. Within the total "bundle" of policies offered by candidates (or the political parties to which they are affiliated) many of the issues will be foregone conclusions. A rational voter might then use his vote strategically and support a candidate with whose main policies he disagrees but with whose minor policies he agrees. eg. Should a particular important issue be that of an increased defence budget with which the voter strongly disagrees but which, in this case, will be a foregone conclusion and a minor policy issue be the preservation of wildlife in war torn zones with which the voter agrees, he might vote for the candidate even if he suffers a net social loss as regards increased defence budget vis-à-vis preserved wildlife.

#### 1-1-2-2 : THE POLITICIAN'S ROLE IN PUBLIC OUTPUT

In the Traditional model the government corrects market imperfections and responds to the demand for public goods so as to achieve maximum social welfare. As the government is concerned solely with maximising consumer utility it must be seen in this model as nothing more than an extension of the consumer body.<sup>26</sup> The government exists only for the consumer.

There does, however, appear to be a logical inconsistency in viewing government in this way. In viewing the free-market system, rational self interest lies at the very heart of the system and is the driving force behind the strength and continual growth of the system.<sup>27</sup> Certain members/ ...

members of the community actively campaign to be chosen as representatives in the government where they are empowered with the right to make collective decisions. One must conclude that these individuals are either rational ascetics who are acting to maximise consumer utility or they are rational beings acting in their own self interest. If one accepts the first proposition we undermine the entire rational self interest foundation of the market and if one accepts the second proposition we further tarnish the image of the role of government in the Traditional model. With both consumers and producers motivated by rational self interest, it is inconsistent to assume that politicians will be motivated by anything different. "From the self-interest axiom springs our view of what motivates the political actions of party members. We assume that they act solely in order to attain the income, prestige, and power which come from being in office. Thus politicians in our model never seek office as a means of carrying out particular policies; their only goal is to reap the rewards of holding office per se. They treat policies purely as means to the attainment of their private ends, which they reach only by being elected ... parties formulate policies in order to win elections, rather than win elections in order to formulate policies."<sup>28</sup>

The politician's self interest is served by attaining office as an elected representative. During the course of the attempt to attain office the politician must become a gatherer of votes. He gains office by gathering more votes than his next best rival i.e. he is elected by achieving a simple majority of the votes. Some difficulty exists in deciding on the proportion of votes a politician aims at capturing : a politician achieves his/ ...

his objective of being elected to office by capturing a simple majority of the votes. However, Downs feels that it would be a more realistic assumption that the politician aims at capturing a maximum of all votes cast i.e. the politician is not satisfied with simply gathering more votes than his nearest rival but he attempts to gather as many votes as possible.<sup>29</sup>

Three reasons have been extended by Bartlett in support of this assumption<sup>30</sup> viz. 1) Governments do not have perfect knowledge of voter opinion and must leave some margin of safety. 2) The greater is the margin by which a government wins an election the greater is its prestige and power. 3) Many voters continue to support the same party as a matter of habit (or due to information costs). Hence voters identify themselves with a party and it is important for government to establish and reinforce this identity.

Alternatively a theory proposed by Riker maintains that political parties (or in Riker's terms: political coalitions) select policies which permit a minimum winning number of votes.<sup>31</sup> In this theory a politician's maximand is the minimum winning number of votes, not vote maximisation. It follows from this that single and multiparty systems under democracy will converge to two parties of equal size.<sup>32</sup> (This equal size conclusion breaks down when the maximand is risk adjusted for uncertainty.)

### Constraints on Politician Behaviour

There are constraints on both of the above maximands, determined largely by

the distribution of votes regarding various preferences/policies.

Downs has used the idea of distribution of voter preferences to show:

- i) If the distribution is normal the two parties will tend over time to become equal in size with policies virtually indistinguishable from each other;
  - ii) If the distribution is skewed equally to both sides the two parties will be of equal size with diametrically opposed policies;
  - iii) Multiparty systems will have policies each distinct from each other.
- The distribution of voters' preferences will fundamentally constrain both vote maximising and victory minimising objectives.

There is a further constraint on the actions of political parties in power. It is possible, when the distribution of votes is sufficiently skewed, for the party in power to discriminate against minority groups. This discrimination can be taken so far as to fully exploit minorities to benefit a political party's electorate. This can occur, for example, where taxation falls solely on a minority group for expenditure to benefit the majority group. The constraint working against this is the constitution.

'Constitutions come in all manner and forms and the interpretation given them varies a great deal so that governments will be able to reduce the coercion to which members of the majority are subjected by exploiting the minority, but the extent of their freedom to do so will depend on the degree to which the constitution is explicit in defining the rights of individual citizens, on the interpretation given these clauses by the courts,....., and on the cost of suing the government if it is judged to have breached the articles of the constitution.'

12-1-2-3 THE BUREAUCRACY'S ROLE IN DETERMINING PUBLIC OUTPUT

determining which factor best serves the bureaucrats self interest. i.e. what is the bureaucrat attempting to maximise? Any person's decision to enter the bureaucracy must be seen as that person's rational choice. Every government needs a bureaucracy. Except in small communities, the fact that the bureaucracy serves his own self interest best. Should private conflicting numbers needed for centralised decision-making (the legislative) and decision-implementing (the bureaucracy) creates the need for a business offer a better position the person will then (by the self interest) leave the bureaucracy. The continued presence of these conflicting numbers leads one to conclude that real costs will be high while the body supplying information for decision-making and subsequently implementing decisions taken must be reasonably large. This is similar to administration-worker relationship in a privately owned factory. A bureaucrat serves his own self interest best by reinforcing his position within the bureaucracy i.e. he maximises the security of his position.

In the Traditional model the bureaucracy is seen as an unbiased body having as its objective the interpretation and implementation of government policies in such a way as to maintain the desired Pareto optimal objective of the policies. This traditional view of the bureaucracy is naive in the extreme. In the national world on which this theory is based consumers, producers and politicians are all motivated by their own self interest. If we are to be consistent in our own self interest objective the bureaucrat must also attempt to maximise his own self interest. The motivation of the bureaucracy cannot be seen as the implementor of government policies in such a way as to be Pareto optimum. Nor can it be seen as the governments willing instrument in implementing vote maximising or coalition maximising policies. It must be seen as implementing policies in a way which will serve its own self interest best. The bureaucrat will attempt to maximise the budget of his bureau but it can also be taken to mean the numbers employed by the bureau.

relative to other bureaus in the bureaucracy. Which one of these two the bureau will attempt to maximise (if it does not attempt both) is likely to depend upon the relative ease with which one or the other objective is likely to be achieved. The department of Co-operation and Development is likely to attempt employment maximisation because a small percentage employment increase would mean a large absolute employment increase. The now defunct department of Information would have been more likely to attempt relative budget maximisation for the same reason (and with the same success). That the department of Information now no longer exists does not mean it was not successful in its budget maximisation objective. It no longer exists because it threatened the vote-maximand of government.

One of the major ways by which a bureau can increase in size is by taking advantage of the uncertain knowledge of government and offering biased information favourable to the bureau's growth. Bureaucrats at every level of the bureaucracy are likely to withhold and/or change information being passed up the bureaucratic hierarchy so that it is to their advantage and benefit. As this will occur at all levels of the bureaucracy and from the bureaucracy to the government it could lead to a situation Tullock has called "control-loss".<sup>36</sup> As Breton writes:

...control-loss arises when bureaucrats receiving information from a lower hierarchical level distort that information when passing it to their superiors because by so doing they can maximise the relative size of their budget or their share in their bureau's budget and hence their personal incomes and status. In more general terms, one can say that officials at a given hierarchical level will discover that by

altering the messages received (and to be transmitted) even slightly - that is, by withholding all or part of the information that is detrimental to them and forwarding only what their superiors would most like to learn - they can achieve their objectives. Since officials at all hierarchical levels in the organisation must be assumed to be doing the same thing, the information that finally reaches the ultimate decision-makers would normally be incomplete, biased, and unreliable. Control-loss is thus the natural result of the facts that budgets are approved by higher bureaus and by politicians that are higher in the hierarchical structure and that the income and prestige of bureaucrats in all bureaus depend on the relative size of bureaus."<sup>37</sup>

With the existence of "control-loss" and voter control at least two steps away from the bureaucracy another area of bureaucratic influence becomes possible. Bureaucrats will have their own scale of preference over proposed government policies and the output of public goods. Not only will the bureaucrat attempt to increase the size of the bureau but he will pass information back to the government, and interpret government policies in accordance with his own political convictions. While this is not dangerous in itself as bureaucrats will usually comprise most of the political spectrum (possibly not anarchists) it can induce further control loss when the bureaucracy consists mostly of members of one political doctrine or party.<sup>38</sup>

### Constraints on Bureaucrat Behaviour

There are, of course, limits on the bureau's ability to be able to increase its size regardless. The attempt to maximise bureau size must be tempered by the possibility of such action drawing the bureau to the attention of the government or the public. The government remains responsible to the

voting public and if necessary must act against any bureau which is likely to hamper government's vote-gathering. However, except in very rare cases, the system relies only on bureaucratic appraisal of bureaucratic requests and actions.

39

1-1-2-4 : THE EFFECTS OF UNCERTAINTY AND INFLUENCE

"Uncertainty is any lack of sure knowledge about the course of events. It may be present in any part of the political decision-making process, and usually affects both political parties and voters by controlling the level of confidence with which they make decisions."<sup>40</sup>

In a world of absolute certainty there would be no need for political parties or even for voting. The needs and preferences of the population would be known. Policies would be implemented in a form designed to achieve maximum social welfare. That there is complete certainty, these policies would be exactly known.

In a world of uncertainty a person is faced with determining the confidence he has in a decision and the cost which can be incurred should he make an incorrect decision. There is likely to be some relationship between the stock of information any person is likely to collect before making a decision and the expected losses incurred should he make an incorrect decision by not collecting sufficient information. Should any other person stand to benefit from the first person making a particular decision he is likely to supply the first person favourable information concerning the decision. There is likely to be some relationship between

the amount of information the second person supplies and his expected benefit from the appropriate decision being made. These two relationships are examined briefly:

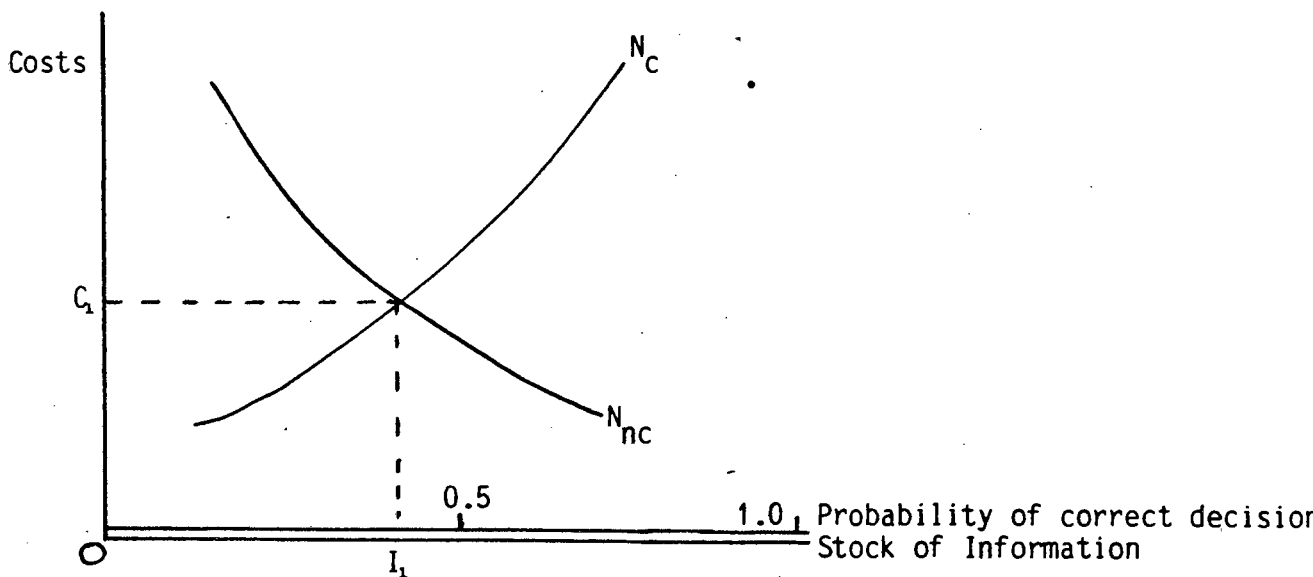
The model is based on the following assumptions:<sup>41</sup>

- 1) There exists individual A who is to decide on decision X. He is uncertain of his position regarding X.
- 2) Should he not choose X (not-X) he can choose from a myriad of other alternatives.
- 3) The probability of A choosing X depends on his stock of favourable information ( $N_F$ ) outweighing his stock of unfavourable information ( $N_{UF}$ ) i.e. X if  $N_F - N_{UF} > 0$ .
- 4) There are real costs incurred by A in collecting information ( $N_C$ ) and in not collecting information ( $N_{NC}$ ).
- 5) Some other individual, B, stands to benefit from A choosing X. B receives no benefit if A chooses not X and full benefit if A chooses X.
- 6) B expects benefit from X to the extent of the probability of X being chosen.
- 7) B has a normal U-shaped marginal cost curve in supplying information.

In the decision making process individual A collects information. The information he collects is likely to contain both favourable and unfavourable information concerning the decision. The probability of X being chosen is positively related to favourable information collected and inversely related to unfavourable information collected. The probability of A making a correct decision (i.e. either X or not-X) is positively related to the stock of information he collects.

The equilibrium stock of information A collects is shown in Figure 1-1 below. The marginal cost of information collection is shown as  $N_C$ . It is assumed that initial information is easy to obtain but as further information is collected the collection of additional information becomes progressively more difficult. Therefore, the marginal cost curve slopes upwards. The marginal cost of error is a decreasing function of information collected and is shown as  $N_{NC}$  below. These are A's expected risks of loss, should he make an incorrect decision. They can be viewed as the risk factor applied to A's expected utility, should he make an incorrect decision. The less information A collects, the greater will be the discount applied to future utility. (Conversely  $N_{NC}$  can be viewed as the expected marginal benefit from collecting information.) It is assumed that the initial information that A collects will decrease the risk of an incorrect decision more than will successive information collection.  $N_{NC}$  (the expected marginal cost of not collecting information) is therefore expected to decrease as more information is collected.

Figure 1-1

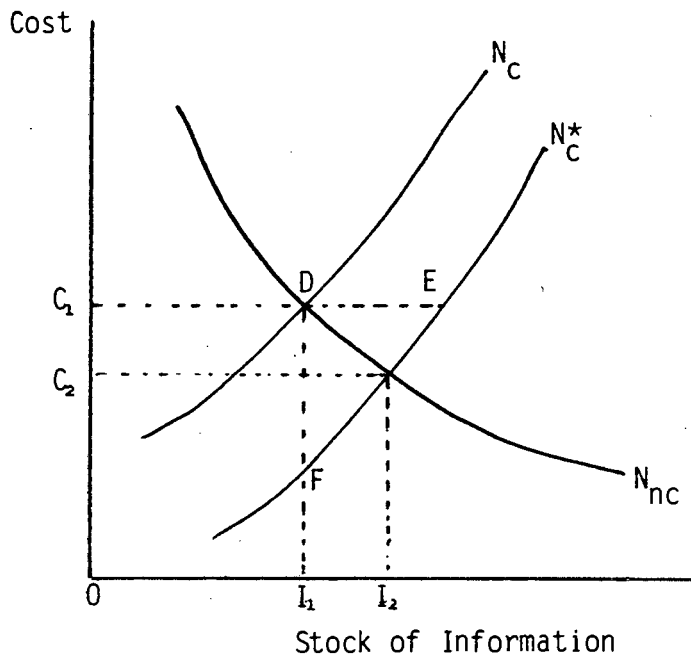


A will collect information to the point where the marginal cost of information collection is equal to the expected marginal cost of not collecting information. Collection beyond this point means the cost of additional information outweighs the expected benefits of collecting that information.

It can also be seen that the factors determining the probability of a correct decision being made are the costs shown in figure 1 and not some other factor. In Figure 1-1 A will make his decision with less than a 0.5 probability that he will be correct. It can therefore be said that the probability of any person making a correct decision depends not on the importance of the decision but on the relative cost structures of information collection.

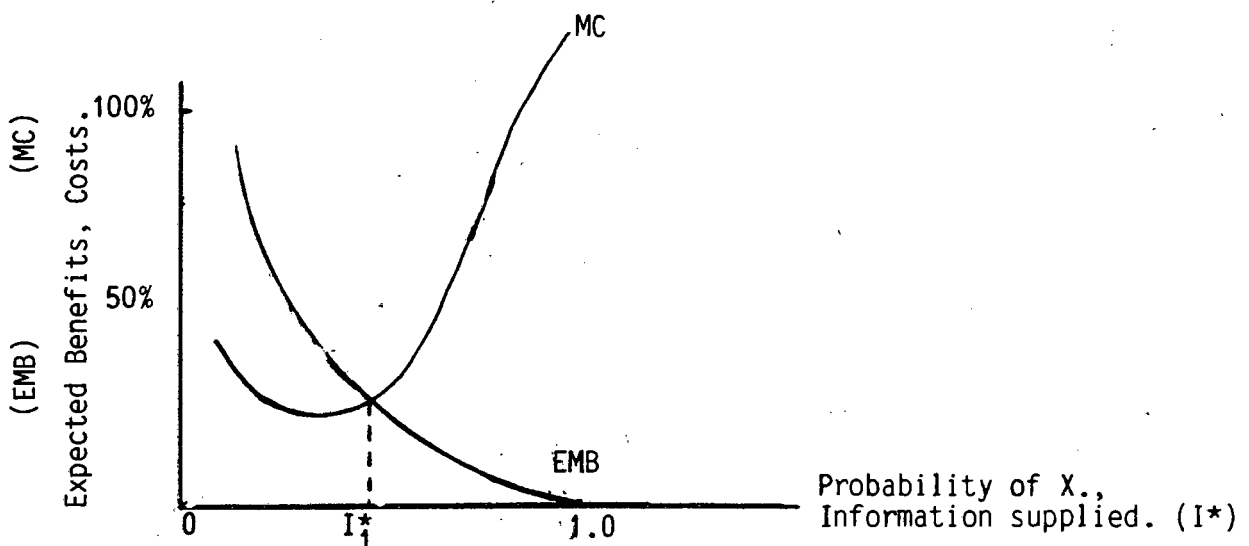
As a result of A's information collection being determined by the relative costs of collecting and not collecting information, there exists the opportunity for individual B to influence A's decision more in favour of X than it would previously have been. Figure 1-2 below shows the effect of such an influence. B offers to A subsidised information favourable to X and therefore decreases the marginal cost of information collection.  $N_C$  moves down by the amount of the subsidy (DF) to  $N_C^*$ . The additional amount of information offered which is all favourable to X is DE. A will now continue his information collection and increases his stock of information  $I_1$   $I_2$ .

Figure 1-2



The extent to which B is prepared to offer subsidised information is determined by his own relative cost structures. Figure 1-3 below has as its vertical axis B's expected benefits as a result of decision X being made. The horizontal axis shows the amount of information being supplied. Also on the horizontal axis is shown the probability of X as more and more information favourable to X is supplied. ( $I^*$ )

Figure 1-3



The relationship between B's expected benefits from decision X and the probability of X is derived from assumption 6. It is expected that the initial amounts of information supplied will affect the recipients' decision to a larger extent than further amounts of supplied information. As such, the expected marginal benefit of information supplied (EMB) shown in Figure 1-3, is downward sloping and reaches zero when the probability of the decision being favourable is 1.0.

The marginal cost curve of information supplied is derived from assumption 7. It can be seen that a rational B will supply information to A until the marginal cost of supplying this information becomes equal to the expected benefit of decision X. The information supplied by B ( $OI_1^*$ ) is equal to the distance DE in Figure 1-2.

### The effects of Uncertainty and Influence on Public Output

Any government's position with a democratic economy leaves it at such a distance from the consumer electorate that it is always uncertain of the future effects of public output on voting patterns. No government can ever be certain of the preferences of the people or of the effects of its policies on vote maximisation. "The decisions which a government makes will be based upon the government's view of consumers' preferences functions. It will be attempting to maximise its vote position, and hence will undertake those projects which it thinks will yield a net increase in votes and will reject all others. The use of this principle in practice is made extremely difficult because of the presence, once again, of gross uncertainty."<sup>42</sup>

It can be expected, that in the presence of uncertainty, a government will collect information to determine the effects of present and future policies on voter utility. Where information is collected on any specific issue it can be expected that any rational government will continue this collection to the point where the perceived marginal benefit from the information is equal to the marginal cost of the collection. As this cost of collection leaves opportunities for affecting public output by information subsidisation, it can be expected that the rational information subsidiser will continue subsidisation until the marginal cost of supplying information becomes equal to the expected benefits of supplying the information.

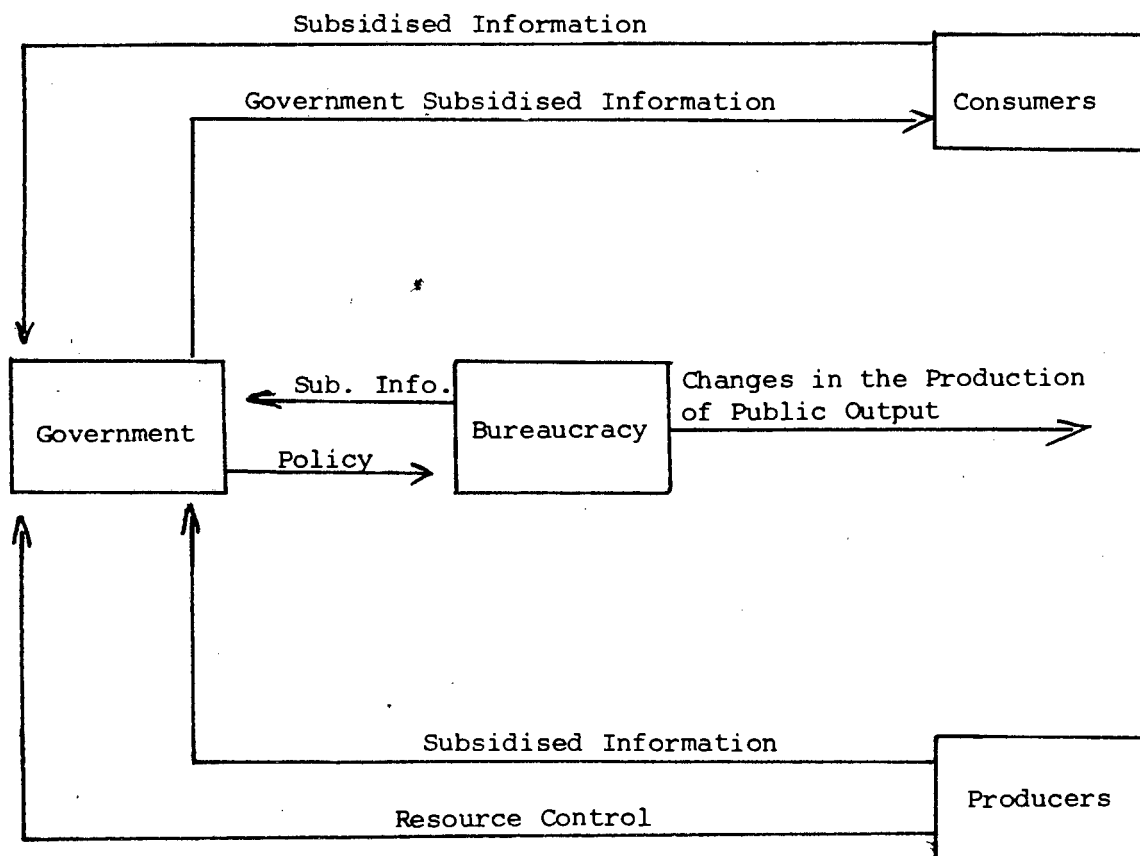
The cost of voting for an individual voter and his perceived benefit from voting makes information collecting regarding government beyond some minimal level economically irrational. The introduction of national and party ideology is a rational response to these high informative costs. The role of ideology and the rational voters' response to ideology has been discussed extensively by Downs, Bartlett and Tullock.<sup>43</sup>

The essential conclusion of these works is that it does not benefit the rational voter to be a collector of information beyond some minimum stock of information. In consequence, the rational voter will vote on the basis of ideology, not issues, as this has a lower collection cost. Once an ideology is selected, it is unusual for voters to move between ideologies in the short or medium term. The only voter who does move between ideologies is the so-called "median voter".<sup>44</sup> The median voter is a rational

voter who falls in the margin between two ideologies, i.e. he stands to benefit (or lose) to largely the same extent from either ideology. The party for which he eventually does vote, will promise him benefits marginally greater than the party for which he did not vote. This voter, because he is on margin, has no ideological loyalty and can vote for the other party on a different occasion, should his perception of future benefits change. The consequence of this is that political parties will construct policies which are directed at capturing the median voter. This action is, of course, moderated by the party not being able to move too far right or left of its ideological mean and thereby losing votes in the newly created ideological vacuum, or allowing another party into the ideological vacuum.

### Sources of Influence

In the production of public output there are many areas from which influence emanates in the form of subsidised information. An attempt has been made to illustrate these areas of information subsidisation using the diagram below. The sources which are shown are those of consumers, producers, government and bureaucracy. The only interaction shown is the non-voting influence of subsidised information, changes in resource control and the effects of these on government policy and subsequent changes in the production of public output.



Consumer groups offer subsidised information. This can take the form of coordinated and uncoordinated public correspondence campaigns, public opinion polls sponsored by consumers, public assemblies and demonstrations and information lobbying.<sup>45</sup> There are three other forms of influence used to change future policy to benefit consumer groups which do not use subsidised information techniques. These are, firstly, an explicit trade of resources for political favours. The resources can be used to influence voters or can go directly to the politician as a bribe. Secondly, resources can be transferred to support political campaigns over elections for favours should that party attain office, and at least some influence if it does not. And thirdly, public / ...

figures and opinion leaders will often openly support a political party or issue. While this is often done through political convictions it can occur through promised political favours upon political victory.

Just as the consumer offers the government subsidised information, so does the government offer the consumer subsidised information. This information attempts to show the voter just how he stands to benefit, and how he is already benefiting by government policies. The form of the information can be in e.g. government press releases and public propaganda campaigns. To the extent that a government has control over media one can expect a greater proportion of reports favouring government and a smaller proportion of reports criticising government.

Producer groups also offer subsidised information to the government. They are also able to use these same influence techniques as consumers, viz. public opinion polls, information lobbying, trading of resources, for direct favours, contributions to party political campaigns and opinion leader support.

Producer groups are able to exert more influence than consumer groups to the extent that the organisational costs of supplying influence is likely to be lower for producer groups. Producer groups are able to use part or all of their production infrastructure in dissipating influence. In many cases a consumer group is formed purely with the intention of directing influence in a particular direction. As a result of this consumer groups incur far higher setting up and organisational costs than/ ...

than their producer counterparts. Therefore it can be said that producer groups achieve a greater amount of influence per rand spent than do consumer groups. It also follows that if the influence return per rand spent is higher for producer groups more funds will be invested by producer groups in influence production given the same expected future benefits from influence deriving from consumer and producer groups.

The bureaucracy is the last area from which government influencing subsidised information is likely to emerge. The form of this subsidy has been discussed above (Section 1-1-2-3).

Bureaucrats are responsible for passing information up through the hierarchy until it reaches the political decision-making unit. To the extent that only information favourable to the bureaucrats maximand is passed back the distortion in this information can range from minor to that of "control-loss". The bureaucrat will select information so that the expected marginal benefit of the informational change equals the marginal cost of the change. The only real cost that a bureaucrat incurs in his information selection is the wrath of his superiors in the unlikely event that he should be discovered. Should this occur the penalty for discovery ranges from mild censure to (an unlikely) dismissal. All of this means the marginal cost of information subsidisation by the bureaucrat is very low and one can therefore expect that the amount of subsidised information being passed on is very high.

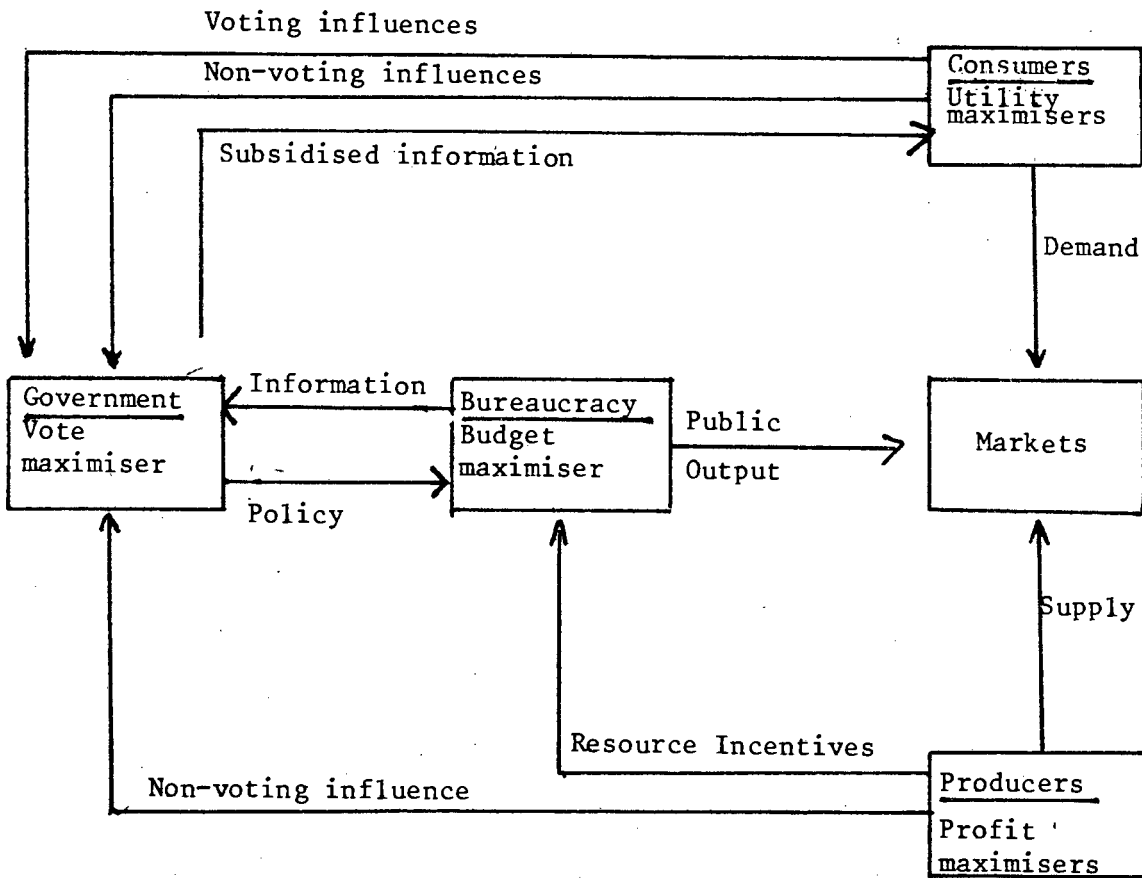
All of the influences, of all of the four sections are continuously being/ ...

being fed into the government decision-making machinery. This information is discounted by the recipients on the basis of its origin and then causes policy to be started or changes existing policy. This policy change is directed to the bureaucracy who implement the necessary changes. Of course, the changes the bureaucrat implements might not be exactly those which the subsidised information and policy change directed but the net effect is a production of public output other than would have occurred without the subsidised information.

The volume of pre-discounted information any particular agent or body offers depends on the relationship between marginal costs and expected marginal benefits of supplying the information. Within this restrictions on information supply in any one area, there are in many cases alternative avenues of supplying information eg. one issue can be subsidised through campaign funding, a correspondence campaign, sponsored press and radio coverage, and a sponsored public opinion poll. Therefore the extent to which any one person, agent, body or producer can subsidise information depends largely on the resources at its disposal. The more resources a body can call upon the more it is able to influence policy i.e. the distribution of income is responsible for the distribution of influence of subsidised information. This in turn will be responsible for policy changes favouring the larger distributors of information i.e. wealthier sectors of the community. One can say therefore that while in most democratic countries each vote is equal, non vote influence is not equal and will often favour the wealthy and producer sectors.<sup>46</sup>

1-1-3 : THE MODERN MODEL — A SYNTHESIS

A synthesis of the modern view of public sector involvement is depicted in the diagram below. This is a four sector model incorporating consumers who are utility maximisers, producers who are profit maximisers, the government who is a vote maximiser and the bureaucracy which is a budget maximiser.



Consumers and producers interact with each other in the production, sale and consumption of goods and services for mutual benefit. The government relies for its being in office on securing at least, a majority/ ...

majority of votes if not a maximum. Faced with great uncertainty regarding consumer needs, and seeking minimum cost ways of finding this information, the government will become the willing recipient of subsidized information. This information is offered to the government by the other three, self interested, parties. Both the consumer and producer will offer information indicating that a particular policy will be favourably or unfavourably received by the voting public. The bureaucracy offers information on what is better described as a selective basis than on a subsidized basis. Part of the bureaucracy's work is to pass information up the hierarchy to the political decision making body. The bureaucracy achieves its own maximal objective by passing on information that will be advantageous to itself and changing or omitting information that will be disadvantageous.

Within the bureaucracy there exists the possibility of firms offering substantial rewards for bureaucratic favours and for bureaucratic information passed back to government that favours one particular company or sector. The extent to which this occurs depends very much upon established social custom and the strength of the particular government. For example in some countries bribery of officials is the only way to achieve objectives while in other countries this action might land one in jail.

While the government is uncertain of voter opinion and will accept subsidized information, it also offers voters subsidized information regarding its own policies and successes. It thereby subsidizes the voters low/ ...

low marginal benefit from political information by offering information favourable to itself. This subsidized information is accepted by voters depending on the credibility discount which they might apply to it.

All of the above influences are present on the government when policy decisions are taken and passed on to the bureaucracy. Naturally, with all other parties pursuing self interest objectives, the bureaucracy will implement all government policy in a manner which benefits the bureaucracy as much as possible. The final interpretation of government policy is each individual bureaucrat's self interested interpretation as the policy is implemented down through the hierarchy.

The final outcome of the interaction between consumers, private producers and the output of public policies and public goods can be something other than that of achieving maximum Social Welfare. Considering the cost of decision making by the rational voter, non-voting influence is likely to have a greater effect on the size and mix of public output than is voting influence.

1-2 : THE MICRO THEORY OF STATE OUTPUT

This section on the micro theory of the output of public goods is based on the general theory of the output of firms in the private sector.

Private/ ...

Private firms are seen as profit maximisers who produce on the margin. Factor inputs are used to the point where the marginal revenue of the input becomes equal to the marginal cost of the input. The implementor of the majority of public policies and public output is the bureaucracy and, as it has been argued above, the bureaucrat is not a profit maximiser. It is the purpose of this section to establish how the bureaucrat's maximand will manifest itself and to determine whether this will give output rules which are different to those of the private sector.

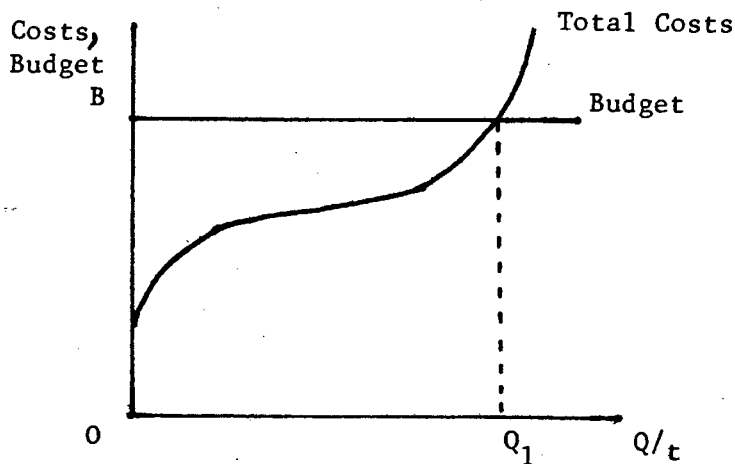
The analysis is based on the following assumptions:

- 1) The production of public output is undertaken by individual bureaus.
- 3) The public output produced can display any range of "publicness" i.e. the bureau's output can be a pure public good or a pure private good or it can be in the range between these two extremes.
- 3) The bureau is a security maximiser which manifests itself as budget maximisation.
- 4) A bureau producing a public good only, relies on the budget allocated for its entire income.
- 5) A bureau producing a private good only, relies on sales generated for its entire income.
- 6) The private sector does not produce any goods already produced by the public sector.
- 7) The public sector has normal U-shaped average and marginal cost curves.

Production of a pure public good

Where a bureau produces a pure public good it is allocated an annual budget. This budget is used for administration in the bureau and for the purchase of factors of production needed in the production process. Once the budget has been allocated to the bureau the bureaucrat's main motivation must be to utilize it all before the next budget allocation. If there is any surplus of budget allocated over actual expenditure this cannot be carried forward to the next budgetary period.<sup>47</sup> Any budgetary surplus is very detrimental to the bureau's maximand as it considerably decreases the possibility that the bureau can successfully propose an increased budget for the next budgetary period.<sup>48</sup> It can therefore be said that a bureau will produce a pure public good to the full extent of its budget without regard for its cost position. This is shown in Figure 1-4 as point A where the allocated budget (OB) is equal to total costs and giving an output of  $OQ_1$ . Therefore it can be said that where a pure public good is produced, the quantity of output is produced without regard for the average and marginal costs.

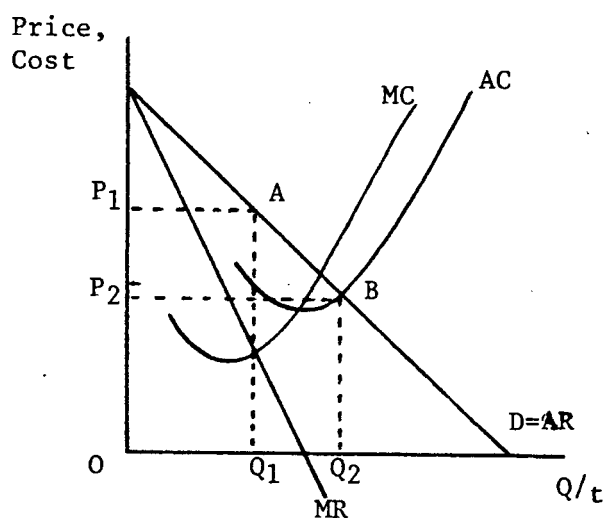
Figure 1-4



Production of a pure private good

Where a bureau produces a pure private good it faces the same demand curve and potential cost curves as does a private entrepreneur. The only difference between the entrepreneur and the bureau is that it is not necessarily profit motivated. As the bureau relies for its income solely on sales revenue it can produce between the two extremes of attempting to maximise profit or attempting to produce zero profit. These positions are shown in Figure 1-5 below. Profit maximisation is achieved with output

Figure



0Q<sub>1</sub> at price OP<sub>1</sub>. The zero profit situation is found at output 0Q<sub>2</sub> i.e. at output maximisation where total cost is equal to total revenue.

The extent to which a bureau is a profit maximiser or an output maximiser is determined by two factors:

- 1) The/ ...

- 1) The fate of bureau profits and
- 2) The bureau's time horizon.

Should any profit (surplus) be appropriated by the central authorities at the end of each budgetary year then it will be closer to the bureau's maximand to maximise output rather than maximise profit. However, should a bureau be able to retain part or all of its profit, the extent to which a bureau will be either a profit or output maximiser will depend upon the bureaucrat's time horizon. If the bureau is able to reinvest all profit back into the bureau as capital expenditure the extent to which future bureau growth is discounted against present bureau output will determine whether a bureau is profit or output motivated. If a bureaucrat sees his security maximand being more efficiently served by faster growth of the bureau in the future he will profit maximise and invest all surplus in capital growth. However, if future security is heavily discounted for present security the bureau is likely to be an output maximiser and will invest little or nothing in capital growth.

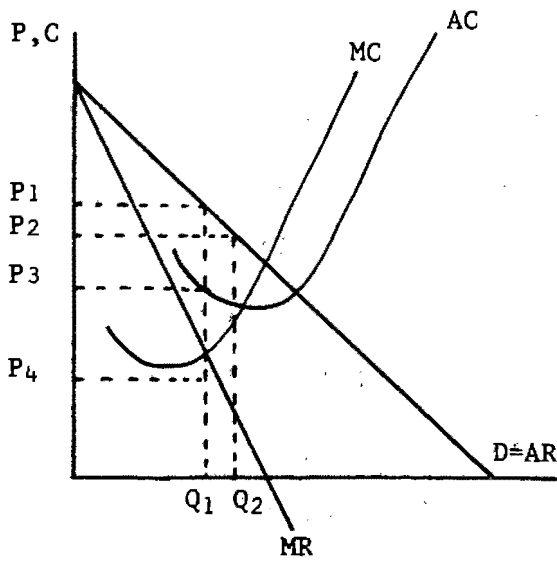
Therefore to summarise: If a bureau produces a pure public good it will allocate its entire budget without regard for marginal and average costs. If a bureau produces a pure private good it will be profit motivated if it is able to keep all or part of its surplus (dependant on its time horizon) and it will be output motivated if unable to appropriate its surplus or if it discounts future security very heavily.

Bureau production of private good with price set less than market price

It is often government practice to produce private goods and charge below market price. These goods fall into the range of so-called "merit" goods.

The position of a bureau supplying a private good as a profit maximiser but charging a price below equilibrium for a merit good is shown in Figure 1-6.

Figure 1-6.

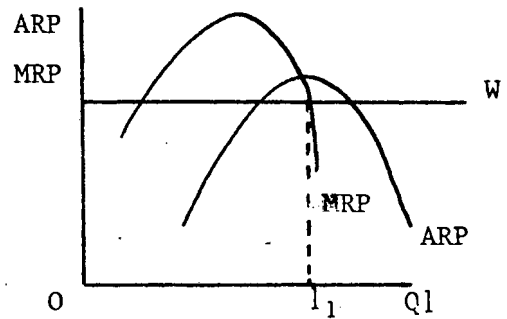


The bureau produces  $OQ_1$  according to profit maximisation rules. Instead of charging market price  $OP_1$  it sets a price below this e.g.  $P_2$ ,  $P_3$  or  $P_4$ . Where the bureau charges  $OP_3$  the entire profit of the bureau is eliminated. Where the bureau charges between  $OP_1$  and  $OP_3$  e.g.  $OP_2$  part of the bureau profit/ ...

Therefore it can be said that any bureau producing public, or private goods will produce on the margin i.e. he will produce where the marginal product of the factor input is equal to the cost.

Figure 1-9

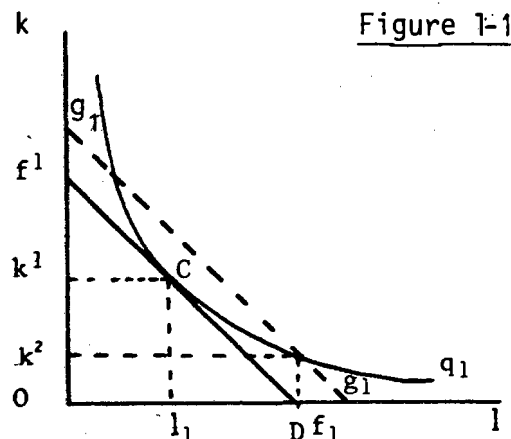
If a revenue can be determined then the producer will use factor inputs to the point where the marginal revenue product of the input is equal to the wage rate.<sup>50</sup> (Figure 1-9).



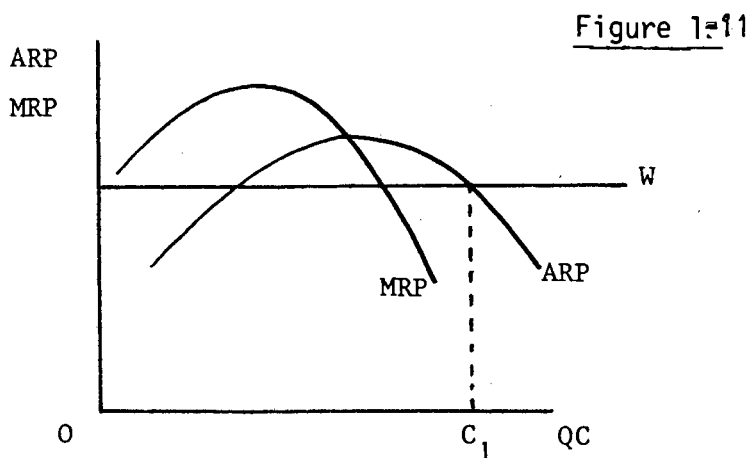
This maximising condition will be adhered to in the absence of two influences. There must be no outside interference in input practices e.g. through government wishing to decrease unemployment or through some lobbying or pressure group, and the bureau must not attempt to security maximise through employment maximisation. Should either of these two conditions occur factor inputs will not be used where  $\frac{MRS_k}{MRS_l} = \frac{P_l}{P_k}$  and the effected factor will not be used where the Marginal Revenue Product is equal to the price.

Should the government interfere with the bureau and order e.g. a  $q_1$  level of defence as previously but now also requires an additional minimum labour usage of OD. To still produce the same output the bureau is now forced to use  $Ok^2$  capital. One still has  $q_1$  defence being provided but at a higher budget of  $g^1g^1$ . (Figure 1-10)

Figure 1-10



On the other hand, should the bureau see its security maximised best by bureau employment maximisation then the bureau will employ labour to the point where the labour surplus is zero i.e. it will employ where the average product or average revenue product is equal to the wage rate. (See Figure 1-11).



To conclude we can say that in the production of public sector output factor inputs will be used efficiently except where the state interferes or where the bureau employment maximises. Therefore should the state see its role as a vote maximiser bettered by using the public sector as an unemployment buffer, labour input could be used inefficiently.

### SUMMARY

The state competes with the private sector in the labour market and must pay market wages for the skills it employs. When labour is treated purely as a factor of production in the production of public output its usage is economically/ ...

economically efficient. Should any other factor effect the labour input it is likely that labour useage will be economically inefficient.

In the production of public output, when a pure public good is produced this is undertaken to the full extent of the bureau budget and without regard to average and marginal costs. When a private good is produced and the bureau is able to appropriate trading surpluses, output is compared to marginal cost and market price is charged. Where the trading surplus is appropriated by government, the bureau will become an output maximiser.

The factors affecting the total demand for State employment are those factors which determine the total demand and supply of public output. The major components of these factors are:

- 1) Consumers who are utility maximisers. They demand public output through the direct means of voting and through the indirect means of non-voting pressure. The direct means of voting is severely hampered through the high, often prohibitive, information costs incurred by any voter.
- 2) Government which is a vote maximiser. This maximand effects public output to the extent that policies are designed for the median voter. The use of ideology is a rational response by both political parties and voters, to the problems of uncertainty and information costs.
- 3) Producers who are profit maximisers. They effect public output by indirect means only but are likely to be more efficient in this than consumers due to lower organisational costs.
- 4) Bureaucrats/ ...

- 4) Bureaucrats who are security maximisers. The bureaucracy is in a unique position to effect output because it actually produces public output. As most control of bureaucrats lies within the bureau itself, and decision making information needed by government is passed up through the bureaucracy a control loss situation can develop.

The net balancing of voting influence against non-voting influence, in a world of great uncertainty, makes it such that the effects of non-voting influence is often more important than voting influence in output supplied. "All decisions made by the vote-maximising collective body must either be obscured or justified. ..., the actual process of voting has little to do with public choice; it is almost exclusively the result of non-voting influence and pressures".<sup>51</sup> To the extent that the wealthy and productive sectors are able to finance proportionately more non-voting influence it can be expected that public policies tend to favour these sectors.

#### Expectations about the Growth of State Employment

While the above gives some indication of the forces acting on State employment, it gives no indication of any *á priori* expectations regarding the growth of State employment. The purpose of this section is to establish if any *á priori* expectations might exist.

'Growth of State employment' can be defined in four ways:

- a) As the absolute growth of State employment, i.e. any numerical increase in employment would be regarded as a growth in employment.

- b) As the growth of State employment as a percentage of the working labour force (economically active population). This examines the State as a labour market employer. State employment 'grows' when it increases at a rate faster than the increase in the economically active population.
- c) As the growth of State employment as a percentage of total population. This measure views the State as serving the population and for State employment to 'grow' it must increase at a rate faster than population increases.
- d) The final measure sees a growth in State employment only when  $\lambda$  given in expression (1) below increases

$$\lambda = \frac{SE}{Pop} \bigg/ \frac{G}{Y} \quad (1)$$

where SE - State employment  
 Pop - Total population  
 G - State expenditure  
 Y - National income

This type of measure overcomes a problem common to (b) and (c), viz. if the size of government is *a priori* expected to grow (as given by size of government theory and discussed below), then State employment, as measured by (b) and (c) is also *a priori* expected to grow by at least (approximately) the growth of  $\frac{G}{Y}$ . Expression (1) measures any increase in State employment, over and above that at which it is expected to grow as a result of an autonomous growth in the size of government.

As it has been shown, a growth in State employment will result primarily from a growth of government. Therefore, a discussion of *a priori* expectations about the growth of State employment must be rooted in size of government theory: Size of government theory, particularly with regard to South Africa, has been summarised, discussed and measured in a recent paper.<sup>52</sup> It would be fruitless to rediscuss the issue here as it does, to a large extent, fall outside the scope of this dissertation. However, the general expectations which emerge from the paper with regard to the growth of government are presented below briefly:

- There is a weak expectation that the size of government will grow at the rate of growth of the economy. This is a result of:
  - a) On the supply side: The government's desire to maintain tenure by providing (at least) the same per capita quantity and quality of service.
  - b) On the demand side: The population's desire for (at least) the same per capita quantity and quality of service.
  
- There is a strong expectation that the size of government will grow at a rate faster than the economy. This is a result of:
  - a) On the demand side: Wagner's Law, shown to hold in South Africa,<sup>53</sup> maintains that the income elasticity of demand for public sector output is greater than one. Given real increased per capita income in South Africa, it is expected that the size of government will increase more than proportionately.
  - b) On the supply side: The forces acting on State output, as given in the general model above, appear to outweigh the forces acting against growth. In practice, this has been demonstrated with a more than proportionate increase in the size of government.

Given the above expectation about the size of government, it is now possible to discuss expectations about the various types of growth in State employment.

Type (a): Given that government is expected to grow absolutely, this type of growth is definitely expected.

Types (b) and (c): Based on the weak expectation with regard to the growth of government, it is expected that State employment will grow (at least) by the growth of the economically active population (and of the total population).

Based on the strong expectation with regard to the size of government, it is expected that State employment will grow faster than both the economically active population and the total population.

Type (d): It is expected that  $\lambda$  as given in expression (f), will increase, i.e. it is expected, given that the size of government will increase, that State employment will increase more than proportionately.

This expectation is due to:

- (i) Government output is bureaucracy output. As has been shown above, bureaucracies are economically inefficient, being output maximisers. As the size of government grows, given this inefficient use of factors of production, government will need proportionately more factors of production than private sector production and it will exhibit type (d) employment.
- (ii) Government output is largely service orientated. Historically, service industries tend to be more labour intensive than producer industries and, as such, the (expected) more than proportionate increase in the size of government leads to an even more than proportionate increase in employment.

NOTES

- 1) Two surveys which are very comprehensive are: Buchanan, J.M. Public Finance and Public Choice. National Tax Journal, Vol.28, No.4, Dec.1975, pp 383-94 and Mueller, D.C. Public Choice: A Survey. Journal of Economic Literature Vol.14, June 1976, pp 395-433. However, see also the "Size of Government" literature a survey of which is Frey, B.S. and Schneider, F. On the Modelling of Politico-Economic Interdependence. European Journal of Political Research, Dec.1975, 3, pp 339-360. Some of the more prominent, recent "size of government" papers include:  
Meltzer, A.H. and Richard, S.F., Taxes, Votes and the Distribution of Income. A Dynamic Model of the Growth of Government, presented at the Conference on Analysis and Ideology, Interlaken, June 1977.  
Meltzer & Richards, A Rational Theory of the size of government, Journal of Political Economy, Vol.89, No.5, Oct.1981, pp 914-927.  
Peltsman, S., The Growth of Government, Journal of Law and Economics Vol.23, No.2, Oct.1980, pp 209-287.  
Fratiani, M. and Spinelli, F., The Growth of government in Italy. Evidence from 1861 to 1979, Public Choice Vol.39, 1982, pp 221-243.
- 2) Buchanan: Ibid. pp 383-384.
- 3) The term is derived from the writings of Vilfredo Pareto. A rigorous exposition can be found in Sen, A.K., Collective Choice and Social Welfare, Holden-Day, California, 1970, pp 21-24.
- 4) Samuelson, P.A.: The Pure theory of Public Expenditure. Review of Economics and Statistics, Vol.36, 1954, pp 387-389. Originally found in Public Finance, Selected Readings, R.W.Houghton (ed), Penguin, Middlesex, 197), pp 181-185. See also Samuelson, P.A.: Diagrammatic Exposition of a Theory of Public Expenditure, in R.W. Houghton pp 190-204.
- 5) Buchanan: Ibid. p.386.
- 6) Buchanan, J.M.: The Demand and Supply of Public Goods, Rand McNally, Chicago, 1968.
- 7) Kaldor, N.: Welfare Propositions of Economics and Interpersonal Comparisons of utility, Economic Journal, 1939, pp 550.
- 8) Hicks, J.R.: The Valuation of Social Income, Economica, 1940, pp 111.
- 9) Scitovsky, T.: A Note on Welfare Propositions in Economics, Review of Economic Studies 1941-42.
- 10) Baumol, W.J.: Economic Theory and Operations Analysis. Prentice-Hall, Princeton, 1977, pp.530-1.
- 11) Musgrave, R.: The Theory of Public Finance, McGraw-Hill, New York, 1959, p.13.
- 12) Buchanan, J.M.: Public Finance in the Democratic Process, University of North Carolina Press, Chapel Hill, 1967, p.12.

- 13) Buchanan, J.M.: op.cit., 1975, pp.386-387.
- 14) De Borda, J.C.: Mémoire sur les Elections au Scrutin. Histoire de l'Académie Royale des Sciences, 1781.  
 De Condorcet, M.: Essai sur l'application de l'analyse à la Probabilité des Décisions Rendues à la Pluralité des voix, Paris, 1785.  
 Dodson, C.L.: A method of Taking Votes on More than Two Issues. Written 23 February 1876 and reprinted in The theory of committees and elections by Duncan Black, Cambridge, Cambridge University Press, 1958, pp.224-234.  
 Black, D.: On the Rationale of Group Decision Making, Journal of Political Economics, Feb.1948, 56, pp.23-34.  
 Arrow, K.J.: Social Choice and Individual Values, Yale University Press, New Haven, 1953, originally printed by Wiley, 1951.
- 15) Arrow, K.J.: Ibid. Variations of Arrow's approach can also be found in Vickrey, W.S., Utility, Strategy, and Social Decision Rules, Quarterly Journal of Economics, Nov.1960, 74(4), pp 507-537. Sen, A.K., op.cit., 197), pp.41-55. A survey is contained as part of Mueller's survey op.cit. (1977), pp.419-422.
- 16) For a detailed discussion of this see Mueller, ibid. ,pp.403-405.
- 17) Bartlett, R.: Economic Foundations of Political Power, Free Press, New York, 1973, p.12.
- 18) Mueller, op.cit., p.406.
- 19) Buchanan, J. and Tullock, G.: The Calculus of Consent, Ann Arbor, Michigan, 1962, pp.133-145.
- 20) Mueller, op.cit., p.406.
- 21) Buchanan (1975), op.cit., p.388.
- 22) The issue of information collection costs and expected benefits is discussed at length in section 1-1-2-4.
- 23) Strategic voting is discussed further in the theory of constitutions.
- 24) Buchanan & Tullock, op.cit., p.213
- 25) A full discussion on this can be found in Mueller, op.cit., p.408-410.
- 26) In this case the consumer body is seen as the enfranchised consumer body.
- 27) Smith, A.: The Wealth of Nations.
- 28) Downs, A.: An Economic Theory of Democracy, Harper & Row, New York, 1957, p.28.
- 29) Ibid., Ch.3.

- 30) Bartlett, op.cit., p.19
- 31) Riker, W.H.: The Theory of Political Coalitions, Yale University Press, Wisconsin, 1962.
- 32) For a brief summary of the theory and conclusions see Muëller, op.cit., p.410.
- 33) Breton, op.cit., pp.159-160.
- 34) The definitive and most thorough work in this area to date is Tullock, G., The Politics of Bureaucracy, Public Affairs, Washington DC, 1965.
- 35) Niskanen, D.A.: Bureaucracy and Representative Government, Aldine, Chicago, 1971, p.38. Emphasis provided in the original.
- 36) Tullock, op.cit.
- 37) Breton, A.: The Economic Theory of Representative Government, MacMillan, London, 1974, pp.164-165.
- 38) This is pure speculation as at present there appears to be no empirical study which might substantiate this.
- 39) The effects of uncertainty and possible influences which might arrive from this have been examined extensively by: Downs, op.cit., pp.77-206, Tullock, G.: Towards a Mathematics of Politics, Ann Arbor, Michigan, 1967, pp.82-132 and Bartlett, op.cit., pp.27-37 and 129-156.
- 40) Downs, op.cit., p.60.
- 41) The approach in the initial stages of this model of information costs is taken from Bartlett, op.cit., pp.27-37.
- 42) Bartlett, op.cit., p.60.
- 43) A survey of the median voter literature can be found in Mueller, op.cit., pp. 408-9.
- 44) See note (39).
- 45) Information lobbying is information supplied by a lobbyist as an "objective" analysis of the effect of a particular policy or set of policies on the utility of the voting population.
- 46) This is discussed further in Downs, op.cit., pp.93-94 and Bartlett, op.cit., p.156.
- 47) In practice the funds which are carried forward and not appropriated are capital funds which have been allocated but not yet drawn on.
- 48) It would assist the bureaucrat's security maximand even further if he could utilise all the allocated budget and successfully request an additional allocation, i.e. a larger total budget. This might detract from the maximand if the requested additional budget is viewed as poor bureau administration.

- 49) For a formal proof of this see Ames, E.: The Economic theory of Output Maximizing Enterprises, in The Theory of the Firm, by G.C. Archibald (ed.), Penguin, London, 1973, pp.270-285.
- 50) For a formal proof of this see Niskanen, W.A.: Bureaucracy and Representative Government, Aldine, Chicago, 1971, pp.53-58.
- 51) Bartlett, op.cit., p.64.
- 52) Abedian, I. and Standish, B.: An Inquiry into the Growth of State Expenditure in South Africa: Evidence from 1911 to 1982.  
UCT: Mimeograph, 1984.
- 53) Ibid., pp.17-19.

PART II

SOME STATISTICS ON STATE

EMPLOYMENT IN SOUTH AFRICA

## INTRODUCTION

It is regularly acknowledged that employment by the State in South Africa is a large and growing proportion of total employment. This can be seen as the State employed over 1½ million people in 1980 which is more than 14% of the economically active population. Table 2.1 gives some details of the breakdown of State employment in South Africa in 1980.

TABLE 2.1 STATE EMPLOYMENT IN SOUTH AFRICA 1980<sup>1</sup>

	White	Black	Total
Central Authorities	129 872	194 200	324 072
Provincial Authorities	121 374	125 241	248 703
Local Authorities	56 600	168 000	244 600
Homeland Governments	2 481	188 888	191 309
S A T S	113 959	152 444	266 403
G P O	44 988	30 502	75 490
Control Boards	1 913	906	2 819
Statutory Bodies	13 172	12 444	25 616
Public Corporations (Estimate II)	N/A	N/A	188 503
<b>TOTAL</b>	<b>—</b>	<b>—</b>	<b>1 567 515</b>

Source: Table 2.10.1

Note 1 A detailed explanation of this table can be found in the text. These figures include both dependent and independent National States.

The purpose of this part of the thesis is to present data pertinent to State employment in South Africa, to discuss the difficulties encountered in collecting the data, and where figures have been estimated, to show the basis of these estimates. There is no analysis or interpretation in this section as this is done in Part III.

State employment in South Africa can be broken into nine separate areas, see table 2.1. These are:

- Section 2.1: The Central Authorities which consist primarily of the public (civil) service. A functional breakdown of the duties of the Central Authorities is given in section 2.1.1.
- Section 2.2: The Provincial Authorities who are responsible for white education, hospital and health services, provincial roads and works, nature conservation, and the construction and maintenance of pleasure resorts.
- Section 2.3: Local Authorities which control most of the infrastructure and services necessary in urban and peri-urban areas
- Section 2.4: Control Boards, the majority of which are agricultural control boards.

Section 2.5: Statutory bodies which are "... bodies such as the Hotel Board, C.S.I.R., Regional performing arts councils, State libraries, etc. Public corporations and bodies which are integral parts of Government departments or Provincial Administrations are not included".<sup>1</sup>

Section 2.6: The "Homeland" Governments i.e. the "Homeland" public services.<sup>2</sup> A functional breakdown of the duties of the Homeland governments is given in Section 2.6.1.

Section 2.7: The South African Transport Services. It "has been in existence since 31 May 1910 when it took over and combined into a single enterprise the autonomous railway and harbour organisations of the colonies. In 1922 the railways of South West Africa (SWA) and the harbour of Lüderitz, were also placed under its control. Since then they have been operated as an integral part of the South African Railways and Harbours (SAR&H). (Walvis Bay with its harbour was at that time, and still is, a part of the Cape Province.) The total route distance operated by the South African Railways (SAR) at that juncture was 17 885 km.

The organisation, being the country's transport undertaking, comprises a national railway system

together with a comprehensive road transport service, the principal harbours, the airline known as the South African Airways (SAA) and two pipelines for the conveyance of petroleum products".<sup>3</sup>

Section 2.8: The Government Post Office.

Section 2.9: Public Corporations.

Section 2.10: Total State employment.

In each Section an attempt is made to divide employment up into the functions served by each area of employment and secondly, an attempt is made to establish comparable data over as long a period of time as possible.

## 2.1 The Central Authorities

When the data on Central Authorities employment was first collected it was initially expected that there would be little difference between employment by the Central Authorities and that of the Public Service. When it was found that there were at times large differences in these employment levels, a further section (2.1.4) was added in order to explain these differences.

### 2.1.1 Functional Division of Central Authorities Employment

An attempt has been made below to divide Central Authorities employment along functional lines. This division is to some extent arbitrary but represents the author's best effort at this division. The division has been undertaken by aggregating government departments which appear to serve common purposes. These are:

#### General Administration:

This includes the Legislative Administration, Controller and Auditor General, Customs and Excise, Foreign Affairs, the Government Printer, Immigration, Information, Inland Revenue, Interior, Planning and the Environment, Public Works, Public Service Commission, S.A. Mint, Statistics, and Surveys.

#### Black Administration:

This includes Bantu Administration and Development, Coloured, Rehoboth and Nama Relations, Coloured Affairs and Indian Affairs.

#### Economic Services:

This includes the departments of Agriculture, Commerce, Forestry, Industries, Labour, Mines, Tourism, Transport, the Treasury and Water Affairs.

#### Public Order:

This includes the departments of Justice, Police and Prisons.

Defence:

This shows permanent defence force personnel where these figures are available. Data on the number of National Service personnel is not available.

Community Services:

This includes the departments of Community Development, Social Welfare and Pensions, and Sport and Recreation.

Health:

This consists of the department of Health.

Education:

This includes National Education, Bantu Education (Bantu Education has had a variety of names over the years and is presently part of the department of Co-operation and Development), Coloured Education and Indian Education.

Problems with data:

As it was found that data on the actual numbers of personnel employed by the various government departments is rarely available, a proxy is used. This proxy is the authorised establishment for each department i.e. the maximum number of personnel planned and budgeted for by each department. The use of this proxy makes interpretation of the data unreliable in two ways.

Firstly, these are ex ante figures and give no indication of the ex post situation. This is particularly a problem given the perennial labour shortage problems of most of the public sector. Secondly, the total authorised establishment of all government departments, inclusive of education, is less than total Central Authorities employment. For example in 1975 the authorised establishment of all government departments as taken from expenditure estimates was 254 338 while Central Authorities employment was 272 634 (a 7% difference).<sup>4</sup>

As the purpose of this section is to give some indication of the distribution of government employment over specific areas of government control this proxy will at least partially fulfil this purpose. However the figures used do not give an absolutely correct figure of government functional employment. The data for the authorised establishment of government departments divided along functional lines is given in Table 2-1-1. This table is discussed further in Part III, section 3-3.

### 2.1.2 Employment by the Central Authorities

The objective of this section is to establish comparable time series employment figures for the Central Authorities. This section attempts to explain the factors which make the raw employment data non comparable and the steps that were taken to correct this.

TABLE 2-1-1 Central Authorities Authorised Establishment by function, all races, Selected years, 1930-1984<sup>(11)</sup>

	1930	1935	1940	1945	1950	1955	1960	1965	1970	1975	1980	1982	1984	Average Compound Growth Rate p.a. 1930-1984
<b>General Administration :</b>	3235	3814	5744	8304	9957	12075	11474	11839	13190	14457	-	11177	12428	2.48
Legislative Administration	61	147	195	271	379	516	122	151	177	178	N/A	466	142	1.55
Controller & Auditor General	158	162	201	204	285	346	478	575	541	610	N/A	545	N/A	-
Customs & Excise	615	663	907	969	1396	1499	1360	1292	1240	1358	N/A	(2)	-	-
Foreign Affairs 1)	101	110	141	142	143	213	717	850	1008	1167	N/A	2072	2921	6.31
Government Printer	N/A	530	760	996	1299	1368	1322	1330	1273	1212	N/A	N/A	N/A	-
Immigration	-	-	-	-	25	N/A	100	277	309	222	N/A	N/A	N/A	-
Information	-	-	-	-	-	-	-	-	428	501	-	-	-	-
Inland Revenue	425	491	662	1030	1198	1750	2337	2696	3217	3550	N/A	6729 <sup>2)</sup>	872	-
Interior	308	360	547	582	705	1257	1280	942	984	1324	N/A	(51)	N/A	-
Planning & the Environment	-	-	-	-	-	-	-	128	202	241	N/A	N/A	8156	-
Public Works	848	996	1201	1425	2141	2928	1552	1670	1891	2774	N/A	N/A	N/A	-
Public Service Commission	43	39	57	57	N/A	128	185	191	209	213	N/A	329	337	3.81
S.A. Mint	N/A	N/A	N/A	1486	914	901	649	332	209	211	N/A	(2)	-	-
Statistics	N/A	N/A	N/A	N/A	N/A	N/A	380	487	515	546	N/A	1036	N/A	-
Surveys	676	316	1073	1142	1472	1169	992	917	987	(3)	-	-	-	-
<b>Black Administration:</b>	1376	1413	2686	2923	3431	4046	5336	11118	11185	12579	-	17913	5338	2.54
Bantu Admin & Development	1376	1413	2686	2923	3431	4046	4111	5578	6082	7179	N/A	3894 <sup>4)</sup>	5338	-
Coloured, Rehoboth & Nama Relations	-	-	-	-	-	-	623	5273	1077	N/A	N/A	N/A	-	-
Coloured Affairs	-	-	-	-	-	-	500	N/A	3477	498 <sup>5)</sup>	N/A	14019 <sup>6)</sup>	-	-
Indian Affairs	-	-	-	-	-	-	102	267	549	416	N/A	(5)	-	-
<b>Economic Services:</b>	3535	3454	5297	5006	9600	11859	14876	20218	22775	26161	-	17108	14670	2.62
Agriculture	1604	1763	3314	3062	4252	4833	7417	7803	8005	7729	N/A	7981	7908	2.94
Commerce	-	109	212	228	367	588	702	844	562	644	N/A	1134 <sup>6)</sup>	-	-
Forestry	376	428	-	-	525	622	N/A	2513	2368	2227	N/A	N/A	1203	2.14
Industries	-	-	-	-	-	-	-	-	402	531	N/A	(6)	-	-
Labour	181	210	354	368	1281	1739	1915	1830	1879	1963	N/A	2324	2669	0.72
Mines	432	340	479	480	724	837	898	1007	1013	1279	N/A	1928	1928	2.76
Tourism	-	-	-	-	-	-	-	13	74	69	N/A	(6)	-	-
Transport	118	N/A	144	150	1583	2073	2551	1704	3135	3443	N/A	3741	N/A	-
Treasury	110	88	116	138	178	222	336	377	416	401	N/A	(2)	-	-
Water Affairs	714	516	678	580	690	945	1057	4127	4921	7875	N/A	N/A	N/A	-
Public Order:	15194	14875	16625	16467	26418	29623	36080	42522	50008	55369	-	72218	72569	2.88
Justice	1796	1939	2409	2423	2650	3211	4104	4750	5095	5201	N/A	5721	5812	2.16
Police	10707	10302	11665	11537	20648	22913	28098	31928	36154	37263	N/A	49628	49628	2.83
Prisons	2691	2634	2551	2507	3120	3499	3878	5844	8759	12905	N/A	16869	17129	3.43
Defence: 9)	2253	2605	5322	N/A	10532	9522	17951	25219	30749	32719	N/A	N/A	N/A	-
<b>Community Services:</b>	431	364	581	605	1464	1590	1481	2851	3341	3392	-	6885	-	-
Community Development	-	-	-	-	-	-	-	1410	1750	1749	N/A	6885	-	-
Social Welfare & Pensions	431	364	581	605	1464	1590	1481	1409	1530	1544	N/A	(7)	-	-
Sport & Recreation	-	-	-	-	-	-	-	32	61	99	N/A	(7)	-	-
<b>Health:</b>	3273	3418	4364	486	8939	11644	9724	10995	13321	19174	N/A	25157 <sup>7)</sup>	25786	3.82
<b>Education:</b>	8236	-	13039	14881	22912	25296	38063	42996	58308	90487	-	169761	-	5.99 <sup>12)</sup>
National Education	12.5	N/A	2887	1280	5142	3039	13063 <sup>11)</sup>	16234	16043	22646	N/A	48909	48823	6.94 <sup>12)</sup>
Bantu Education <sup>11)</sup>	6931	8090	10152	13601	17770	22257	25000 <sup>11)</sup>	26762	42265	67841	74208	83742	N/A	4.91 <sup>12)</sup>
Coloured Education	-	-	-	-	-	-	-	-	16353	20720	25986	27924	N/A	-
Indian Education <sup>11)</sup>	-	-	-	-	-	-	-	-	6028	6835	8720	9186	N/A	-

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Sources:

Education: 1930-1955: Department of Statistics, Union Statistics.  
1960-1970: Department of Statistics, Statistical Yearbook 1972.  
1975-1982: Republic of South Africa, South Africa 1984.

Establishment: Republic of South Africa: Estimate of the expenditure to be defrayed from the Revenue to be collected for the year ending .... for the relevant year.  
Pretoria: Government Printer.

Notes to Table 2.1.1

1. Becomes "Foreign Affairs & Information" in 1979.
2. In 1981 Customs & Excise, the Mint and Inland Revenue were combined to become the "Department of Finance".
3. Becomes part of the Department of Agricultural Credit and Land Tenure.
4. Changed to "Department of Cooperation and Development".
5. Changed to "Department of Internal Affairs" and incorporated Indian and Coloured Affairs.
6. Changed to "Department of Commerce, Industries and Tourism".
7. Changed to "Department of Health and Welfare".
8. Indian and Coloured Education are incorporated under Indian and Coloured Affairs respectively and cannot be separated.
9. Permanent Defence Force only.
10. Incorporated into Bantu Administration and Development.
11. Bantu, Indian and Coloured Education data are for actual employment and not authorised establishment.
12. 1930 - 1982.

TABLE 2-1-2

EMPLOYMENT BY THE CENTRAL AUTHORITIES BY RACE GROUP SELECTED YEARS 1930 - 1981

YEAR	WHITES	COLOURED	INDIANS	AFRICANS	TOTAL BLACKS	TOTAL
1930	30146	N/A	N/A	N/A	9445	39591
1940 <sup>1)</sup>	43298	N/A	N/A	N/A	10928	54226
1950	68192	N/A	N/A	N/A	24168	92360
1954	77222	N/A	N/A	N/A	29010	106232
1960	103726	9858	644	105508	116010	219736
1961	107090	10640	744	109145	120529	227619
1962	112825	11419	718	111792	123929	236764
1963	117620	11836	807	133805	146448	264068
1964	121851	12574	829	128939	142342	264193
1965	122700	24350	1465	119220	145035	267735
1966	127470	26411	1623	165457	193491	320961
1967	131325	28717	7341	152941	188999	320324
1968	135620	30945	7088	152510	190543	326163
1969	129950	31832	7435	164167	203434	333384
1970	99915	30295	7340	135578	173213	273128
1971	102757	32495	7562	144552	184609	287366
1972	104443	32648	7816	128677	169141	273584
1973	102881	35068	8387	110594 <sup>2)</sup>	154049	256930 <sup>2)</sup>
1974	102276	41603	8852	110010	160465	262741
1975	105909	43035	8834	114856	166725	272634
1976	116867	49539	9193	120328	179060	295927
1977	121699	51257	9631	123375	184263	305962
1978	123268	53876	10164	127013	191053	314321
1979	128813	57933	11106	116717	185756	314569
1980	129872	58158	12446	123596	194200	324072
1981	129838	60089	13011	132064	205164	335002

SOURCES: 1930 : Official Year Book of the Union of S.A. 1929 - 30  
 1940 : Richards, C.S. "The Growth of Government since Union" Ibid.  
 1950 : Official Year Book of the Union of S.A. No. 20 1956.  
 1954 : Richards, Ibid.  
 1960/73: Quarterly Bulletin of Statistics for December 1974  
 Department of Statistics, p. 7.25  
 1974/75: Department of Statistics. Statistical news release 23/3/76.  
 1976 : Department of Statistics. Statistical news release 23/12/76  
 1977/79: Department of Statistics. Statistical Year Book 1980, p.7.19.  
 1980/81: Department of Statistics. SA Statistics, 1982.

NOTES : (1) Includes 35 departments & Sub departments only.  
 (2) Excludes 3 417 non departmental servants of the department of Public Health

TABLE 2.1.3 Central Authorities Employment, G P O Employment, Indian and Coloured Education and Net Central Authorities Employment, Selected Years, 1930-1981<sup>(1)</sup>

YEAR	CENTRAL AUTHORITIES			GOVERNMENT POST OFFICE			PROVINCIAL EDUCATION		NET CENTRAL AUTHORITIES EMPLOYMENT		
	Whites	Blacks	Total	Whites	Blacks	Total	Coloured Ed.	Indian Ed.	Whites	Blacks	Total
1930	30 146	9 445	39 591	11 819	1 654	13 473			18 327	9 935	28 262
1940	43 298	10 928	54 226	13 870	1 526	15 396			29 428	13 579	43 007
1950	68 192	24 166	92 360	27 337	4 100	31 437			40 855	27 229	68 084
1960	103 726	116 010	219 736	30 737	9 944	40 681	10 141	3 940	72 989	120 147	193 136
1961	102 090	120 529	222 619	31 612	9 952	41 564	10 810	4 157	75 478	125 544	201 022
1962	112 835	123 929	236 764	32 277	10 704	42 681	11 772	4 347	80 558	129 344	209 902
1963	117 620	146 448	264 068	32 794	10 622	43 416	12 172	4 608	84 826	152 626	237 432
1964	121 851	142 342	264 193	32 934	10 749	43 683	12 586	4 884	88 917	149 063	237 980
1965	122 700	145 035	267 735	30 963	12 232	43 195		5 177	91 737	137 980	229 717
1966	127 470	193 491	320 961	31 856	12 065	45 921		5 567	95 614	186 993	282 607
1967	131 335	188 999	320 324	33 734	13 091	46 825			97 591	176 755	274 346
1968	135 620	190 543	326 163	34 275	14 071	4 346			101 345	176 472	277 817
1969	129 950	203 434	333 384	35 881	15 923	51 804			94 069	187 511	281 580
1970	99 915	173 213	273 128						99 915	173 213	273 128
1971	102 757	184 609	287 366						102 757	184 609	287 366
1972	104 443	169 141	273 584						104 443	169 141	273 584
1973	102 881	154 049	256 930						102 881	154 049	256 930
1974	102 276	160 465	262 741						102 276	160 465	262 741
1975	105 909	166 725	272 634						105 909	166 725	272 634
1976	116 867	179 060	295 927						116 867	179 060	295 927
1977	121 699	184 263	305 962						121 699	184 263	305 962
1978	123 268	191 053	314 321						123 268	191 053	314 321
1979	128 813	185 756	314 569						128 813	185 756	314 569
1980	129 872	194 200	324 072						129 872	194 200	324 072
1981	129 838	205 164	335 002						129 838	205 164	335 002

Source: Central Authorities Table 2.1.2  
 Government Post Office 1930, 1930 : Official Year Book of the Union of S.A. 1930/31 Pretoria  
 1940 : " " " " 1940  
 1950 : " " " " 1950  
 1960 : Monthly Bulletin of Statistics December 1960 Department of Statistics, Pretoria  
 1961-1965 : " " " " January 1965  
 1967-1969 : Quarterly Bulletin of Statistics December 1970  
 1971-1974 : " " " " March 1976  
 Indian and Coloured Education: 1930-1950: Dept of Statistics, Union Statistics  
 1960-1966: " " " " Statistical Yearbook 1972

Note (1) For an explanation of this table see Section 2-1-2

Over the span of years examined many of the functions delegated to the Central Authorities have been modified, added to or even removed altogether. As a result of this the available data on Central Authority employment is not strictly comparable over time (see table 2.1.2). While most of the modifications or removals do not affect the accuracy of the data three major changes are necessary to make the Central Authorities employment data comparable. Firstly in 1964 control over Coloured Education was removed from the Provincial Authorities and centralized under the department of Coloured Affairs. Secondly, between 1966 and 1967 the control of Indian Education was also centralised, in this case under the department of Indian Affairs. And thirdly, in 1967 the department of Posts and Telegraphs was made a corporate entity independent of the Central Authorities.<sup>5</sup>

The raw employment data is changed in table 2.1.3 to make the figures comparable over time. This measure of employment by the Central Authorities is 'net' employment and treats the Post Office as having never been part of the Central Authorities, and Indian and Coloured education as always having been part of the Central Authorities.

### 2.1.3 Public Service Employment

The objective of this section is to establish a comparable set of time series employment by the public service.

Two problems were present with data on employment by the public service. Both problems necessitated some manipulation of the figures and are likely to have undermined the reliability of the final figures.

The first problem with data on public service employment is that there is none available. The only figures available are public service authorised establishment, vacancies and positions filled by temporary personnel (see table 2.1.4). The total for public service employment shown in table 2.1.4 was calculated from this as: public service authorised establishment less vacant posts plus temporary personnel filling vacant posts and temporary personnel employed in addition to the authorised establishment. Therefore "Real" public service Employment is as close an approximation of actual public service employment as could possibly be made.

The second difficulty with public service employment data is that, as with Central Authorities employment data, it is not comparable over time. Three changes were necessary to make the figures comparable:

Police: In 1968 so-called "services" posts in the police force were removed from the authorised establishment of the public service. Figures of actual employment in these "services" posts are available and have been removed from actual public service employment (table 2.1.5).

SADF: In 1967 "services" posts in the defence force were also removed from the authorised establishment of the public service. Unfortunately figures for actual employment in these services posts

Table 2.1.4 Calculation of Real<sup>(3)</sup> Public Service Employment, Selected Years, 1930-1980<sup>(2)</sup>

Year	Authorised Establishment			Posts Vacant			Temporaries Filling Vacant Posts			Temporaries in Addition to AE			Real Public Service Employment <sup>(3)</sup>		
	White	Black	Total	White	Black	Total	White	Black	Total	White	Black	Total	White	Black	Total
1930	N/A	N/A	30 620	N/A	N/A	N/A	N/A	N/A	374	N/A	N/A	1 020	N/A	N/A	N/A
1940	"	"	40 506	"	"	"	"	"	1 742	"	"	12 262	"	"	"
1950	"	"	106 956	"	"	15 903	"	"	9 295	"	"	6 594	"	"	106 942
1960	"	"	148 592	15 258	1 608	16 866	9 280	2 012	11 292	2 341	2 131	4 472	"	"	147 490
1961	"	"	152 174	15 274	1 835	17 082	9 907	1 705	11 612	2 414	1 682	4 096	"	"	150 800
1962	"	"	161 035	16 466	2 096	18 562	9 526	2 871	12 397	2 617	2 048	4 665	"	"	159 535
1963	"	"	167 100	17 713	2 707	20 420	10 285	2 998	13 283	2 494	2 128	4 622	"	"	164 585
1964	"	"	187 049	22 606	2 334	24 940	10 692	2 061	12 753	2 014	304	2 318	"	"	177 180
1965	"	"	191 946	24 578	2 712	27 290	12 994	3 490	16 484	2 130	888	3 018	"	"	184 158
1966	"	"	202 934	23 881	6 873	30 754	14 225	7 619	21 844	1 596	1 153	2 749	"	"	196 773
1967	142 264	70 524	212 788 <sup>(4)</sup>	27 004	3 156	30 160	15 025	6 990	22 015	1 821	1 782	3 603	132 106	76 140	208 246
1968	87 030	63 106	150 136	16 949	11 356	28 305	11 901	10 727	22 628	1 409	1 245	2 654	83 391	63 722	147 113
1969	89 421	65 905	155 326	17 646	3 423	21 069	11 245	3 054	14 299	1 760	1 706	3 466	84 780	67 242	152 022
1970	74 691	55 131	129 822	20 846	16 220	37 066	13 335	13 885	27 220	3 679	1 950	5 629	70 859	54 746	125 605
1971	74 366	59 827	134 193	18 307	16 060	34 367	14 527	15 349	29 876	1 942	1 471	3 413	72 528	60 587	133 115
1972	75 351	61 532	136 883	18 737	16 603	35 340	14 932	15 895	30 828	2 269	1 413	3 682	73 815	62 238	136 053
1973	77 341	65 364	142 705	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1974 <sup>(1)</sup>	78 997	70 279	149 276	24 676	21 806	46 482	17 109	15 695	32 804	2 718	983	3 701	74 148	65 151	139 299
1975 <sup>(1)</sup>	82 571	75 256	157 827	28 975	5 419	34 394	22 188	4 270	26 458	2 784	388	3 172	78 568	74 495	153 063
1976 <sup>(1)</sup>	83 694	78 484	162 179	32 804	20 033	52 837	21 480	12 093	33 573	3 378	2 453	5 831	75 748	72 997	148 745
1977 <sup>(1)</sup>	85 365	81 992	167 357	29 445	27 875	57 320	20 275	19 143	39 418	4 047	2 399	6 446	80 242	75 659	155 901
1978 <sup>(1)</sup>	88 393	81 718	170 111	26 187	15 624	41 811	17 860	12 877	30 737	3 979	763	4 742	84 045	79 734	163 779
1979 <sup>(1)</sup>	93 641	85 721	179 362	22 131	14 031	36 162	12 617	11 912	24 529	1 226	548	1 774	85 353	84 150	169 503
1980 <sup>(1)</sup>	95 463	110 377	205 840	30 298	16 289	46 587	20 834	11 665	32 499	1 658	1 443	3 101	87 657	107 196	194 853
1981 <sup>(1)</sup>	97 804	132 134	229 938	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1982 <sup>(1)</sup>	100 672	139 738	240 410	74 842	45 271	120 113	13 754	27 331	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source: Annual reports of the Public Service Commission for the relevant years. Pretoria: Government Printer.

- Notes: (1) Reclassification of vacancies occurred and post 1974 figures are not strictly comparable with pre 1974 figures.  
 (2) Figures until 1971 are for December. Figures for 1972 onwards are for June.  
 (3) Real = Authorised Establishment LESS Vacancies PLUS Temporary Labour.  
 (4) Over 1967 - 1968 G.P.O. personnel ceased to be part of the Public Service.

TABLE: 2.1.5 Calculation for Net Real Public Service Employment, Selected Years, 1930 - 1980<sup>(1)</sup>

Year	Real Public Service			Post Office Employment			"Services" in S.A.P.			Authorised Establishment "Services" SADF	Net Real Public Service Employment		
	White	Black	Total	White	Black	Total	White	Black	Total		White	Black	Total
1930	N/A	N/A	N/A	11 819	1 654	13 473	-	-	-	2 023	N/A	N/A	N/A
1940	N/A	N/A	N/A	13 870	1 526	15 396	-	-	-	8 575	N/A	N/A	N/A
1950	N/A	N/A	106 942	27 337	4 100	31 437	10 478	7 343	17 821	8 952	N/A	N/A	48 732
1960	N/A	N/A	147 490	30 737	9 944	40 681	11 938	13 813	25 751	11 355	N/A	N/A	69 703
1961	N/A	N/A	150 800	31 612	9 952	41 564	12 249	13 777	26 026	12 770	N/A	N/A	70 440
1962	N/A	N/A	159 535	32 277	10 704	42 981	12 778	13 853	26 631	14 246	N/A	N/A	75 977
1963	N/A	N/A	164 585	32 794	10 622	43 416	13 770	13 673	27 443	16 254	N/A	N/A	77 472
1964	N/A	N/A	177 180	32 934	10 749	43 683	14 528	13 812	28 340	18 143	N/A	N/A	87 014
1965	N/A	N/A	184 168	30 963	12 232	43 195	14 678	14 108	28 786	16 267	N/A	N/A	95 920
1966	N/A	N/A	196 773	31 856	12 065	43 921	15 437	14 500	29 937	17 744	N/A	N/A	103 171
1967	132 106	76 140	208 246	33 734	13 091	46 825	16 316	14 810	31 126	18 081	63 975	48 239	112 214
1968	83 391	63 722	147 113	-	-	-	16 587	15 166	31 753	-	66 804	48 536	115 360
1969	84 780	67 242	152 022	-	-	-	16 376	15 513	31 889	-	68 404	51 729	120 133
1970	70 859	54 746	125 605	-	-	-	-	-	-	-	70 859	54 746	125 605
1971	72 528	60 587	133 115	-	-	-	-	-	-	-	72 528	60 587	133 115
1972	73 815	62 238	136 053	-	-	-	-	-	-	-	73 815	62 238	136 053
1973	N/A	N/A	N/A	-	-	-	-	-	-	-	N/A	N/A	N/A
1974	74 148	65 151	139 299	-	-	-	-	-	-	-	74 148	65 151	139 299
1975	78 568	74 495	153 063	-	-	-	-	-	-	-	78 568	74 495	153 063
1976	75 748	72 997	148 745	-	-	-	-	-	-	-	75 748	72 997	148 745
1977	80 242	75 659	155 901	-	-	-	-	-	-	-	80 242	75 659	155 901
1978	84 045	79 734	163 779	-	-	-	-	-	-	-	84 045	79 734	163 779
1979	85 353	84 150	169 503	-	-	-	-	-	-	-	85 353	84 150	169 503
1980	87 657	107 196	194 853	-	-	-	-	-	-	-	87 657	107 196	194 853

Sources: Public Service - Table 2.1.4  
 Post Office - Table 2.1.3  
 "Services" S.A.P.: Annual reports of the Commissioner of Police for the relevant years, Pretoria: Government Printer.  
 "Services" SADF: RSA: Estimates of the expenditure to be defrayed from revenue to be collected for the relevant years; Pretoria: Government Printer.

Notes: (1) For an explanation of this table see Section 2.1.3.

and authorised establishment in these services posts are not available. However, apart from a few personnel the entire permanent constituent of the defence force is employed in services posts. Figures are available on the authorised establishment of the entire permanent defence force although not disaggregated by race. These have been used as a proxy and removed from the figures on public service employment prior to 1967. As vacancies undoubtedly occurred in the permanent defence force, the comparable public service employment given in table 2.1.5 prior to 1967 is slightly understated. The permanent Defence force has been treated as all white in the calculations; apart from more recent history this procedure is unlikely to distort the results.

Post Office:

In 1967 the department of Posts and Telegraphs was dissolved and post office personnel became independent of the public service. To rectify the data, employment by the post office has been removed from public service employment for all years prior to 1967.

So comparable public service employment figures i.e. Net Real Public Service Employment (as shown in table 2.1.5) is equal to Real Public Service Employment (from table 2.1.4) less Post Office employment prior to 1967, less authorised "services" posts in the SADF prior to 1967 and less "services" personnel in the police force prior to 1967. To summarise, the comparable Public Service

employment data treats the GPO and "services" in the SADF and SAP as never having been part of the Public Service.

#### 2.1.4 Differences between Central Authorities Employment and Public Service Employment (the Residual)

When this study was started it was expected that employment by the Central Authorities and by the Public Service would be approximately equal. It was discovered that differences in employment do exist and that these have been substantial on occasion (for example in 1966 this difference was more than 110 000 personnel).

Therefore the objective of this section is to establish a comparable time series for these employment differences (called the Residual) and discuss the problems encountered in this calculation.

The Residual of Central Authorities employment is simply the difference between Central Authorities employment and Public Service employment. A more accurate measure can be obtained by using Net Central Authorities employment (section 2.1.2) and Net Real Public Service employment (section 2.1.3). Unfortunately a Residual calculated by this method will be overestimated because certain categories are employed by the Central Authorities but are not part of the public service. These are:

- (i) Board members and elected office bearers (for example, Members of Parliament and members of commissions of inquiry);
- (ii) 'Services' posts in the South African Defence force. This incorporates virtually all members of the permanent defence force;
- (iii) 'Services' posts in the Police Force. This incorporates virtually all serving police personnel;
- (iv) Teaching personnel involved in Coloured and Indian education; and
- (v) general temporary labour.

Actual data, or proxies are available for categories (ii), (iii) and (iv) above. Therefore the aggregate size of categories (i) and (v) can be deduced by removing categories (ii) - (iv) from the difference between 'net' employment by the Central Authorities and 'net real' employment by the public service. This is called the 'Residual' and is shown in table 2-1-6. As it has been stressed above, the adjusted data for the public service could be subject to some error and consequently the Residual could also be subject to error. (The Residual is discussed further in Part III).

TABLE 2-1-6 Residual of Central Authorities Employment, Selected Years, 1930-1980<sup>1)</sup>

Year	Net Central Authorities			Net Real Public Service			"Services" S A D F & S A P			Indian & Coloured Education	Residual of Central Authorities Employment		
	White	Black	Total	White	Black	Total	White	Black	Total		White	Black	Total
1930	18 327	9 935	28 262	N/A	N/A	N/A	N/A	N/A	N/A	2 144	N/A	N/A	N/A
1940	29 428	13 579	43 027	N/A	N/A	N/A	N/A	N/A	N/A	4 117	N/A	N/A	N/A
1950	40855	27 229	68 084	N/A	N/A	48 732	19 430	7 343	26 773	7 163	N/A	N/A	(-7 457)
1960	72 989	120 147	193 136	N/A	N/A	69 703	23 293	13 813	37 106	14 081	N/A	N/A	72 246
1961	75 478	125 544	201 022	N/A	N/A	70 440	25 019	13 777	38 796	14 967	N/A	N/A	76 819
1962	80 558	129 344	209 902	N/A	N/A	75 977	27 024	13 853	40 877	16 119	N/A	N/A	76 929
1963	84 826	152 606	237 432	N/A	N/A	77 472	30 024	13 673	43 697	16 780	N/A	N/A	99 483
1964	88 917	149 063	237 980	N/A	N/A	87 014	32 671	13 812	46 483	17 470	N/A	N/A	87 019
1965	91 737	137 980	229 717	N/A	N/A	95 920	30 945	14 108	45 053	17 470	N/A	N/A	71 274
1966	95 615	186 993	282 607	N/A	N/A	103 171	33 181	14 500	47 581	18 191	N/A	N/A	113 664
1967	97 591	176 755	274 346	63 975	48 239	112 214	34 397	14 810	49 207	19 183	(- 781)	(94 523)	93 742
1968	101 345	176 472	277 817	66 804	48 556	115 360	33 645	14 810	48 455	20 130	896	92 976	93 872
1969	94 069	187 511	281 580	68 404	51 729	120 133	34 296	15 537	49 835	21 575	(-8 631)	(98 670)	90 039
1970	99 915	173 213	273 128	70 859	54 746	125 605	34 692	15 531	50 223	22 383	(-5 636)	(80 553)	74 917
1971	102 757	184 609	287 366	72 528	60 587	133 115	35 782	15 333	51 115	23 299	(-5 553)	(85 390)	78 837
1972	104 443	169 141	273 584	73 815	62 238	136 053	35 948	15 218	51 166	24 601	(-5 320)	(67 084)	61 764
1973	102 881	154 049	256 930	N/A	N/A	N/A	36 099	15 222	51 321	25 125	N/A	N/A	N/A
1974	102 276	160 465	262 741	74 148	65 151	139 299	36 650	15 713	52 363	26 324	(-8 522)	(53 277)	44 755
1975	105 909	166 725	272 634	78 568	74 495	153 063	33 514	15 903	49 417	27 555	(-6 173)	(48 772)	42 599
1976	116 867	179 060	295 927	75 748	72 997	148 745	34 799	16 038	50 837	28 941	6 320	61 084	67 404
1977	121 699	184 263	305 962	80 242	75 659	155 901	35 817	16 202	52 019	30 402	5 640	62 000	67 650
1978	123 268	191 053	314 321	84 045	79 734	163 779	36 341	15 624	51 965	31 898	2 882	63 797	66 679
1979	128 813	185 756	314 569	85 353	84 150	169 503	36 464	15 612	52 076	33 543	6 996	52 451	59 447
1980	129 872	194 200	324 072	87 657	107 196	194 853	35 303	16 968	52 271	34 666	6 912	35 370	42 282

Sources:

Net Central Authorities: Table 2.1.3

Net Real Public Service: Table 2.1.5

"Services" Posts: As in Table 2.1.5

Indian and Coloured Education: 1930-1950: Department of Statistics: Union Statistics

1960-1970: Department of Statistics: Statistical Year Book 1972

1971-1980: Department of Statistics: SA Statistics 1982

Note:

1) For an explanation of this table see Section 2.1.4

## 2.2 PROVINCIAL AUTHORITIES

### INTRODUCTION

Data on Provincial Authorities employment was collected with two objectives. As with Central Authorities employment it was both necessary to divide Provincial employment along functional lines (subsection 2.2.1) and also to establish comparable time series data (subsection 2.2.2) As both areas proved problematic this section discusses the difficulties that were encountered and the solutions that were implemented. As a result of finding differences between employment by the Central Authority and the Public Service, Provincial Authorities data was tested for the same thing (subsection 2.2.3.).

#### 2.2.1 Functional Division of Provincial Authorities Employment

The two main areas in which the Provincial Authorities employ labour are those of white education, and hospitals and health services (see table 2.2.1). While the Provincial Authorities also have control over such areas as roads and works (excluding urban areas), nature conservation, provincial traffic control and the construction and maintenance of pleasure resorts, the proportion of labour used in these areas is minimal compared to the two main functions.

EMPLOYMENT (1000)

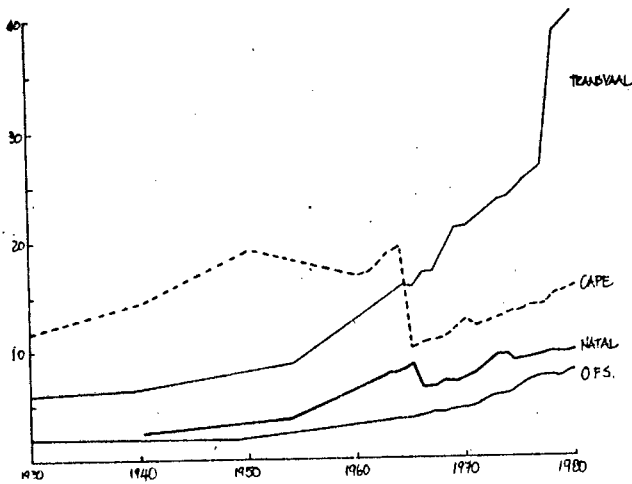


FIGURE 2-1: AUTHORISED ESTABLISHMENT FOR PROVINCIAL EDUCATION BY PROVINCE, SELECTED YEARS, 1930—1980

EMPLOYMENT (1000)

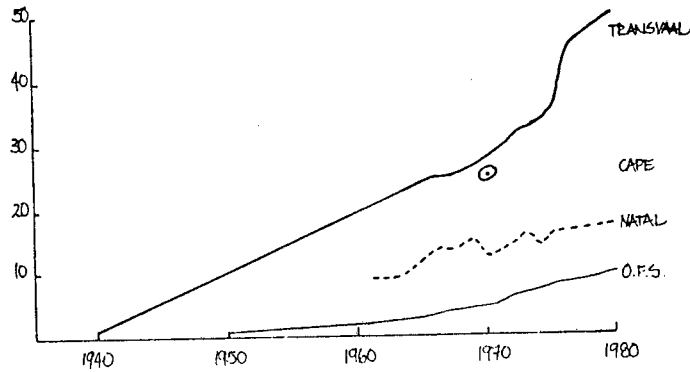


FIGURE 2-2: AUTHORISED ESTABLISHMENT FOR PROVINCIAL HOSPITAL AND HEALTH SERVICES BY PROVINCE, SELECTED YEARS, 1940—1980

EMPLOYMENT (1000)

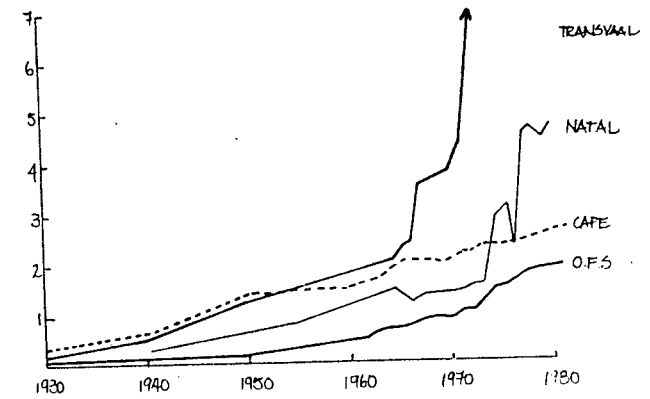


FIGURE 2-3: TOTAL AUTHORISED ESTABLISHMENT OF THE PROVINCIAL AUTHORITIES EXCLUDING EDUCATION AND HOSPITAL AND HEALTH SERVICES, BY PROVINCE, SELECTED YEARS, 1930—1980.

**TABLE 2.2.1** Provincial Authorities Authorised Functions, Selected Years 1940 - 1980

YEAR	TOTAL <sup>3</sup>	Education	Hospital and Health Services <sup>3</sup>	Total <sup>3</sup> Less (I) & (II)
		1	(II)	
1940	27 556	25 837	139 (1)	1 580
1950	N/A	21 399 (2)	860 (1)	1 637 (2)
1960	N/A	23 497 (2)	N/A	-
1961	N/A	24 614 (2)	9 445 (1)	-
1962	N/A	29 462 (2)	2 431 (1)	-
1963	N/A	30 901 (2)	12 270 (1)	-
1964	N/A	N/A	13 428 (1)	5 970
1965	84 061	38 460	39 050	6 551
1966	N/A	34 390 (2)	37 546	5 572
1967	88 357	38 731	41 860	7 766
1968	92 594	41 048	43 602	7 944
1969	100 076	45 754	46 262	8 060
1970	N/A	46 143	17 667 (1)	8 220
1971	104 350	47 357	47 929	9 064
1972	N/A	41 504 (2)	52 208	-
1973	136 013	52 125	54 866	29 022
1974	138 983	53 405	54 932	30 646
1975	145 475	54 333	60 184	30 958
1976	156 840	57 773	68 595	30 472
1977	162 722	58 771	71 568	32 383
1978	175 948	68 428	73 809	33 711
1979	180 128	71 533	74 395	34 200
1980	180 617	75 605	76 090	34 922

Source: Tables 2-2-2; 2-2-3; 2-2-4

Notes: (1) Excludes Transvaal  
(2) Some provinces excluded as data incomplete.  
(3) Excludes Cape

**TABLE 2.2.2:** Provincial Authorities Authorised Establishment for White Education. Selected Years, 1930 - 1981

YEAR	CAPE	NATAL	O F S	TRANSVAAL
1930	11 966	N/A	2 215	5 930
1940	14 680	2 443	2 133	6 581
1950	14 285	N/A	2 114	N/A
1954	N/A	3 819	N/A	9 913
1960	16 980	6 517	N/A	N/A
1961	17 573	7 041	N/A	N/A
1962	18 373	7 390	3 699	N/A
1963	19 075	8 060	3 766	N/A
1964	19 798	7 997	3 867	16 163
1965	10 375	8 433	3 951	15 701
1966	10 514	6 290	N/A	17 586
1967	10 697	6 668	4 143	17 223
1968	10 984	6 835	4 204	19 025
1969	12 330	7 149	4 725	21 550
1970	12 741	7 532	4 794	21 076
1971	12 163	8 286	4 810	22 098
1972	12 616	N/A	5 720	23 168
1973	12 949	9 481	5 883	23 812
1974	13 266	9 535	5 986	24 618
1975	13 642	8 222	7 314	25 155
1976	14 077	10 639	7 450	25 607
1977	14 079	10 770	7 557	26 365
1978	14 845	10 196	7 479	35 908
1979	15 193	10 624	7 714	38 002
1980	15 314	10 638	8 002	41 651
1981	16 031	N/A	8 035	N/A

Source: R S A Estimates of the expenditure to be defrayed from revenue to be collected for the year .... for the relevant years and provinces. Pretoria : Government Printer.

**TABLE 2.2.3:** Provincial Authorities Authorised Establishment for Hospital & Health Services, Selected Years, 1930-1981

YEAR	CAPE	NATAL	O F S	TRANSVAAL
1930	N/A	N/A	N/A	39
1940	N/A	N/A	N/A	139
1950	N/A	N/A	N/A	N/A
1960	N/A	N/A	N/A	N/A
1961	N/A	9 445	2 431	N/A
1962	N/A	N/A	2 431	N/A
1963	N/A	9 753	2 517	N/A
1964	N/A	10 534	2 894	N/A
1965	N/A	12 129	2 981	23 940
1966	N/A	12 983	N/A	24 563
1967	N/A	13 013	3 978	24 869
1968	N/A	13 728	4 253	25 621
1969	N/A	15 047	4 344	26 871
1970	24 095 <sup>(1)</sup>	12 924	4 743	N/A
1971	N/A	13 617	4 998	29 314
1972	N/A	14 203	6 208	31 797
1973	N/A	15 277	6 590	32 999
1974	N/A	14 698	7 266	32 968
1975	N/A	16 404	7 567	36 213
1976	N/A	16 109	8 358	44 128
1977	N/A	16 099	8 959	46 510
1978	N/A	16 096	9 497	48 216
1979	N/A	16 496	9 620	48 279
1980	N/A	16 360	10 276	49 454
1981	N/A	N/A	10 359	51 282

Source: R S A Estimates of the expenditure to be defrayed from revenue to be collected for the year ..... for the relevant years and provinces. Pretoria : Government Printer

Data for Cape 1970 obtained directly from the Provincial Auditor.

Note: (1) Actual employment figures. Does not include "professional posts" Other years are not available.

**TABLE 2.2.4:** Provincial Authorities Total Authorised Establishment Excluding Hospital, and Health Services and Education Staff, Selected Years 1930-1981

YEAR	CAPE	NATAL	O F S	TRANSVAAL
1930	329	N/A	8	262
1940	605	278	139	558
1950	1 492	N/A	208	N/A
1954	N/A	833	N/A	1 462
1960	1 497	N/A	N/A	N/A
1961	1 690	1 595	N/A	N/A
1962	1 578	N/A	549	N/A
1963	1 754	1 298	587	N/A
1964	1 940	1 385	640	2 005
1965	2 022	1 517	688	2 324
1966	2 011	1 138	N/A	2 428
1967	2 019	1 401	826	3 520
1968	2 027	1 395	845	3 677
1969	1 994	1 443	848	3 775
1970	2 071	1 417	856	3 876
1971	2 257	1 506	1 003	4 298
1972	2 258	N/A	1 134	6 579
1973	2 346	1 545	1 227	23 914
1974	2 348	2 832	1 472	23 994
1975	2 295	3 014	1 579	24 070
1976	2 349	2 177	1 719	24 227
1977	1 771	4 666	1 777	24 169
1978	2 356	4 704	1 789	24 862
1979	2 391	4 431	1 853	25 525
1980	2 414	4 889	1 961	25 658
1981	2 453	N/A	2 638	25 896

SOURCE: R S A Estimates of the expenditure to be defrayed from revenue to be collected for the year.....for the relevant years and provinces. Pretoria : Government Printer.

There are unfortunately no figures available on actual employment by the Provincial Authorities over their various areas of responsibility. As a proxy the authorised establishment of the provinces over the various areas of control has been used. However it should be realized that while these figures will indicate ex ante intentions of the Provincial Authorities over their areas of control they give no idea of the ex post levels of employment. This will be especially true in those two areas of employment which suffer extensive vacancies: white education, and hospitals and health services.

The functional division of Provincial Authorities authorised establishment is given below: Authorised establishment for white education is given in table 2.2.2 and figure 2.1. Authorised establishment for hospitals and health services is given in table 2.2.3 and figure 2.2. The authorised establishment of the other functions of the Provincial Authorities is given in table 2.2.4 and figure 2.3.

### 2.2.2 Provincial Administration Employment

The objective of this section is to establish a comparable set of time series employment by the Provincial Administrations. This

section attempts to explain the factors which made the raw employment data non comparable and the steps that were taken to correct this.

Two entirely different problems were encountered with this data. Firstly all the compatability problems discussed in relation to Central Authorities employment in Section 2.1.2 are again present. These are discussed in subsection 2.2.2.1. Secondly, no official pre-1960 data is available which is comparable with post-1960 data. The solutions are discussed in subsection 2.2.2.2.

#### 2.2.2.1 'Net' employment by the Provincial Authorities (Table 2-2-5)

The removal of Coloured and Indian Education from Provincial control in 1964 and 1966/67 respectively makes available employment by Provincial Authorities non-comparable. In section 2.1.2. (the difficulties with employment data for the Central Authorities) Central Authorities employment was made comparable by summing it with the authorised establishment for Indian and Coloured education. Therefore the Provincial Authorities have been treated as if they never had control over Coloured and Indian Education in order to avoid double counting and make the data comparable. This new figure called 'Net' Provincial Authorities employment is equal

TABLE 2-2-5 'Net' Employment by the Provincial Authorities, 1960 - 1981<sup>1)</sup>

Year	Whites	Blacks	Coloured Education	Indian Education	Net Blacks	Net Total	Black White
1960	N/A	N/A	10 141	3 940	N/A	N/A	-
1961	65 098	80 348	10 810	4 157	65 381	130 479	1,00
1962	67 449	81 801	11 772	4 347	65 682	133 131	0,97
1963	69 711	84 371	<u>12 586</u>	4 608	67 177	136 888	0,96
1964	72 153	79 836		4 884	74 952	147 105	1,04
1965	73 131	81 220		5 177	76 043	149 174	1,04
1966	78 503	80 167		<u>5 567</u>	74 570	153 073	0,95
1967	80 588	80 723			80 723	161 311	1,00
1968	85 283	83 205			83 205	168 488	0,98
1969	89 339	90 559			90 559	179 898	1,01
1970	92 081	93 280			93 280	185 361	1,01
1971	95 313	95 306			95 306	190 619	1,00
1972	98 537	100 027			100 027	198 564	1,02
1973	101 022	100 239			100 239	201 261	0,99
1974	104 033	106 367			106 367	210 370	1,02
1975	108 441	111 807			111 807	220 248	1,03
1976	112 194	110 744			110 744	222 938	0,99
1977	116 987	112 739			112 739	229 726	0,96
1978	120 867	115 887			115 887	236 754	0,96
1979	123 193	118 878			118 878	242 071	0,96
1980	127 329	121 374			121 374	248 703	0,95
1981	125 326	125 241			125 241	250 567	1,00

Sources:

1960-1975 Department of Statistics, Statistical Year Book 1976  
Coloured and Indian Education: Table 2-1-5

1980-1981 Department of Statistics, SA Statistics 1982, Pretoria, Government Printer.

Note:

1) For an explanation of this table see 2-2-2-1

to Provincial Authorities employment less Coloured and Indian Education employment until 1964 and 1966/67 respectively (see table 2.2.5).

### 2.2.2 Establishment of long term growth trend

There is no data available for employment by the Provincial Authorities for the years before 1960. To establish a long term growth trend for Provincial Authorities figures by Richards before 1957 have been used (table 2.2.6)<sup>6</sup>. Unfortunately these figures are not comparable to the post 1960 employment data and some changes have been made to this post 1960 data to establish a long-term growth trend.

TABLE 2.2.6: Employment in the Provincial Administrations 1917-1953

Year	Staff employed <sup>1</sup>	Teachers	Total
1917	938 <sup>2</sup>	15 821	16 759
1939	3 808	32 279	36 087
1950	7 756	45 690	53 446
1951	8 360	47 274	55 634
1953	9 269	52 457	61 716

Source: Richards, C S Growth of Employment in S A since Union, Department of Commerce, University of the Witwatersrand, June 1957.

Notes: 1 These are Public Service positions only, plus hospital posts in Natal.  
2 Figure for 1922.

TABLE 2.2.7 Provincial Administration Employment and Authorised Hospital Staff 1965 and 1970

A	Year	Total Employment I	Hospital AE II	I - II
	1965	148 635	39 050 <sup>1</sup>	109 585
	1970	185 361	69 854 <sup>2</sup>	115 507

B		Total Employment III	Hospital AE (Less Natal AE)	III - IV
	1965	148 635	26 921 <sup>1</sup>	121 714
	1970	185 361	56 930 <sup>2</sup>	128 431

Source: Total employment. See Table 2.2.5.

Hospital Authorised Establishment: Calculated from Estimates of Expenditure to be defrayed from Revenue to be collected for the year... for the relevant years for the O F S, Transvaal and Natal. Cape Hospital Employment figure directly from the Cape Provincial Auditor.

Notes: 1 Excludes Cape.

2 Excludes Cape Authorised Establishment. Includes actual number employed in Cape but excludes those employed in the "Professional" category. Authorised Establishment of Transvaal is based on average of 1969 and 1971.

Abbreviation: AE - Authorised Establishment

As can be seen in Table 2.2.6 Richard's figures include neither hospital posts in any of the provinces except in Natal nor employment by all provinces in the "Roads and Works" division. The numbers employed in the Roads and Works division is insignificant in relation to total employment and this difference can be ignored in establishing the long term growth trend. However employment in Provincial Hospitals and Health Services is substantial and in attempting to find a long term growth trend the post 1960 data (Table 2.2.7) must be reduced by the Hospitals and Health Services employment of all provinces but Natal. Unfortunately figures for employment in Hospitals and Health Services are not available but authorised establishment data has been used as a proxy. These authorised establishment figures only became available in 1965 so the data for 1965 and 1970 shown in Table 2.2.7 are comparable to Richards' pre 1960 figures.

2.2.3 The Residual of Provincial Administration employment - difference between Provincial Administration actual employment and authorised establishment

As was found under Central Authority employment, a considerable difference exists between actual Provincial employment and Provincial Administration authorised establishment. However unlike the Central Authority Residual, particularly extreme fluctuations have not occurred (See Table 2.2.8) These figures are comparable over time. However as the authorised establishment does not

TABLE 2-2-8: Provincial Authorities Residual Employment: Actual Employment and Authorised Establishment 1961-1980

YEAR	TOTAL EMPLOYMENT	TOTAL AUTHORISED ESTABLISHMENT	RESIDUAL <sup>(1)</sup>
1961	130 479	-	-
1962	133 131	-	-
1963	136 898	-	-
1964	147 105	-	-
1965	149 174	84 061	65 113
1966	153 073	-	-
1967	161 311	88 357	72 954
1968	168 488	92 594	75 894
1969	179 898	100 076	79 822
1970	185 361	-	-
1971	190 619	115 304	75 315
1972	198 564	-	-
1973	201 261	136 013	62 551
1974	210 570	138 983	71 387
1975	220 248	145 475	74 773
1976	222 938	156 840	66 098
1977	229 726	162 922	66 804
1978	236 754	175 948	60 806
1979	242 071	180 128	61 943
1980	248 703	186 617	62 086

SOURCE: 2-2-5 and 2-2-1

NOTE: (1) The Authorised Establishment does not include Hospital and Health service workers for the Cape so this Residual is overestimated by approximately 30% on the 1970 figure.

include Hospital and Health workers in the Cape the differences are overestimated. Using the only known figure for Cape Hospital and Health employment of 24 095 in 1970 (Table 2.2.3) the difference is overestimated by approximately 30%.

## 2.3 LOCAL AUTHORITIES

### INTRODUCTION

The purpose of this section is twofold.

Firstly, the levels of Local Authority employment are presented in Table 2.3.1. There are no problems with this data and the time series is comparable without any changes.

Secondly, employment by the various types of local authorities is examined to determine which are the most important users of labour. This is examined below.

#### 2.3.1 Employment by the various types of Local Authorities

There are three general types of Local Authorities in South Africa:

TABLE 2-3-1: Local Authorities — Employment, Average Salaries and Wages (R1 000), Selected Years 1920-1981<sup>(1)</sup>

Year	WHITES		COLOURED	ASIANS	AFRICANS	TOTAL BLACKS		TOTAL EMPLOYMENT	
	Number	Average S and W	Number	Number	Number	Number	Average S and W	Number	B W
1920	10 357	0,28	N/A	N/A	N/A	30 010	0,04	40 367	2,90
1930	17 350	0,24	"	"	"	42 386	0,04	59 736	2,44
1937	21 400	N/A	"	"	"	52 936	-	74 336	2,45
1940	26 099	"	"	"	"	58 484	0,05	84 583	2,24
1945	28 706	"	"	"	"	N/A	-	N/A	-
1950	31 095	1,05	"	"	"	72 969	0,22	104 064	2,35
1951	31 262	1,13	"	"	"	77 655	0,23	108 917	2,48
1952	31 521	1,26	"	"	"	78 991	0,25	110 512	2,51
1953	31 274	1,31	"	"	"	76 673	0,25	107 947	2,45
1954	33 567	1,40	"	"	"	89 215	0,24	122 782	2,66
1955	34 467	1,43	"	"	"	94 775	0,24	129 242	2,75
1956	33 066	1,52	"	"	"	93 156	0,25	126 222	2,82
1957	35 174	1,52	"	"	"	98 396	0,28	133 570	2,80
1958	35 512	1,59	"	"	"	100 534	0,29	136 046	2,83
1960	38 361	1,83	14 801	2 378	95 917	113 098	0,32	151 459	2,95
1961	38 267	1,88	15 491	2 398	92 739	110 621	0,35	148 888	2,89
1962	38 877	1,95	16 062	2 393	91 185	109 640	0,38	148 517	2,82
1963	39 465	1,97	16 312	2 610	93 439	112 262	0,37	151 727	2,84
1964	40 300	2,10	17 800	2 900	99 800	120 500	0,40	160 800	2,99
1965	41 917	2,26	17 301	3 035	104 972	125 308	0,44	167 225	2,99
1966	43 400	2,41	17 100	3 000	110 700	130 800	0,47	174 200	3,01
1967	44 632	2,54	17 273	3 144	109 131	129 548	0,48	174 180	2,90
1968	45 326	2,77	18 492	3 347	114 539	136 378	0,50	181 704	3,01
1969	45 456	2,93	18 465	3 324	117 951	139 740	0,52	185 196	3,07
1970	47 364	3,25	19 028	3 519	121 383	143 930	0,57	191 294	3,04
1971	49 137	3,68	20 145	3 714	128 590	152 449	0,57	201 586	3,10
1972	52 222	3,87	22 571	3 992	131 157	157 720	0,70	209 942	3,02
1973	52 392	4,32	22 587	4 090	131 525	158 202	0,82	210 594	3,02
1974	54 863	4,99	22 403	4 295	139 194	165 892	0,95	220 755	2,02
1975	57 500	5,59	26 400	4 900	143 200	174 500	1,11	232 000	3,03
1976	57 900	6,48	22 800	5 000	142 300	170 100	1,30	228 000	2,93
1977	57 900	7,14	24 100	5 600	136 000	165 700	1,54	223 600	2,86
1978	58 100	7,56	23 900	5 700	140 600	170 200	1,64	228 300	2,92
1979	57 200	8,40	25 800	5 600	135 100	166 500	1,85	223 700	2,91
1980	56 600	10,10	27 700	5 600	134 700	168 000	2,27	224 600	2,97
1981	56 400	12,20	27 300	5 600	137 400	170 300	2,72	226 700	3,02

**SOURCES:** 1920 : Official Year Book of the Union of S A 1910 - 1920 p 279  
 1930 : Official Year Book of the Union of S A 1931 - 1932 p 102  
 1942-43 : Official Year Book of the Union of S A 1946 Prt IV p 18  
 1950-52 : Official Year Book of the Union of S A 1951 - 52 p 131  
 1953 : Official Year Book of the Union of S A 1954 - 55 p 93  
 1954-55 : Official Year Book of the Union of S A 1956 - 57 p 93  
 1956-58 : Official Year Book of the Union of S A 1960 p 125  
 1960-75 : Department of Statistics. Statistical Year Book 1976 pp 7.19  
 1976-79 : Department of Statistics. S A Statistics 1980 pp 7.20  
 1980-81 : Department of Statistics. S A Statistics 1982 pp 7.20

**Note:** (1) Transkei excluded since 1976, Boputhatswana since 1977, and Venda since 1979.

#### 2.3.1.1: Rural Coloured Local Authorities

These exist only in the Cape, comprise approximately 4% of the total number of Local Authorities (table 2.3.2) and were responsible for 0,1% of all employment by Local Authorities in 1972 (table 2.3.3).

#### 2.3.1.2: Peri-Urban Local Authorities

In 1976 these consisted of 14,3% of all of Local Authorities (table 2.3.2) but totalled only 3,4% of total Local Authorities employment (for 1972) (table 2.3.3).

#### 2.3.1.3 Urban Local Authorities

These are responsible for the majority of employment by Local Authorities (95,4% in 1972) are the largest category of Local Authorities.

Urban Local Authorities control most of the infrastructure and services necessary in urban areas, inter alia administration and maintenance of roads and electricity, sewerage and other drainage, market and abattoir services, park recreation, cultural facilities, fire fighting and ambulance services.

TABLE 2-3-2: Types of Local Authorities for 1967, 1970/71 and 1975/76

Year	Municipalities and Town Boards		Village Management Boards/Councils		Rural "Coloured" areas		Other		Total
	No	% of total	No	% of total	No	% of total	No	% of total	
1967	293	56,9	151	29,3	18	3,5	53	10,3	515
1970-71	299	59,4	123	24,5	23	4,6	58	11,5	503
1975-76	347	63,5	99	18,1	22	4,0	78	14,3	546

Source: Calculated from RSA, Local Authority Statistics of the four provinces for the relevant years.

TABLE 2-3-3: Totals Employed by the Various Local Authorities for 1972

Type	Cape (1)		Natal		O F S		Transvaal		Total	
	No	% of total	No	% of total	No	% of total	No	% of total	No	% of Total
Municipalities	57 743	98,6	34 278	88,8	13 697	95,4	92 095	91,3	197 733	93,2
Village Boards	619	1,1	-	-	611	4,3	1 944	1,9	3 174	1,4
Town Boards	-	-	1 858	4,8	-	-	-	-	1 858	0,8
Health Committees	-	-	1 561	4,0	-	-	702	0,7	2 263	1,1
Rural "Coloured" Areas	101	0,2	-	-	-	-	-	-	101	0,1
Other	46	0,01	894	2,4	49	0,3	6 127	6,1	7 116	3,4
Total	58 509	100	38 591	100	14 357	100	100 788	100	212 245	100

Source: R S A Local Authority Statistics for the various provinces for 1972.

Note: (1) Includes Transkei.

## 2.4 Control Boards

Employment by Control Boards is presented in table 2.4.1. There are no problems with these figures and the time series is comparable. Pre-1960 employment figures for Control Boards are not available. These figures are discussed in Part III Section 3.4.

## 2.5 Statutory Bodies

Employment by Statutory Bodies is given in table 2.5.1. There are no problems with the figures and it is time series comparable. Employment levels before 1974 are not available. This data is discussed further in Part III, Section 3.4.

## 2.6 The "Homeland" Governments

Data on homeland Government employment was collected with two objectives. As with both Central Authorities and Provincial Authorities employment an attempt has been made to divide homeland Government employment along functional lines. This is discussed in subsection 2.6.1. Secondly, comparable time series data for homeland government employment was established and is presented in subsection 2.6.2.

TABLE 2-4-1: Control Boards : Employment, <sup>(1)</sup> Salaries and Wages, 1960-1981

YEAR	EMPLOYMENT			B W	AVERAGE SALARIES (R1 000)	
	WHITES	BLACKS	TOTAL		WHITES	BLACKS
1960	1 206	425	1 631	0,35	2,10	0,32
1961	1 165	589	1 754	0,51	2,06	0,24
1962	1 207	445	1 652	0,37	2,14	0,41
1963	1 245	537	1 782	0,43	2,29	0,37
1964	1 256	474	1 730	0,38	2,43	0,46
1965	1 292	541	1 833	0,42	2,52	0,46
1966	1 356	659	2 015	0,49	2,60	0,46
1967	1 338	548	1 886	0,41	3,17	0,54
1968	1 561	541	2 102	0,35	3,04	0,53
1969	1 573	579	2 152	0,37	3,32	0,54
1970	1 574	522	2 096	0,33	3,79	0,67
1971	1 584	656	2 240	0,41	4,36	0,63
1972	1 650	577	2 227	0,35	4,45	0,76
1973	1 608	596	2 204	0,37	5,19	0,89
1974	1 615	682	2 297	0,42	6,04	1,07
1975	1 600	739	2 339	0,46	6,58	1,22
1976	1 599	850	2 449	0,53	7,28	1,25
1977	1 617	741	2 358	0,46	7,73	1,62
1978	1 836	912	2 748	0,50	8,68	1,88
1979	1 838	1 026	2 864	0,56	9,60	1,88
1980	1 913	906	2 819	0,47	12,58	2,28
1981	1 909	813	2 722	0,43	15,18	2,98

SOURCE: 1960-1964 R S A Department of Statistics, Statistical Year Book 1970 p H-59; Pretoria: Government Printer  
 1965-1975 R S A Department of Statistics, Statistical Year Book 1976 p 716, " " "  
 1976-1979 R S A Department of Statistics, South African Statistics 1980 pp 7-17 " " "

Note: 1) Does not include members of Boards.

TABLE 2-5-1: Statutory Bodies <sup>(1)</sup> : Employment, Salaries and Wages, 1974 - 1981

Year <sup>(2)</sup>	EMPLOYMENT <sup>(2)</sup>			AVERAGE SALARIES (R1 000)		
	White	Black	Total	White	Black	B W
1974	10 942	9 051	19 993	5,36	0,64	0,83
1975	11 313	10 036	21 349	6,30	0,72	0,89
1976	12 187	10 482	22 669	6,76	0,97	0,86
1977	12 464	10 948	23 412	7,46	1,14	0,88
1978	12 618	11 043	23 661	7,90	1,26	0,88
1979	12 685	11 094	23 779	8,91	1,41	0,87
1980	13 172	12 444	25 616	10 72	1,68	0,94
1981	13 373	12 470	25 843	12,50	1,99	0,93

SOURCE: R S A, Dept of Statistics, Statistical News Releases 1974 & 1975: (20/6/76) Pretoria  
 1976: (20/6/77) Pretoria  
 1977: (26/6/78) Pretoria

1979: R S A Department of Statistics South African Statistics 1980 p 7.21

1980: R S A Department of Statistics South African Statistics 1982 p 7.21

Notes: (1) Covers bodies such as the Hotel Board, C.S.I.R., regional Performing Arts Councils, State Library, etc. Public corporations and bodies which are integral parts of Government departments or Provincial Administration are not included.  
 (2) Figure for 1974 is for December. 1975-1981 Average for all four quarters.

### 2.6.1 Functional division of employment by the Homeland governments

As with the Central Authorities homeland governments have tended to centralise such responsibilities as Justice, Agriculture and Forestry. However, unlike the Central Authorities the function of economic development is undertaken by the various homeland development corporations and the South African Bantu Trust. While the homeland governments are not the sole government agency operating in the homelands they are certainly the largest. In 1976 homeland government expenditure totalled over 55% of all State expenditure in the homelands (see table 2.6.1).

The most important areas over which the homeland governments have centralized control are:

- Education
- Agriculture and Forestry
- Roads and Works
- General Administration
- Health

Determining a functional division of homeland government employment proved difficult as available data on homeland government employment is very limited. Neither adequate time series data prior to 1972, nor a breakdown of staff over the five

TABLE 2-6-1: The Relative Contribution to Expenditure by Various Government Institutions  
in the Homelands (1960 - 1976)<sup>(1)</sup>

Institution/Year	1960	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
Department of Bantu Administration and Development	22,3	21,6	19,7	17,5	20,5	21,0	10,2	16,7	18,1	17,7	17,9	6,7	6,1	4,0	3,8	2,6	2,6
Department of Bantu Education	48,0	48,4	41,2	35,1	30,7	24,5	16,9	18,6	20,1	18,4	10,1	6,1	5,7	2,5	2,4	1,9	1,7
Department of Health	-	-	-	-	-	-	-	-	-	-	-	15,1	14,2	15,5	12,1	10,5	8,3
S A Bantu Trust	28,0	27,8	36,2	44,7	43,7	49,3	53,3	42,5	37,2	38,0	40,7	29,0	30,0	17,4	12,9	15,9	15,1
Homeland Governments	1,5	1,8	1,5	2,3	4,7	4,23	18,2	19,5	21,7	20,7	23,3	36,5	36,8	52,3	58,9	53,5	55,6
Corporation for Economic Development	0,2	0,4	1,4	0,4	0,4	1,0	1,4	2,5	0,8	2,2	3,9	3,3	3,5	5,0	5,8	8,4	9,8
Xhosa Development Corporation	-	-	-	-	-	-	-	0,2	2,1	3,0	4,1	3,3	3,7	3,0	3,8	6,9	6,4
Bantu Mining Corporation	-	-	-	-	-	-	-	-	-	-	-	-	-	0,3	0,3	0,3	0,5

SOURCE: Calculated from Table B.14.2 in Benbo : Economic Development of the Homelands, Johannesburg: Perskor, 1976 p 182

Note: (1) These are the only years for which data is available with this degree of disaggregation.

areas of government is available. However data is available for the separate authorised establishment of each Homeland government. While a compilation of the data would be largely irrelevant due to the very small numbers involved, the largest homeland government employer, the Transkei, has been studied for an idea of the proportions of staff in the various areas of control and the change in these proportions over time. The authorised establishment for the Transkei government is given in Table 2.6.2.

#### 2.6.2 Homeland Government Employment

Comparable time series data for homeland government employment for 1973 to 1981 is given in table 2.6.3. Data for other years is unavailable.

Some additional data is available which is of interest. table 2.6.4 shows employment of the Ciskei, Kwazulu, Boputhatswana and the Transkei divided into Officials, Teachers and Labourers for 1970 to 1973. Table 2.6.5 gives the same data as table 2.6.4 for the Transkei only, but for the years 1971 to 1977. Data for other years is not available. The variations in the totals for tables 2.6.3, 2.6.4 and 2.6.5 are noted. These are thought to result from enumeration and definitional problems.<sup>7</sup>

TABLE 2-6-2: Authorised Establishment of the Transkeian Central Authorities by department, 1966 - 1981 <sup>(2)</sup>

DEPARTMENTS	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977 <sup>(2)</sup>	1980	1981	% of Total in 1981
Chief Minister and Finance	N/A	160	171	162	178	141	131	141	161	163	195	196	323	328	1,1
Justice, Police and Prisons	465	466	441	445	455	497	510	701	706	757	910	1 895	3 121	1 139	3,6
Education	5 083	5 283	6 270	6 774	7 077	7 460	7 840	8 237	8 628	9 077	10 141	12 873	16 259	15 591	52,5
Interior and Social Services	51	57	65	60	68	69	71	73	76	89	97	1 105	750	783	2,6
Agriculture and Forestry	1 250	1 441	1 492	1 544	1 638	1 703	1 819	1 902	1 923	2 064	2 101	2 397	2 452	2 984	10,1
Roads and Works	582	700	771	1 081	1 053	1 054	1 066	1 084	1 092	1 119	1 395	1 433	1 412	1 490	5,0
Health	-	-	-	-	-	-	-	(1)	(1)	(1)	1 738	1 988	9 277	6 066	20,4
Foreign Affairs	-	-	-	-	-	-	-	-	-	-	-	-	71	73	0,2
Commerce and Tourism	-	-	-	-	-	-	-	-	-	-	-	-	42	100	0,3
Post Office	-	-	-	-	-	-	-	-	-	-	-	-	850	939	3,2
Transport	-	-	-	-	-	-	-	-	-	-	-	-	195	194	0,7
<b>Total</b>	<b>6 439</b>	<b>8 107</b>	<b>9 210</b>	<b>10 066</b>	<b>10 489</b>	<b>10 924</b>	<b>11 437</b>	<b>12 138</b>	<b>12 586</b>	<b>13 269</b>	<b>16 577</b>	<b>20 892</b>	<b>34 752</b>	<b>29 687</b>	-

SOURCE: Transkeian Government, Estimates of the Expenditure to be defrayed from the Revenue to be collected for the year..... for the relevant year, Umtata.

NOTES: (1) The Department of Health was started in 1973 but no authorised establishment figures are available until 1976  
(2) Data for 1978 - 1979 is not available

TABLE 2-6-3 Homeland Government Employment 1973 - 1981

	1973 No.	% of total	1974 No.	% of total	1975 No.	% of total	1976 No.	% of total	1977 No.	% of total	1978 No.	% of total	1979 No.	% of total	1980 No.	% of total	1981 No.	% of total	Compound Growth 1973-1981
Transkei : Total	31224	32,9	37568	31,1	41166	30,9	45848	32,5	58820	36,8	61300	35,8	65712	38,2	66990	35,0	68300	33,7	9,1
Black	30864		37200		40800		45500		58500		61000		65432		66700		68000		
White	360		368		366		348		320		300		280		290		300		
Bophutatswana :																			
Total	12636	13,3	12875	10,7	15946	12,0	17743	12,6	18839	11,8	19500	11,4	22872	13,3	28950	15,1	30730	15,1	10,4
Black	12291		12502		15555		17351		18389		19000		22375		28500		30300		
White	345		373		391		392		450		500		497		450		430		
Venda : Total	3095	3,3	6427	5,4	6395	4,8	7258	5,1	8391	5,3	8495	5,0	8484	4,9	8867	4,6	9196	4,5	12,9
Black	2985		6307		6259		7122		8250		8350		8319		8650		9000		
White	110		120		126		136		141		145		165		217		196		
Ciskei : Total	8540	9,0	11858	9,8	12462	9,4	12884	9,1	13158	8,2	13982	8,2	12297	7,0	13430	7,0	14627	7,2	6,2
Black	8247		11577		12191		12618		12891		13722		12043		13180		14381		
White	293		281		271		266		267		260		254		250		246		
KwaZulu : Total	18911	19,8	21847	18,1	27222	20,5	25805	18,3	24973	15,6	28858	16,9	29235	17,0	36809	19,3	38583	19,0	8,2
Black	18500		21382		26758		25326		24474		28348		28722		36226		37930		
White	411		465		464		483		499		510		513		583		653		
Qwaqwa : Total	573	0,6	1046	0,9	1331	1,0	1325	0,9	1845	1,2	2834	1,7	3746	2,2	3613	1,9	3517	1,8	22,3
Black	559		989		1289		1281		1796		2812		3686		3537		3440		
White	14		37		42		44		49		52		60		76		77		
Lebowa : Total	11632	12,2	20083	16,6	18331	13,8	19425	13,8	21188	13,3	20712	12,1	18049	10,5	20242	10,6	21959	10,8	7,3
Black	11320		19779		18029		19062		20782		20297		17668		19849		21651		
White	312		304		302		363		406		415		381		393		308		
Gazenkulu : Total	5985	6,3	6312	5,2	7311	5,5	7897	5,6	9523	6,0	12452	7,3	8571	5,0	8008	4,2	10422	5,1	6,4
Black	5853		6173		7171		7754		9389		12215		8447		7880		10292		
White	132		139		140		143		134		137		124		128		130		
KaNgwane : Total	2431	2,6	2683	2,2	2772	2,1	2860	2,0	2961	1,9	3115	1,8	3192	1,9	4400	2,3	5617	2,8	9,8
Black	2399		2649		2735		2823		2914		3008		3100		4306		5512		
White	32		34		37		37		47		107		92		94		105		
Total : Total	95027		120679		132926		141074		159698		171118		172158		191309		202951	-	8,8
Black	93018		118558		130787		138857		157385		168752		169792		188828		200506		
White	2009		2121		2139		2217		2313		2366		2366		2481		2445		

Source : 1973-1979: R.S.A., South Africa 1982, Pretoria : Government Printer 1982  
 1980-1981: Benso, Statistical Survey of Black Development, Pretoria : Benso 1982 Table 100.

TABLE 2-6-4 Employment of Blacks by the Homeland Central Authorities, 1970 - 1973

Homeland	1970				1971				1972				1973			
	Officials	Teachers	Labourers	Total	Off.	Teach	Labour	Total	Off.	Teach	Labour	Total	Off.	Teach	Labour	Total
Ciskei	563	2375	3372	6310	615	2758	3890	7263	654	3021	1588	5263	772	3483	2617	6872
% of total	9,0	37,6	53,4		8,5	38,0	53,5		12,4	57,4	30,2	21794	2185	8247	14359	24791
KwaZulu	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1741	7725	12328	-	8,8	33,3	57,9	-
% of total	-	-	-	-	-	-	-	-	8,0	35,4	56,6	-	8,8	33,3	57,9	-
Bophuthutswana	399	3794	2035	6228	452	4194	2201	6847	629	4594	2261	7484	1074	5094	2956	9124
% of total	6,4	60,9	32,7	-	6,6	61,3	32,1	-	8,4	61,4	30,2	-	11,8	55,8	32,4	-
Transkei	2651	7089	15000	24740	3003	7444	15000	25447	3493	7815	15000	26308	5554	8132	18063	31749
% of total	10,7	28,7	60,6	-	11,8	29,2	59,0	-	13,3	29,7	57,0	-	17,4	25,6	57,0	-
TOTAL	3613	13258	20407	37278	4070	14396	21091	39557	6517	23155	31177	60849	9585	24956	37995	72536
% of total	9,7	35,6	54,7	-	10,3	36,4	53,3	-	10,7	38,1	51,2	-	13,2	34,4	52,4	-

Sources: Transkeian Government, Department of the Interior, Transkei Statistical Labour Report 1970, 1971, 1972, 1973. Unnumbered, Mimeograph.

TABLE 2-6-5 Transkeian Central Authorities Employment 1971 - 1977

Year	Public Service Personnel	Teachers	Labourers	Police, Prisons & Defence	Total
1971	4044	7871	14420	N/A	26335
% of total	15,4	29,9	54,7	-	-
1973	5656	8585	15743	N/A	29984
% of total	18,9	28,6	52,5	-	-
1974	6110	8678	18148	N/A	32936
% of total	18,6	26,3	55,1	-	-
1975	8585	10348	16786	N/A	35719
% of total	24,0	29,0	47,0	-	-
1976	11615	12100	16050	1975	41740
% of total	27,8	29,0	38,5	4,7	-
1977	15791	13124	23491	2216	54622
% of total	28,9	24,0	43,0	4,1	-

Source: Transkeian Government, Dept. of Interior, Transkei Statistical Labour Report, for the various years. Mimeograph, unnumbered.

## 2.7 The South African Transport Services

Of the South African Transport Services' many activities it is the railways which is of overwhelming importance in employment. Of the total SATS employment of 266 000 in 1980 the railroad accounted for over 244 000 (91%), a proportion which has varied little since 1950 (see table 2.7.1 and figure 2.4).

All the data presented in this section includes personnel used in the SATS operations in South West Africa. As the number of personnel totalled only 6 000 in 1975, and changes in South West African employment do not significantly effect changes in total SATS employment no attempt was made to exclude South West African figures from the data (see table 2.7.2).<sup>8</sup>

### 2.7.1 SATS Employment

No problems were encountered in establishing comparable time series data for SATS employment. The results are shown in table 2.7.3.

The occasional differences which occur between the data presented in tables 2.7.1, 2.7.2 and 2.7.3 are thought to be marginal enumeration problems. The sources could offer no explanation for the differences.

EMPLOYMENT (1'000)

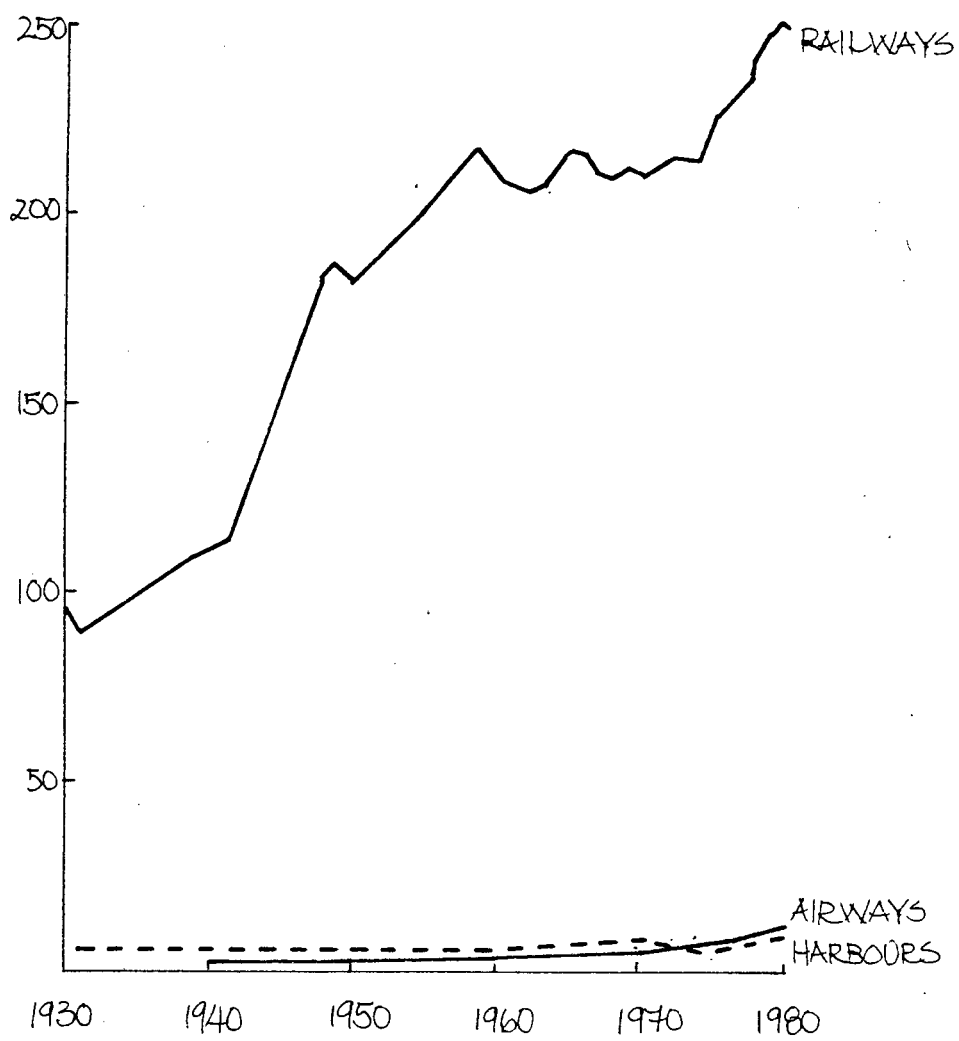


FIGURE 2-4 : EMPLOYMENT BY THE RAILWAYS, HARBOURS AND AIRWAYS, SELECTED YEARS, 1930-1980.

TABLE 2-7-1 S.A.T.S. : Employment by Railways, Harbours, Airways and Pipelines, Selected Years, 1929 - 1980

Year	Railways	Harbours	Airways	Construction & Pipelines	Total
1929	91866	4733	-	2419	99018
1930	93212	4868	-	1860	99940
1931	88072	4449	-	2160	94681
1939	109315	3531	414	10138	123398
1940	111044	3577	423	8122	123166
1941	113597	4160	373	6192	124322
1948	180880	4991	1834	-	187705
1949	186098	4890	2031	-	193019
1950	180403	5409	2169	-	187981
1955	202821	5443	2029	-	210293
1959	217006	5841	2706	-	225553
1960	210280	4962	2750	-	217992
1961	208273	4803	2998	-	216074
1962	206766	4809	3382	-	214957
1963	211011	4619	3549	-	219169
1964	214537	6083	3580	-	224200
1965	215772	6393	3568	-	225733
1966	217415	6103	4050	-	227568
1967	210776	5937	4326	174	221213
1968	209798	7833	4501	208	222340
1969	213651	5924	4827	204	224606
1970	210995	6164	5256	292	222707
1971	213437	6225	6242	339	226243
1972	215372	6619	7325	372	229688
1973	214376	6577	7551	415	228919
1974	216483	6929	7704	451	231567
1975	229418	8349	8691	434	244892
1976	236237	8093	9922	483	254735
1977	240042	8192	10495	477	259206
1978	248673	8388	10550	513	268121
1979	243581	9944	10938	510	264973
1980	244658	10000	10741	609	266008

Source : R.S.A., Controller & Auditor General,  
Report on the accounts of the S.A.T.S., for the relevant  
years, Pretoria : Government Printer.

TABLE 2.7.3 SATS Employment, Selected Years, 1920 - 1981

Year	WHITES		BLACKS		TOTAL		W : B
	No.	% growth p.a.	No.	% growth p.a.	No.	% growth p.a.	
1920	40669	-	42669	-	83338	-	1 : 1,05
1922	37444	-3,96	34774	-9,25	72218	-6,67	1 : 0,92
1925	47224	8,71	45148	9,94	92372	9,30	1 : 0,96
1930	58306	4,69	42245	-1,29	100551	1,77	1 : 0,72
1935	54351	-1,36	36210	-2,86	90561	-1,99	1 : 0,67
1938	66088	7,20	54879	17,19	120967	11,19	1 : 0,83
1940	69567	2,63	53599	-1,17	123166	0,91	1 : 0,77
1945	85726	4,65	64154	3,94	149880	4,34	1 : 0,75
1950	103372	4,12	84578	6,37	187950	5,08	1 : 0,82
1952	102290	-0,53	91815	4,28	194105	1,64	1 : 0,90
1954	104755	1,20	98055	3,40	202810	2,24	1 : 0,94
1956	107341	1,20	114434	8,35	221775	4,68	1 : 1,07
1958	110549	1,50	122240	3,41	232789	2,48	1 : 1,11
1960	109268	-0,58	107961	-5,84	217229	-3,34	1 : 1,00
1961	110859	1,46	104010	-3,66	214869	-1,09	1 : 0,94
1962	111011	0,14	104360	0,34	215371	0,23	1 : 0,94
1963	113459	2,21	107728	3,23	220187	2,24	1 : 0,95
1964	113911	0,40	109760	1,89	223671	1,58	1 : 0,96
1965	115040	0,99	111892	1,94	226932	1,46	1 : 0,97
1966	116383	1,17	109265	-2,35	225648	-0,57	1 : 0,94
1967	114822	-1,34	106288	-2,72	221110	-2,01	1 : 0,93
1968	115128	0,27	108510	2,09	223638	1,14	1 : 0,94
1969	114309	-0,72	110203	1,56	204592	0,43	1 : 0,96
1970	104099	-4,56	112631	2,20	221730	-1,27	1 : 1,03
1971	112652	7,19	114975	2,08	227627	2,66	1 : 1,02
1972	110972	-1,49	117439	2,14	228411	0,34	1 : 1,06
1973	110218	-0,68	119683	1,87	229901	0,65	1 : 1,09
1974	107803	-2,19	124099	3,69	231902	0,87	1 : 1,15
1975	111844	3,75	138365	11,50	250209	7,89	1 : 1,24
1976	113046	1,07	142892	3,27	255938	2,29	1 : 1,26
1977	114399	1,97	147666	3,34	262065	2,39	1 : 1,29
1978	116469	1,81	152786	3,47	269255	2,74	1 : 1,31
1979	113441	-2,60	152095	-0,45	265536	-1,38	1 : 1,34
1980	113959	0,46	152444	0,23	266403	0,33	1 : 1,34
1981	115852	1,66	155636	2,09	271488	1,91	1 : 1,34

Source : 1920 - 1975 R.S.A. Department of Statistics, Statistical Year Book 1975, p. 7.4. Pretoria : Government Printer.

1976 - 1981 R.S.A. Department of Statistics, South African Statistics 1982, p.7.18. Pretoria : Government Printer.

TABLE 2.7.3 SATS Employment, Selected Years, 1920 - 1981

Year	WHITES		BLACKS		TOTAL		W : B
	No.	% growth p.a.	No.	% growth p.a.	No.	% growth p.a.	
1920	40669	-	42669	-	83338	-	1 : 1,05
1922	37444	-3,96	34774	-9,25	72218	-6,67	1 : 0,92
1925	47224	8,71	45148	9,94	92372	9,30	1 : 0,96
1930	58306	4,69	42245	-1,29	100551	1,77	1 : 0,72
1935	54351	-1,36	36210	-2,86	90561	-1,99	1 : 0,67
1938	66088	7,20	54879	17,19	120967	11,19	1 : 0,83
1940	69567	2,63	53599	-1,17	123166	0,91	1 : 0,77
1945	85726	4,65	64154	3,94	149880	4,34	1 : 0,75
1950	103372	4,12	84578	6,37	187950	5,08	1 : 0,82
1952	102290	-0,53	91815	4,28	194105	1,64	1 : 0,90
1954	104755	1,20	98055	3,40	202810	2,24	1 : 0,94
1956	107341	1,20	114434	8,35	221775	4,68	1 : 1,07
1958	110549	1,50	122240	3,41	232789	2,48	1 : 1,11
1960	109268	-0,58	107961	-5,84	217229	-3,34	1 : 1,00
1961	110859	1,46	104010	-3,66	214869	-1,09	1 : 0,94
1962	111011	0,14	104360	0,34	215371	0,23	1 : 0,94
1963	113459	2,21	107728	3,23	220187	2,24	1 : 0,95
1964	113911	0,40	109760	1,89	223671	1,58	1 : 0,96
1965	115040	0,99	111892	1,94	226932	1,46	1 : 0,97
1966	116383	1,17	109265	-2,35	225648	-0,57	1 : 0,94
1967	114822	-1,34	106288	-2,72	221110	-2,01	1 : 0,93
1968	115128	0,27	108510	2,09	223638	1,14	1 : 0,94
1969	114309	-0,72	110203	1,56	204592	0,43	1 : 0,96
1970	105099	-4,56	112631	2,20	221730	-1,27	1 : 1,03
1971	112652	7,19	114975	2,08	227627	2,66	1 : 1,02
1972	110972	-1,49	117439	2,14	228411	0,34	1 : 1,06
1973	110218	-0,68	119683	1,87	229901	0,65	1 : 1,09
1974	107803	-2,19	124099	3,69	231902	0,87	1 : 1,15
1975	111844	3,75	138365	11,50	250209	7,89	1 : 1,24
1976	113046	1,07	142892	3,27	255938	2,29	1 : 1,26
1977	114399	1,97	147666	3,34	262065	2,39	1 : 1,29
1978	116469	1,81	152786	3,47	269255	2,74	1 : 1,31
1979	113441	-2,60	152095	-0,45	265536	-1,38	1 : 1,34
1980	113959	0,46	152444	0,23	266403	0,33	1 : 1,34
1981	115852	1,66	155636	2,09	271488	1,91	1 : 1,34

Source : 1920 - 1975 R.S.A. Department of Statistics, Statistical Year Book 1975, p. 7.4. Pretoria : Government Printer.

1976 - 1981 R.S.A. Department of Statistics, South African Statistics 1982, p.7.18. Pretoria : Government Printer.

TABLE 2.8.1 Post Office Employment, Selected Years, 1928 - 1980

Year	White	Black	Total	B W
1928	N/A	N/A	12805	-
1929	N/A	N/A	13182	-
1930	N/A	N/A	13472	-
1951	N/A	N/A	32304	-
1952	N/A	N/A	34330	-
1953	N/A	N/A	35672	-
1954	N/A	N/A	37276	-
1958	N/A	N/A	45603	-
1959	N/A	N/A	45291	-
1960	N/A	N/A	44327	-
1962	N/A	N/A	46520	-
1963	N/A	N/A	46707	-
1964	N/A	N/A	46680	-
1965	N/A	N/A	47447	-
1966	N/A	N/A	48690	-
1967	N/A	N/A	49812	-
1968	34811	13314	51140	0,38
1969	35433	14790	52773	0,42
1970	38202	16805	55007	0,44
1971	40325	18037	58362	0,45
1972	40433	19157	59590	0,47
1973	40854	20390	61244	0,50
1974	40975	22347	63322	0,55
1975	43524	24057	67581	0,55
1976	43649	24057	67706	0,55
1977	43914	26301	70215	0,60
1978	44905	28047	72952	0,62
1979	45576	29368	74944	0,64
1980	44988	30502	75490	0,68

Source : R.S.A., Post Office, Annual Reports of the G.P.O., for the relevant years. Pretoria : Government Printer.

#### 2.9.1.1 Product corporations

These are corporations which produce marketable goods. They are few in number but the most important group as regards employment and capital investment. This category includes such giants as Iscor, Escom, Sasol and Foscor.

#### 2.9.1.2 Service Corporations

These corporations are not particularly numerous and employment by them is insignificant compared to that of the other two types. Some of the more important service corporations are the South African Broadcasting Corporation, South African Tourist Corporation (Satour) and the Uranium Enrichment Corporation of South Africa.

#### 2.9.1.3 Finance Corporations

These cover both the pure finance corporations such as the Land and Agricultural Bank of South Africa and the South African Reserve Bank, and the many numerous development corporations like the Industrial Development Corporation, the Fisheries Development Corporation, the Corporation for Economic Development (formerly the Bantu Investment Corporation) and the South African Inventions Development Corporation.

The number of pure finance corporations is minimal and their employment is insignificant. However it is with the development corporations that a definitional difficulty arises in relation both to State involvement in the economy and total employment. In South Africa there exist hundreds, perhaps thousands, of corporations under the apparent control of the private sector which would simply not exist were it not for State finance channelled through the development corporations. Furthermore other corporations exist which were launched with private capital but have at one time or another benefited from State financial aid. With this type of corporation it is impossible to decide whether it would still exist had it not benefited from State aid and whether its employment is State employment or private sector employment. There is a third type of corporation which, while financially sound, has received State aid for specific investment projects. While without this State aid the resultant employment from these investment projects would not have occurred, it is unclear whether this employment is 'State' employment.

Data is available for the numbers employed within some of the development corporations. Little data is however available on the number of 'private' corporations wholly owned by the development corporations, partially owned or funded by the development corporations, or those recipient of the investment funds of the development corporations. Data on employment by these corporations is even more elusive. Data is available on the number

of employment opportunities created by homeland development corporations although considerable doubt exists as to the accuracy of these figures.

### 2.9.2 Employment by Public Corporations

Finding data on individual public corporation employment proved to be very difficult in some cases. The sources used for determining the levels of public corporation employment were primarily the annual reports of the relevant companies. When these were non-existent or did not contain employment figures the company was contacted directly. Within this latter group only a moderate number of companies made their data available while the rest replied that the figures were 'secret' or 'classified'.

A second difficulty occurred with the definitional problem in that grey area of what actually comprises State employment discussed in 2.9.1. It is almost impossible to estimate the total employment of all companies owned or assisted by the development corporations with any degree of accuracy. Some estimates have been made but these are obviously subject to a wide degree of error.

### 2.9.2.1 Product corporations

Escom: Employment by Escom is given in table 2.9.1. The data is comparable over time.

Iscor: Those years where data is available for Iscor are given in table 2.9.2. The data is comparable over time.

Sasol: The very limited data available on Sasol is given in table 2.9.3. Personal communication with Sasol proved unhelpful.

### 2.9.2.2 Service Corporations

Employment data on service corporations is very limited. Available data is confined to the SABC (table 2.9.4), Soekor (table 2.9.5) and Satour (table 2.9.6).

### 2.9.2.3 Finance Corporations

Employment by the various State finance houses is regarded as 'confidential' in South Africa. Data on employment by the various development corporations was almost as difficult to obtain and only four corporations eventually made their figures available:

TABLE 2-9-1: ESCOM - Employment and Wages, Selected Years 1929 - 1980 <sup>(1)</sup>

Year	ESCOM - EMPLOYMENT			TOTAL RSA ELECTRICITY GENERATION EMPLOYMENT			AVERAGE WAGES IN RSA ELECTRICITY (R1 000)	
	White <sup>(1)</sup>	Black <sup>(2)</sup>	Total <sup>(3)</sup>	B W	Total <sup>(4)</sup>	B W <sup>(5)</sup>	White <sup>(6)</sup>	Black <sup>(6)</sup>
1929	N/A	N/A	633	N/A	3 573	2,13	N/A	N/A
1930	"	"	688	"	4 648	1,92	"	"
1935	"	"	778	"	6 100	1,70	"	"
1940	"	"	1 189	"	8 980	1,78	"	"
1944	"	"	1 328	"	10 564	2,37	"	"
1948	"	"	2 692	"	N/A	-	"	"
1949	"	"	8 764	"	"	-	"	"
1950	"	"	9 352	"	14 356	2,41	"	"
1952	"	"	10 889	"	N/A	-	"	"
1954	"	"	12 317	"	"	-	"	"
1956	4 707	8 270	12 977	1,76	18 281	2,97	"	"
1958	N/A	N/A	14 312	-	N/A	-	"	"
1960	"	"	14 654	-	14 300	1,86	"	"
1961	"	"	15 441	-	14 900	1,87	"	"
1962	"	"	16 467	-	15 800	1,93	"	"
1963	5 896	10 908	16 804	1,85	16 734	2,00	"	"
1964	6 032	11 140	17 172	1,85	17 142	2,07	"	"
1965	6 254	11 597	17 851	1,85	17 300	2,04	"	"
1966	6 455	12 124	18 579	1,89	18 307	2,10	"	"
1967	6 946	12 871	19 817	1,85	19 500	1,95	"	"
1968	7 322	13 571	20 893	1,85	21 266	1 93	"	"
1969	7 684	13 960	21 644	1,82	21 800	1,91	"	"
1970	8 014	14 686	22 700	1,86	22 481	1,82	"	"
1971	9 080	15 970	25 050	1,76	24 200	1,85	"	"
1972	9 566	17 371	26 937	1,82	26 157	1,80	"	"
1973	10 207	17 761	27 968	1,74	28 200	1,82	5,12	0,97
1974	10 917	18 874	29 891	1,73	29 900	1,77	8,08	1,21
1975	12 394	21 605	33 999	1 74	32 200	1,82	6,80	1,48
1976	13 503	23 412	36 915	1,73	37 300	1,87	7,11	1,61
1977	14 356	24 756	39 112	1,72	38 700	1,76	7,81	1,91
1978	15 380	25 660	41 040	1,87	40 800	1,72	8,32	2,08
1979	16 730	26 960	43 690	1,61	42 600	1,77	9,60	2,31
1980	18 301	29 189	47 490	1,59	48 900	N/A	N/A	N/A

SOURCES: Columns (1), (2), (3) : Escom Escom Annual Reports, for the relevant years

(4),(5),(6): Calculated from 1973-1976: Department of Statistics Quarterly Bulletin - December 1977 p.213

1977-1980: Department of Statistics South African Statistics 1982

NOTE : (1) Enumeration problems exist between the totals of columns (3) and (4)

TABLE 2-9-3 Employment by SASOL for 1956, 1961 and 1975

YEAR	WHITE	BLACK	TOTAL	$\frac{B}{W}$
1956	2360	2150	4510	0,91
1961	$\frac{+}{-}$ 2600	$\frac{+}{-}$ 2400	$\frac{+}{-}$ 5000	0,92
1975	$\frac{+}{-}$ 4000	$\frac{+}{-}$ 4000	$\frac{+}{-}$ 8000	1,00

Sources: 1956 : Richards, C.S., op.cit.

1961 : Sasol, Men, Machines, Imagination, Sasolburg: Hartley and Le Roux, 1962

1975: Meintjies, J.P. Sasol 1950 - 1975, Cape Town: Tafelberg, 1975

TABLE 2.9.4 S.A.B.C. Employment Selected Years 1950 - 1980

YEAR	WHITE	BLACK	TOTAL	B — W
1950	754	154	908	0,20
1951	809	196	1005	0,24
1952	883	227	1110	0,26
1954	940	275	1215	0,29
1955	967	319	1286	0,33
1956	1001	325	1326	0,32
1957	993	315	1308	0,32
1958	1066	343	1409	0,32
1959	1126	329	1455	0,29
1960	1188	347	1535	0,29
1961	1187	480	1667	0,40
1962	1212	585	1797	0,48
1963	1310	628	1938	0,48
1964	1350	626	1976	0,46
1965	1489	655	2144	0,44
1966	1583	677	2260	0,43
1967	1683	648	2331	0,39
1968	1692	661	2353	0,39
1969	1628	714	2342	0,44
1970	1683	736	2419	0,44
1971	1728	723	2451	0,42
1972	1819	700	2579	0,38
1973	1946	716	2662	0,37
1974	2230	740	2970	0,33
1975	2764	802	3566	0,29
1976	3080	931	4011	0,30
1977	3144	920	4064	0,29
1978	3166	934	4100	0,30
1979	3030	857	3887	0,29
1980	3226	1012	4238	0,31

Source: S.A.B.C., Annual Reports, for the various years.

(1)

TABLE 2.9.5 SOEKOR : Employment & Salaries, Selected Years, 1974 - 1981

YEAR	EMPLOYMENT		AVERAGE SALARIES (R1000 pa)	
	WHITE	BLACK	WHITE	BLACK
1974	102	22	N/A	N/A
1975	104	37	N/A	N/A
1978	113	36	N/A	2,09
1979	102	41	N/A	2,56
1980	155	95	11,31	2,98
1981	180	91	13,17	3,20

Source: Personal Communication with Soekor.

Notes: (1) Although Soekor was formed in 1965 no data is available until 1974.

(2) No data is available for 1976 - 1977.

TABLE 2.9.6 SATOUR : Employment & Salaries, Selected Years, 1965 - 1981

YEAR	EMPLOYMENT		AVERAGE SALARIES (R1000 p.a.)	
	WHITE	BLACK	WHITE	BLACK
1965	76	2	N/A	N/A
1970	85	3	N/A	N/A
1975	89	4	N/A	N/A
1978	92	4	7,28	1,63
1979	96	4	7,65	1,86
1980	89	4	8,98	2,21
1981	93	4	9,89	2,06

Source : Personal Communication with Satour.

The Industrial Development Corporation has employed approximately 310 persons for the past ten years (table 2.9.7)

The Fisheries Development Corporation employed 112 persons in 1977 (table 2.9.8)

The Coloured Development Corporation employed some 100 persons in 1977.<sup>9</sup>

The Inventions Development Corporation employed 12 whites and no blacks in 1977 (table 2.9.9).

### 2.9.3 Total (Estimated) Employment by Public Corporations

As pointed out above an estimate of employment by all public corporations is unlikely to be completely accurate. This is due to a lack of data on employment by many public corporations and the lack of data on the total number of 'private' companies under the control of State development corporations.

The problem of data shortage has been tackled by calculated guesswork which introduces the possibility of large errors. The problem of deciding what degree of State financial control over a private company will make the company a public corporation has been side-stepped by using three separate estimates:

TABLE 2.9.9 SOUTH AFRICAN INVENTIONS DEVELOPMENT CORPORATION,  
EMPLOYMENT AND WAGES, SELECTED YEARS, 1965-1977.<sup>(1)</sup>

YEAR	WHITES	AVERAGE WAGE (R1 000 p.a.)
1965	3	4,92
1970	5	7,14
1975	10	10,91
1977	12	11,16
1978	11	N/A
<sup>(2)</sup> 1981	14	N/A

Source: Personal Communication with S.A.I.D.C.

Notes: (1) All employees are White.  
(2) No data available for 1979 - 1980.

Estimate I (table 2.9.10) is the total of employment by all public corporations created through Acts of Parliament. All companies created through the development corporations and subsidiary companies of Iscor are excluded. This is the most conservative estimate and is not really an accurate reflection of employment as it excludes companies like Sasol and Foscor which were funded through the IDC.

Estimate II (table 2.9.11) includes both employment in Estimate I and employment in wholly owned subsidiaries of public corporations. This is a reasonably realistic but still conservative estimate.

Estimate III (table 2.9.12) Includes both employment in Estimate II and employment in partially owned subsidiaries of public corporations. State employment in these partially owned companies has been set at a roughly estimated nevertheless arbitrary level of 25% of the subsidiaries' total employment.

Calculations of the Estimates:

Discussed below are the methods by which the estimates were calculated:

TABLE 2-9-10: Estimated Public Corporation Employment, Selected Years, 1956 - 1980

	1956			1965			1970			1975			1977			1980		
	Whites	Blacks	Total	Whites	Blacks	Total	Whites	Blacks	Total	Whites	Blacks	Total	Whites	Blacks	Total	Whites	Blacks	Total
<b>ESTIMATE 1</b>																		
ESCOM	4 707	8 270	12 977	6 254	11 597	17 172	8 014	14 686	22 700	12 394	21 605	33 999	14 356	24 756	39 112	18 301	29 189	47 490
ISCOR	9 400	11 800	21 200	14 544	13 707	28 251	17 440	15 527	32 697	23 508	23 650	47 158	26 950	28 536	55 486	30 320	31 050	61 370
S A Reserve Bank <sup>(1)</sup>	505	73	578	-	-	700	-	-	800	-	-	900	-	-	1 000	-	-	1 200
Land & Agricultural Bank <sup>(2)</sup>	-	-	150	-	-	180	-	-	200	-	-	225	-	-	250	-	-	275
National Finance Corp <sup>(3)</sup>	-	-	150	-	-	180	-	-	200	-	-	225	-	-	250	-	-	275
S A B S	1 001	325	1 326	1 489	655	2 144	1 683	736	2 419	2 764	802	3 566	3 144	920	4 064	3 226	1 012	4 238
SATOUR <sup>(4)</sup>	0	0	0	76	2	78	85	3	88	89	4	93	91	4	95	93	4	97
X D C <sup>(5)</sup>	-	-	-	-	-	-	-	-	100	-	-	120	-	-	140	-	-	160
C E D <sup>(6)</sup>	-	-	-	-	-	-	-	-	100	-	-	120	-	-	140	-	-	160
Venda D C <sup>(6)</sup>	-	-	-	-	-	-	-	-	50	-	-	80	-	-	100	-	-	120
Ciskei D C <sup>(6)</sup>	-	-	-	-	-	-	-	-	50	-	-	80	-	-	100	-	-	120
Bophuthetswena D C <sup>(6)</sup>	-	-	-	-	-	-	-	-	50	-	-	80	-	-	100	-	-	120
Qwaqwa D C <sup>(6)</sup>	-	-	-	-	-	-	-	-	50	-	-	80	-	-	100	-	-	120
Shangaen D C <sup>(6)</sup>	-	-	-	-	-	-	-	-	50	-	-	80	-	-	100	-	-	120
Caprivi D C <sup>(6)</sup>	-	-	-	-	-	-	-	-	50	-	-	80	-	-	100	-	-	120
Lebowa <sup>(6)</sup>	-	-	-	-	-	-	-	-	50	-	-	80	-	-	100	-	-	120
Rehoboth D C <sup>(6)</sup>	-	-	-	-	-	-	-	-	50	-	-	80	-	-	100	-	-	120
Indian D C <sup>(6)</sup>	-	-	-	-	-	-	-	-	50	-	-	80	-	-	100	-	-	120
Rand Water Board <sup>(7)</sup>	-	-	-	-	-	-	-	-	50	-	-	80	-	-	100	-	-	120
S A Inventions Dev. Corp. <sup>(7)</sup>	-	-	-	3	0	3	5	0	5	10	0	10	12	0	12	14	0	14
I D C	65	7	72	-	-	-	250	60	310	250	60	310	250	60	310	250	60	310
Fisheries Dev. Corp.	0	0	0	29	0	35	41	15	56	58	31	89	68	44	112	75	55	120
Armcor <sup>(7)</sup>	-	-	-	-	-	-	-	-	50	-	-	80	-	-	100	-	-	120
Coloured Dev. Corp.	-	-	-	-	-	-	-	-	± 30	-	-	± 80	-	-	100	-	-	120
Uranium Enrichment Corp. of S <sup>(7)</sup>	-	-	-	-	-	-	-	-	50	-	-	80	-	-	100	-	-	120
<b>TOTAL</b>			<b>34 453</b>			<b>48 743</b>			<b>60 355</b>			<b>88 135</b>			<b>102 371</b>			<b>117 389</b>

SOURCES & NOTES: See Section 2.9.3

x = Estimated

TABLE 2.9.11 ESTIMATE II for 1970, 1975 & 1980.

	1970			1975			1980		
	WHITE	BLACK	TOTAL	WHITE	BLACK	TOTAL	WHITE	BLACK	TOTAL
ESTIMATE I	-	-	60355	-	-	88135	-	-	117389
SASOL <sup>1</sup>	N/A	N/A	6500	+4000	+4000	+8000	-	-	12000
SOEKOR	102	22	124	104	37	163	155	95	250
ALUSAF <sup>2</sup>	250	500	750	-	-	1000	-	-	1400
FOSKOR	-	-	750	-	-	1000	-	-	-
C.D.C. <sup>3</sup>	-	5400	5400	-	6000	6000	-	7000	7000
X.D.C. & C.E.D. <sup>4</sup>	-	5000	5000	507	7184	7681	-	10000	10000
OTHER HOMELAND D.C. <sup>5</sup>	-	14400	14400	-	16000	16000	-	26664	26664
I.D.C. <sup>6</sup>	-	-	10800	-	-	10800	-	-	10800
ISCOR SUBSIDIARIES <sup>7</sup>	-	-	3000	-	-	3000	-	-	3000
TOTAL	-	-	107079	-	-	141779	-	-	188503

Sources &amp; Notes: See Section 2.9.3.

x = estimated.

TABLE 2.9.12 ESTIMATE III for 1970, 1975 and 1980

CORPORATION	1970	1975	1980
ESTIMATE II	107079	141779	188503
I.D.C. <sup>1</sup>	4912	7000 <sup>x</sup>	9000 <sup>x</sup>
C.E.D. <sup>2</sup>	3000 <sup>x</sup>	4610	6000 <sup>x</sup>
C.D.C. <sup>3</sup>	5400	6000	7000 <sup>x</sup>
OTHER HOMELAND DEVELOPMENT CORPS.	14400 <sup>x</sup>	16000 <sup>x</sup>	26664 <sup>x</sup>
F.D.C. <sup>4</sup>	800 <sup>x</sup>	1000 <sup>x</sup>	1200 <sup>x</sup>
TOTAL	135591	176389	238367

SOURCE &amp; NOTES : See Sec. 2.9.3.

x = estimated.

Calculation of Estimate I

Estimate I is shown in table 2.9.10. Unavailable data was estimated as below:

- 1 SOUTH AFRICAN RESERVE BANK: Employment for 1956 is known. The staff is unlikely to have increased radically since then.
- 2 LAND AND AGRICULTURAL BANK is taken to be much smaller than the S A Reserve Bank, and a figure of one quarter of estimated S A Reserve Bank employment is used.
- 3 National Finance Corporation: Employment has been taken identical to that of the Land and Agricultural Bank.
- 4 (See table 2.9.7).
- 5 The Ciskei and Transkei Development Corporations (formerly united as the Xhosa Development Corporation) and the Corporation for Economic Development (C E D) (formerly the Bantu Investment Corporation) as major development corporations are likely to be greater employers than the Coloured Development Corporation. Employment could be as high as that of the I D C but a conservative estimate has been used. The Ciskei Development Corporation and the Transkei Development Corporation are referred to as the X D C in the estimate. Data is only available for the X D C and not for the now separate development corporation.
- 6 The Homeland Development Corporations are taken as smaller than X D C and C E D.
- 7 Guesswork.

Calculation of Estimate II: Estimate II is shown in table 2.9.11.

Unavailable data was estimated as below.

- 1 The Sasol employment figure for 1970 is not available. The average of the 1965 and 1975 totals has been used.
- 2 Source: S A Panorama: December 1971, pp 18-20.
- 3 The figure of approximately 6 000 personnel employed by companies controlled by the CDC was obtained directly from the CDC. Data for the other years has been estimated from this.
- 4 XDC, CED: The figure for 1974 is from Benbo, Black development in S A p. 116. Other years are estimated from this.
- 5 There are eight other Homeland development corporations. It has been assumed that on average each corporation could be responsible for about one third of total CDC employment.
- 6 IDC: In 1971 over seventy companies were controlled by the IDC or with an IDC director or co-ordination. Most of these appear to be small but also include companies such as<sup>10</sup>
  - Sentrachem which holds the controlling interest in various chemical companies including Klipfontein Organic Products.
  - The entire Rossing Group of Companies.
  - Industrial Selections.
  - Impala Platinum Limited.If employment of 150 is estimated for each company total employment is 10 800.
- 7 Iscor holds 73% of Metkor (1972) which has controlling interests in Companies like Dorman Long, Stewards and Lloyds, Baldwins etc.<sup>11</sup>

Calculation of Estimate III

1 IDC: In 1971 131 companies were under obligation to be either in "constant touch with IDC" or where "annual financial attention is required."<sup>12</sup>

If an employment of 150 is estimated and the IDC is responsible for 25% of the companies finances then it is responsible for employment of 4 912.

2 Corporation for Economic Development (CED):

In 1974 the CED supplied 39,9% of total investment in the Homeland agency system. The agency system is reported to have increased employment by 11 556 posts.<sup>13</sup> While it is realised that this employment increase might not necessarily be a real increase, the relatively small numbers involved do not justify extensive modification of this figure.<sup>14</sup> Therefore the CED's share of the employment increase is 4 610 posts.

3 Employment by Coloured Development Corporation and other Homeland development corporations has been assumed to be as great as wholly owned subsidiaries in Estimate II.

4 In 1975 FDC held shares worth just under R1 million. It is not known to what extent FDC control existed over these companies. The estimated employment here is guesswork.

## 2.10 Total Employment by the State in South Africa

### 2.10.1 Growth of State Employment

State Employment between 1955 and 1980 is given in table 2.10.1. For 1970, 1975 and 1980 three estimates are given:

Estimate I omits employment by wholly owned subsidiaries of government corporations (for example: Sasol, Soekor, etc) and therefore understates actual employment.

Estimate II includes these wholly owned subsidiaries and is regarded as an accurate conservative measure of State employment. Data is however only available for 1970, 1975 and 1980.

Estimate III is employment in Estimate II and employment by partially owned subsidiaries of State corporations and is regarded as a liberal measure of the real position.

The data presented in table 2.10.1 is discussed further in Part III.

TABLE 2-10-1: State Employment in South Africa, Selected Years 1955 - 1980

EMPLOYER	1955			1960			1965			1970			1975			1980		
	Whites	Blacks	Total	Whites	Blacks	Total	Whites	Blacks	Total	Whites	Blacks	Total	Whites	Blacks	Total	Whites	Blacks	Total
Central Authorities	56 922 <sup>2</sup>	72 391 <sup>2</sup>	129 313 <sup>1</sup>	72 989	120 147	193 136	91 737	137 980	229 717	99 915	173 213	273 128	105 909	166 725	272 634	129 872	194 200	324 072
Provincial Authorities	N/A	N/A	N/A	65 098 <sup>4</sup>	65 381 <sup>4</sup>	130 477 <sup>4</sup>	73 131	76 043	149 174	92 081	93 280	185 361	108 441	111 897	220 248	121 374	125 241	248 703
Local Authorities	34 467	94 775	129 242	38 361	113 098	151 459	41 917	125 308	167 225	47 364	143 930	191 294	57 500	174 500	232 000	56 600	168 000	244 600
Homeland Government	-	-	-	-	-	-	N/A	N/A	N/A	N/A	N/A	N/A	2 739	130 787	132 926	2 481	188 808	191 309
S A T S	107 241	114 434	221 775	109 268	107 961	217 229	115 040	111 892	226 932	109 099	112 631	221 730	111 844	138 365	250 209	113 959	152 444	266 403
G P O	27 588	8 580	36 168	N/A	N/A	44 327	N/A	N/A	47 447	38 202	16 805	55 007	43 524	24 057	67 581	44 988	30 502	75 490
Control Boards	-	-	-	1 206	425	1 631	1 292	541	1 833	1 574	522	2 096	1 600	739	2 339	1 913	906	2 819
Statutory Bodies	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11 313	10 036	21 349	13 172	12 444	25 616
Public Corps (Estimate I)	19 953	23 596	43 549	-	-	42 598	-	-	48 743	-	-	60 355	-	-	88 135	-	-	117 389
TOTAL	246 271	313 776	560 047	-	-	780 857	-	-	871 071	-	-	988 971	-	-	1287 421	-	-	1 496 401
Estimate II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	46 724	N/A	N/A	53 644	N/A	N/A	71 114
TOTAL	-	-	-	-	-	-	-	-	-	-	-	1035 695	-	-	1341 065	-	-	1567 515
Estimate III	-	-	-	-	-	-	-	-	-	-	-	28 512	-	-	34 610	-	-	49 864
TOTAL	-	-	-	-	-	-	-	-	-	-	-	1064 207	-	-	1395 675	-	-	1 617 379

- Notes: (1) 1956  
(2) An average of employment over 1950 and 1960 is used  
(3) Calculated as the average between 1956 and 1965  
(4) 1961

SOURCES: 1954 : Richard C.S. The Growth of Government since Union op., cit., p.19  
1960-1980: See relevant Tables in text.

NOTES TO PART II

- 1 RSA, Department of Statistics Statistical News Release  
20-6-78, p.1.
- 2 Throughout this paper "Homelands" must be read to include both  
dependent and independent National States.
- 3 RSA. South Africa 1980 Pretoria: Government Printer, 1981,  
p.365.
- 4 Totals of table 2.1.1 and 2.1.3 respectively.
- 5 This was an attempt at increased efficiency through financial  
decentralisation.
- 6 Richards, C.S., Growth of Employment in SA since Union Department  
of Commerce, University of the Witwatersrand, June 1957.

- 7 The sources could offer no explanation for these differences.
- 8 The coefficient between SATS employment in SA and SWA corrected for auto correlation is  $r = 0.9$ .
- 9 This figure of approximately 100 persons employed by the CDC was given in personal communication with CDC. No specific data was made available.
- 10 Management magazine, November 1971, p.48.
- 11 Financial Mail, June 1972, p.714.
- 12 Management, op. cit. p.48.
- 13 Benbo, op. cit.

- 14 The agency system will report increased employment where it simply takes over existing, privately owned enterprises. This is obviously only a nominal increase and not a real increase in employment.

PART III

ANALYSIS AND DISCUSSION

### 3.1 The Growth in State Employment

The two most obvious facts which emerge from the statistical part of this thesis are that not only has employment by the State increased tremendously but that the largest part of this increase was due to increased employment of blacks. These in particular are black bureaucrats and teachers employed by the Central Authorities and the homelands. When each of the four different measures of growth which emerge from the theoretical part of the thesis are applied to the data, all but one show dramatic increases, particularly in black employment and the one measure which does not indicate growth over the entire 1920-1980 period shows growth for most of the period.

The four different ways of measuring State employment and the results are discussed below:

Type (a): This measure views a growth in State employment as an increase in absolute numbers. Total estimated State employment in 1920 was 150 000 which by 1980 had increased to 1 600 000: a compound growth of 4.0% p.a. This is made up of increases in white employment from 67 000 to 617 000 (3,7% p.a.) and black employment from 83 000 to 983 000 (4,1% p.a.). Both the growth in State employment and the large growth in black employment are well evident.

Table 3-1 Total State Employment, Compound annual growth rates and racial ratios, 1920-1980 (five year intervals) <sup>1</sup>

	White	Black	Total	$\frac{B(2)}{W}$
1920	-	-	-	1,26
1920-25	6,31	2,99	4,52	1,04
1925-30	4,13	1,79	2,96	0,93
1930-35	0,85	0,35	0,61	0,91
1935-40	4,79	7,58	6,51	1,00
1940-45	3,51	3,51	3,51	1,00
1945-50	5,06	4,43	4,75	0,97
1950-55	2,89	8,46	5,78	1,26
1955-60	3,28	5,60	4,60	1,41
1960-65	2,81	3,81	3,40	1,48
1965-70	2,09	3,94	3,21	1,62
1970-75	3,04	4,49	3,94	1,74
1975-80	4,75	2,93	3,61	1,59

Sources: Calculated from the totals of data presented in Part II

Note: (1) Data estimated where not available

(2)  $\frac{B}{W}$  shown is for the last year in each period

The growth in State employment in five year intervals is given in table 3-1. State employment grew fastest 1935-40 at 7% and slowest 1930-35 at 1%. This is an obvious result of the State making up a backlog in the demand for its services caused by a loss of revenue in 1930-35. As such 1930-1940 averaged 3,5% and the real period of highest growth was 1950-55 at 6%. White employment achieved its highest growth of 6% in 1920-25 and black employment its highest of 8% in 1950-55.

Unfortunately for analytical purposes type (a) growth is only

useful for discussing longterm growth and the relative growth in different periods. One of the drawbacks of this measure is that it does not take into account that State employment is, a priori, expected to grow. Employment by the State responds to a number of factors, one of which is State output i.e. State employment is related to the supply of goods and services produced by the State. In turn, State output responds to all those factors contributing to a growth in the size of government. Type (a) growth therefore shows no indication of how State employment has grown, given that it is expected to grow.

Type (b): This measure examines State employment as a percentage of the working population of the country: (TABLE 3.2)

As a proportion of the white economically active population, white employment by the State has grown from 12% in 1921 to 31% by 1980. Black employment grew from 5% in 1946 to 11% by 1980. Total employment grew from 9% in 1946 to 14% in 1980. The decrease in the white and total percentages in table 3.2 between 1960 and 1970 results from a short term drop in white employment from 450 560 in 1969 to 421 528 in 1970. The data for 1970 does not indicate a steady decrease between 1960 and 1970 but a short deviation from the long term trend. By 1972 employment had increased to 450 057.

Type (c): This measure examines State employment as a percentage

TABLE 3.2 Total State employment as a percentage of economically active population, State white employment as a percentage of economically active white population, State black employment as a percentage of economically active black population, 1921-1980 (Selected Years)

State Employment as a Proportion of Economically Active Population

Year	Total	White	Black
1921	N/A	12,36	N/A
1936	N/A	17,86	N/A
1946	8,84	22,86	5,47
1951	10,71	24,93	6,84
1960	13,96	28,76	10,23
1970 <sup>1</sup>	13,62	27,94	10,35
1980 <sup>1</sup>	14,15	30,69	10,55

Source: State employment is taken from the relevant sectors of Part II. Data are estimated where unavailable.

Note: 1 The economically active data available for 1980 excludes the Transkei, Bophuthatswana and Venda. The economically active population for 1980 has been estimated by using the compound growth rate between 1970 and 1975 extrapolated to 1980.

of the population in the country.

An examination of the data presented in table 3.3 shows white employment as a percentage of white population has increased from 5% in 1920 to 13% in 1980. Black employment as a proportion of blade population increased from 2% to 4% and total State employment from 2% to 6%.

Type (c) growth is presented in figure 3-1 for yearly observations. Ordinary least square regression lines plotted through white, black and total employment as percentages of population measure:

$$\alpha_1 = 2,00 + 0,06 t \quad (1)$$

Where  $\alpha_1$  is  $\left( \frac{\text{State employment}}{\text{total population}} \right) \times 100$

t is time in years

the growth in white employment measured:

$$\alpha_2 = 1,20 + 0,02 t \quad (2)$$

Where  $\alpha_2$  is  $\left( \frac{\text{white employment by State}}{\text{total population}} \right) 100$

and the growth in black employment was:

$$\alpha_3 = 0,80 + 0,04 t \quad (3)$$

Where  $\alpha_3$  is  $\left( \frac{\text{black employment by State}}{\text{total population}} \right) 100$

The annual compound growth in type (c) growth is 1,5% in total employment, 1,3% in white employment and 1,7% in black employment.

### PERCENTAGE OF TOTAL POPULATION

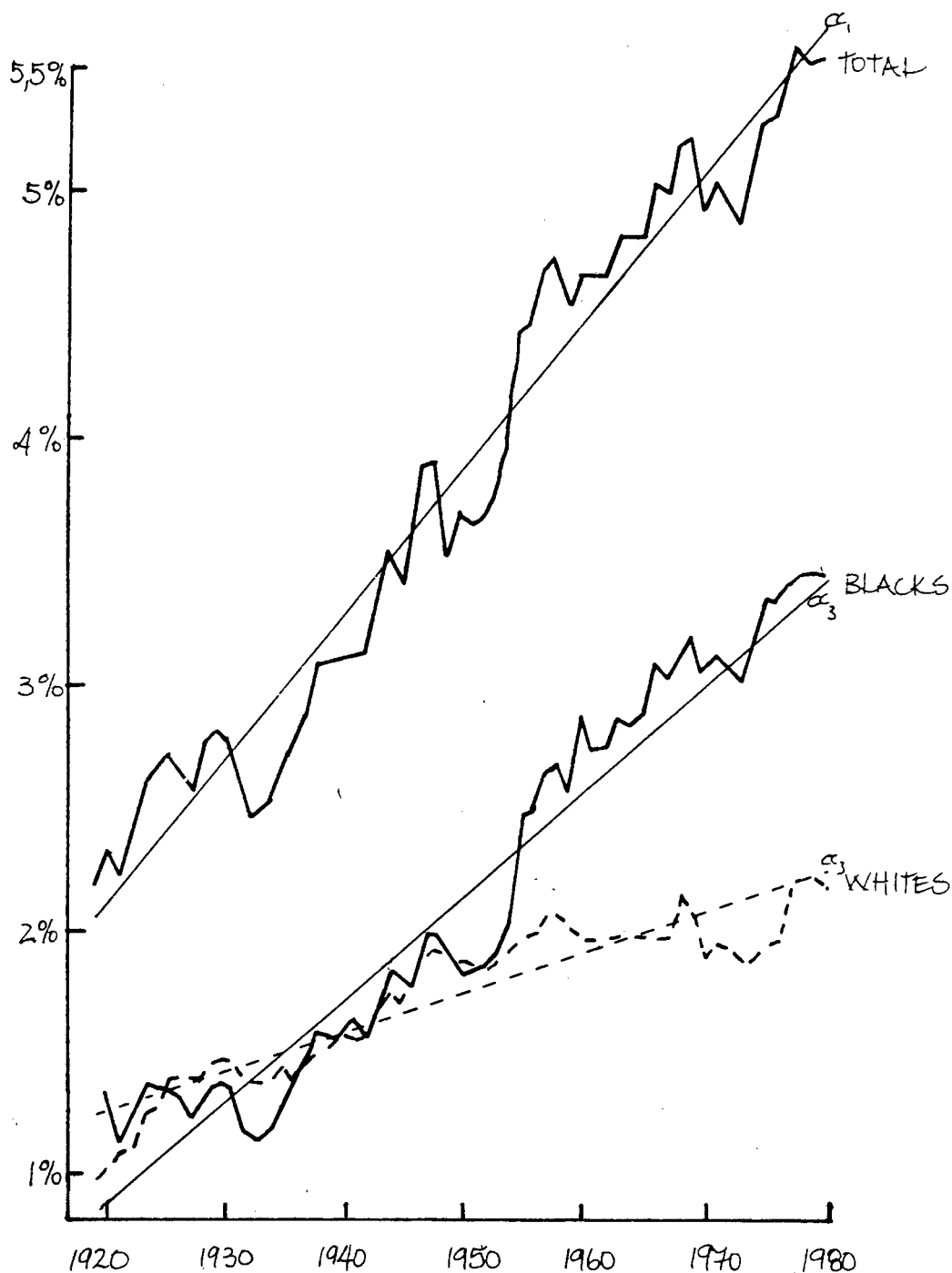


FIGURE 3-1: STATE EMPLOYMENT AS A PERCENTAGE OF TOTAL POPULATION (WHITES AS A % OF TOTAL POP., BLACKS AS A % OF TOTAL POP.), 1920 - 1980.

TABLE 3.3: Total State employment as a percentage of population, State white employment as a percentage of white population, and State black employment as a percentage of black population, 1920 - 1981 (Selected Years)

State Employment as a Proportion of Population

Years	Total	White	Black
1920	2,20	4,47	1,57
1930	2,81	6,55	1,75
1940	3,10	7,45	1,97
1950	3,69	9,35	2,27
1960	4,66	10,79	3,32
1970	4,92	10,99	3,67
1980	5,56	13,20	4,03
1981	5,57	13,21	4,08

Source: State employment: Taken from the relevant sectors of Part II. Data are estimated where unavailable.

Population:

1920-1959: Department of Statistics:  
Union Statistics for fifty years  
Pretoria: Government Printer, 1960

1960-1981: Department of Statistics:  
South African Statistics 1982  
Pretoria: Government Printer, 1983

The deviations from the OLS line are shown in figures 3-1 and 3-2. In figure 3-1 employment of both blacks and whites are taken as a proportion of total population and black and white population respectively. This was adopted to determine relative contributions of whites and blacks employed to total State employment without distortions due to differing population growth rates.

In figure 3-2 the deviations shown are for white employment as a proportion of white population, and black employment as a proportion of black population, and not total population. This was adopted as in this case it was not necessary to correct for distortions due to differing population growth. The fact which is immediately apparent but is merely noted at this stage is that deviations in white employment are generally far more volatile than those for black employment. A specific discussion of deviations is however not presented here as it is more relevant in the context of the political economic history of South Africa.

Type (d): This measure is an increase in  $\lambda$

$$\text{where } \lambda = \frac{S E / \text{Pop}}{G / Y} \quad (4)$$

SE - State employment

Pop - Total population

G - State expenditure

Y - National income

DEVIATIONS FROM LONG TERM % GROWTH

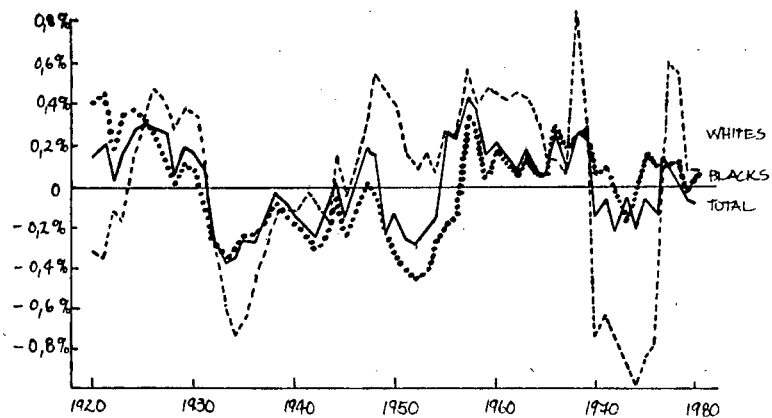


FIGURE 3-2: STATE EMPLOYMENT AS A PERCENTAGE OF TOTAL POPULATION -- DEVIATIONS FROM THE LONG TERM GROWTH TREND (WHITES AS % OF WHITE POP., BLACKS AS % OF BLACK POP.), 1920 - 1980.

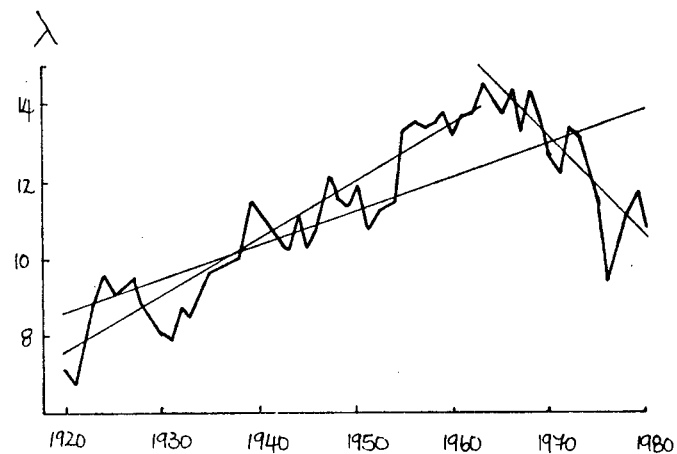


FIGURE 3-3: THE RATIO OF STATE EMPLOYMENT AS A PERCENTAGE OF TOTAL POPULATION TO STATE EXPENDITURE AS A PERCENTAGE OF G.D.P. ( $\lambda$ ), 1920 - 1980

This is the most stringent measure to test for a growth in State employment. The ratio  $\lambda$  tests for a growth in State employment as a percentage of population over and above that growth which is expected. State employment is expected to grow as a percentage of population because State expenditure is known to have grown as a proportion of GDP. Therefore if the ratio  $\frac{SE}{Pop}$  is deflated by the known growth in the size of the State, any increase in  $\lambda$  will indicate whether there has been a proportionate increase in State employment in excess of that which is, a priori, expected. (This growth would have been more accurately measured if State employment had been taken as a percentage of the working population and not total population. Unfortunately this is not possible as pre 1948 data for economically active population is incomplete and less accurate than total population data). The expectation with regard to type (d) employment growth proves only partly correct. The ratio  $\lambda$  is shown in figure 3-3. While the least square regression line for the entire period shows an OLS in  $\lambda$  of  $b = 0,07$ ,  $\lambda$  did in fact increase from 1920 to reach a maximum in the early 1960s (1920-1963  $b = 0,15$ ). Since the mid 1960s the general trend has been downwards with  $b = 0,24$  (1964-1980).

Time series data for  $\lambda$  is not presented for the same reason that short term variations in  $\lambda$  are not considered important. In the ratio  $\lambda$  national income is the most volatile element. Any change in the business cycle causes a change in  $\lambda$  without affecting any real change in type (d) growth.

### 3.2 State Employment and State Functions

Given the varied political economic history of South Africa, it was expected that an examination of the various types of State activities would prove useful in a discussion of State employment. To allow more comprehensive discussion, data on State expenditure is also included.

As is shown in tables 3.4, 3.5 and 3.6 State activities have been grouped into eight areas: General Administration, Black Administration, Economic Services (which includes State enterprises and public corporations), Public Order, Health Services, Educational, Defence, and Community Services. Tables 3.5 and 3.6 show the relative contribution of each area of functional State expenditure and employment to the total of that year. Figure 3.4 shows State employment by function and figure 3.5 shows State expenditure by function at constant (1975) prices. In both cases Economic Services are omitted for the sake of scale.

General Administration: In 1930 the State employed 3 235 staff against this function. By 1980 this figure had reached 30 922. In 1930 this category constituted 2% of total staff and by 1980 it comprised 3%. Over the fifty years examined it ranged between 2% and 4% reaching a relative maximum in 1945.

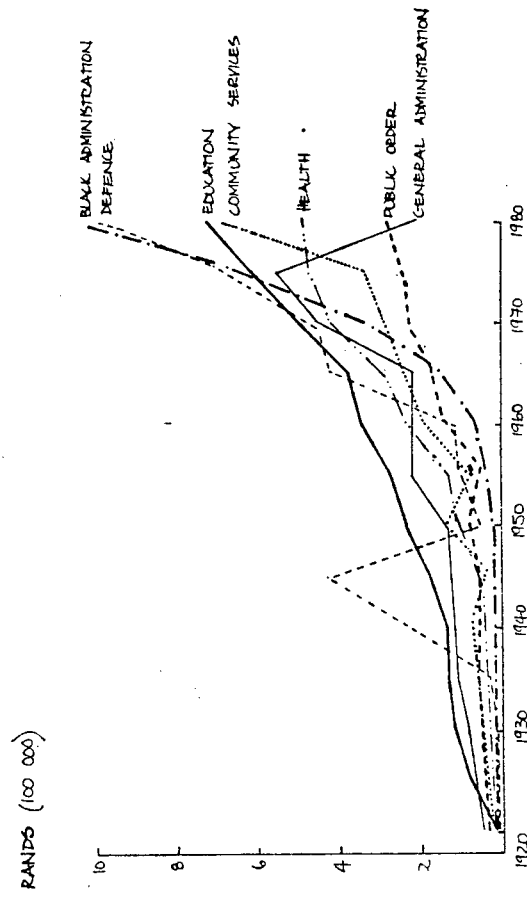


FIGURE 3-5: STATE EXPENDITURE BY ACTIVITY AT 1975 PRICES, FIVE YEAR INTERVALS, 1920 - 1980.

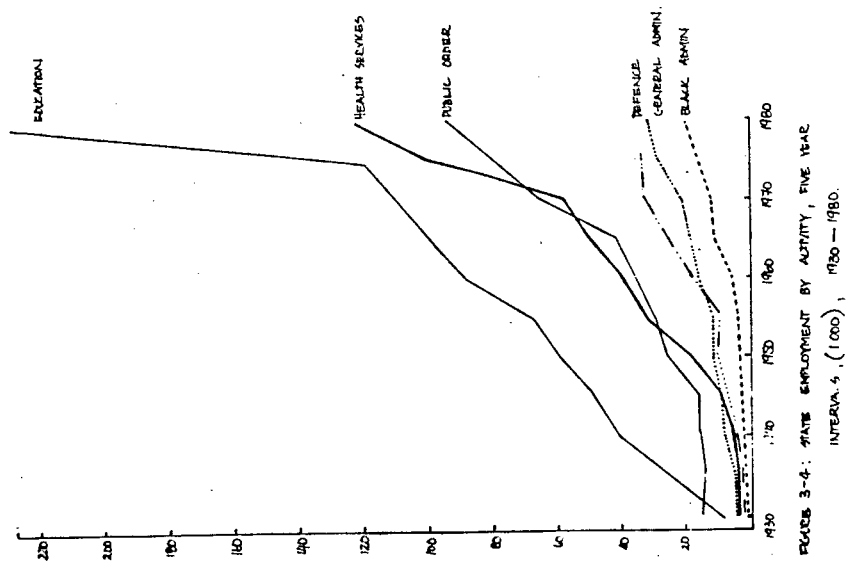


FIGURE 3-4: STATE EMPLOYMENT BY ACTIVITY, FIVE YEAR INTERVALS, (1000), 1920 - 1980.

TABLE 3-4 State Employment by function, five-year intervals, 1930-1980<sup>1)</sup>

	1930	1935	1940	1945	1950	1955	1960	1965	1970	1975	1980
General Admin.:	3 235	3 814	7 324	9 904	11 594	13 875	16 474	18 390	21 410	28 415	30 922
Central Authorities	3 235	3 814	5 744	8 304	9 957	12 075	11 474	11 839	13 190	14 457	13 000 <sup>5)</sup>
Provincial Author.	N/A	N/A	1 580	1 600	1 637	1 800 <sup>5)</sup>	5 000 <sup>5)</sup>	6 551	8 220	13 958	17 922
Black Admin.:	1 376	1 413	2 686	2 923	3 431	4 046	5 336	11 118	12 785	15 097	20 000
Central Author. 2)	1 376	1 413	2 686	2 933	3 431	4 046	5 336	11 118	11 185	12 579	16 000 <sup>5)</sup>
Homeland Author.	-	-	-	-	-	-	-	-	1 600 <sup>5)</sup>	2 518	4 000 <sup>5)</sup>
Economic Services:	117 558	107 288	144 155	173 039	229 854	271 859	276 432	294 597	329 512	392 285	425 893
Central Author.	3 535	3 454	5 297	5 006	9 600	11 859	14 876	20 218	22 775	26 161	20 000 <sup>5)</sup>
Provincial Author.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S A T S	100 551	90 561	123 166	149 880	187 950	220 000	217 229	226 932	221 730	250 209	266 403
G P O	13 472	13 273	15 692	18 153	32 304	40 000	44 327	47 447	55 007	67 581	75 490
Homeland Author. 2)	-	-	-	-	-	-	-	-	30 000 <sup>5)</sup>	48 334	64 000 <sup>5)</sup>
<b>Total Economic Services plus Public Corporations:</b>											
Estimate I	N/A	N/A	N/A	N/A	N/A	308 312	320 000	343 340	389 867	480 420	543 283
Estimate II	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	436 591	534 064	614 396
Estimate III	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	465 103	568 674	664 260
Public Order:	15 194	14 875	16 625	16 467	26 418	29 623	36 080	42 522	66 008	80 092	94 000
Central Author. 2)	15 194	14 875	16 625	16 467	26 418	29 623	36 080	42 522	50 008	55 369	60 000 <sup>5)</sup>
Homeland Author.	-	-	-	-	-	-	-	-	16 000 <sup>5)</sup>	24 723	34 000 <sup>5)</sup>
Hospitals & Health S.:	3 273	3 418	5 364	9 801	18 939	31 644	39 724	50 045	58 832	95 672	122 090
Central Author.	3 273	3 418	4 364	4 801	8 939	11 644	9 724	10 995	13 321	19 174	23 000 <sup>5)</sup>
Provincial Author.	N/A	N/A	1 000 <sup>5)</sup>	5 000 <sup>5)</sup>	10 000 <sup>5)</sup>	20 000 <sup>5)</sup>	30 000	39 050	47 000	60 184	76 090
Homeland Author.	-	-	-	-	-	-	-	-	10 500 <sup>5)</sup>	16 314	23 000 <sup>5)</sup>
Education: <sup>6)</sup>	10 380	-	42 993	48 242	60 575	68 231	87 144	99 647	109 501	152 286	232 405
Central Author.	8 236	N/A	13 039	14 881	22 912	25 296	38 063	42 996	58 308	90 487	147 000 <sup>5)</sup>
Provincial Author.	2 144	2 959	29 954	33 361	37 663	42 935	49 081	56 651	46 193	54 333	75 605
Homeland Author.	-	-	-	-	-	-	-	-	5 000 <sup>5)</sup>	7 466	9 800 <sup>5)</sup>
Defence:	2 253	2 603	5 322	N/A	10 532	9 522	17 951	25 219	30 749	30 719	N/A
Community Services:											
Central Authorities	431	364	581	605	1 461	1 590	1 481	2 851	3 341	3 392	N/A

## NOTES

- (1) Excludes Local Authority Employment as a function division as this is not available.
- (2) A functional division of total Homeland employment is not available. It has been estimated by dividing the total employment of Table 6-4 by the functional distribution of Transkei's employment in 1975 as shown in Table 6-3. 1970 and 1975 estimated from 1973 and 1978 respectively.
- (3) Data incomplete.
- (4) Excludes Cape.
- (5) Estimated.
- (6) Coloured and Indian Education were under Provincial control till 1964 and 1966 respectively and then under Central Authority control.

## SOURCE

See relevant tables in Part II.

TABLE 3-5 Relative Contribution (%) of various types of State expenditure to growth of total State expenditure,<sup>2)</sup> 1920-1980 (5-year intervals)

Year	General Administration %	Black <sup>1)</sup> Administration %	Economic Services %	Public Order %	Health %	Edu- cation %	Defence %	Community Services %	Public Debt %	Total %
1920	17,1	0,8	60,3	9,0	2,5	4,7	2,2	3,4	0,1	100
1925	8,9	0,5	60,0	6,1	2,3	10,5	1,5	3,7	6,5	100
1930	8,6	0,5	60,7	5,2	2,3	10,6	1,2	4,7	6,2	100
1935	8,5	1,5	60,5	4,4	2,6	10,1	1,6	4,9	6,0	100
1940	5,4	0,9	41,8	2,9	2,0	6,4	33,8	3,4	3,3	100
1945	5,8	0,2	39,6	2,6	3,8	7,3	35,1	1,1	4,6	100
1950	5,9	0,5	60,4	3,5	7,6	10,4	2,8	5,4	3,5	100
1955	8,0	1,1	61,7	1,7	5,1	11,6	1,7	5,8	3,2	100
1960	6,1	1,0	58,3	3,7	6,6	11,3	3,2	7,1	2,8	100
1965	4,0	4,4	56,8	2,9	5,4	8,1	7,4	8,2	2,8	100
1970	6,7	4,8	55,8	3,0	5,4	8,3	5,7	6,6	3,8	100
1975	5,2	5,1	57,0	2,5	4,4	7,4	10,1	4,6	3,3	100
1980	1,6	3,3	53,3	1,9	3,2	6,9	8,7	5,4	15,7	100

Source:

Calculated from revised data used in: Abedian, I. and Standish, B; An inquiry into the growth of government expenditure in South Africa, 1920-1982, Cape Town: UCT, Mimeograph, 1983.

Notes:

- 1) Includes all Homeland government expenditure.  
2) Excludes Local Authorities, Control Boards and Statutory Bodies.

TABLE 3-6 Relative Contribution (%) of various types of State employment to growth of total State employment,<sup>1)</sup> 1930-1980. (5-year intervals)

Year	General Administration %	Black Administration %	Economic <sup>2)</sup> Services %	Public Order %	Health %	Edu- cation %	Defence <sup>3)</sup> %	Com- munity Services %	Total %
1930	2,10	0,90	76,49	9,89	2,13	6,75	1,47	0,28	100
1935	2,36	0,87	66,34	9,20	2,11	-	1,61	0,23	(100)
1940	3,25	1,19	64,05	7,39	2,38	19,10	2,36	0,26	100
1945	3,69	1,09	64,45	6,13	3,65	17,97	-	0,23	(100)
1950	3,20	0,95	63,35	7,28	5,22	16,70	2,90	0,40	100
1955	2,97	0,87	66,04	6,35	6,78	14,62	2,04	0,34	100
1960	3,14	1,02	61,04	6,88	7,58	16,62	3,42	0,28	100
1965	3,10	1,87	57,89	7,17	8,44	16,80	4,25	0,48	100
1970	3,09	1,85	56,30	9,53	8,50	15,81	4,44	0,48	100
1975	3,21	1,70	54,22	9,04	10,79	17,19	3,47	0,38	100
1980	2,87	1,86	50,48	8,73	11,34	21,59	-	-	(100)

Source:

Calculated from Table 3-4.

Notes:

- 1) Contributions corrected where data are not available.  
2) Includes State enterprises and Estimate I for public corporations.  
3) Permanent Defence Force only.

In terms of expenditure the R20 ml spent in 1920 consisted of 17% of total expenditure, compared to the R460 ml of 1980 which comprised 2%. The dramatic drop from nearly 5% in 1975 to less than 2% in 1980 is possibly due to Finance Minister Horwood's pledge to reduce the size of government but can also be attributed to a transfer of funds to the independent homelands.<sup>1</sup>

Black Administration: In 1930 the State employed 1 376 staff against this function (1% of the total). By 1980 this had risen to 20 000 (2% of the total). No significant increase occurred until after 1960 where employment increased from 1% of the total to 2% in 1965 and has remained at that level.

The growth in expenditure changed from 1% of the total in 1920 to 3% by 1980. Again real growth in this function occurred only after 1960, and also reflects the growth of the Department of Bantu Administration and Development into the monolith of Cooperation and Development.

Economic Services: The provision of economic "services" is, and always has been, the largest component of State activities. The totals in tables 3.4, 3.5, and 3.6 include government departments with direct economic functions, the SA Transport Services, Post Office and public corporations. Data for the provinces could not be disaggregated. The employment data used for public corporations is Estimate I. This is the most conservative estimate

but the only one available for any reasonable part of the period.<sup>2</sup>

Employment in economic services changed from 117 558 in 1930 (76% of total State employment) to 543 283 in 1980 (50%). Expenditure changed from 56% of the total in 1920 (the lowest share over the period) to 63% in 1980 (the highest share). The fluctuations were within fairly narrow boundaries and are not seen as significant.

Public Order: In the provision of the service of public order, State employment increased from 15 194 in 1930 (10% of the total) to 94 000 in 1980 (9% of the total). It is the fourth largest area in functional State employment. Over the period employment as a proportion of the total fell gradually till 1960, increased gradually over the 1960s, increased till 1970 and has since declined. Expenditure decreased gradually from 9% of the total in 1920 to 3% in 1945 and since 1950 it has fluctuated between 2% and 4% of the total.

Health: Employment in health services, of which the Provincial Authorities are responsible for over half, was the third largest area of State employment in 1980. Employment in this activity has increased consistently from 2% of the total in 1930

(3 273 personnel) to 11% in 1980 (122 090).

As a proportion of total expenditure health expenditure ranked as third lowest proportion of expenditure in 1980 viz. 3%. This compared to its position relative to employment, reflects the extent to which health services are labour intensive. Expenditure on health services increased from 3% of the total in 1920 to 8% in 1950 before declining gradually to 3% in 1980.

Education: Education employment increased from 10 380 (7% of the total) in 1920 to 42 993 (19%) by 1940. Since 1940 State education employment has ranged around 15% of total employment before reaching a maximum of 232 405 in 1980 (22% of the total). As a proportion of expenditure, education expenditure has decreased from 11% in 1925-1960 to 7% in 1980. As with Health Services this reflects the labour intensiveness required in the provision of educational services.

Defence: Employment figures for defence shown in tables 3.4 and 3.6 are for permanent force personnel only. Data on National Service personnel are unavailable from all sources. Permanent defence force personnel have increased from 2 253 in 1930 to 30 719 in 1975.<sup>3</sup> As a proportion of total employment it has increased from 1,5% in 1930 to 3,5% in 1970-75. Excluding the years of World War II defence expenditure as a proportion of total expenditure

ranged between 2% and 3% 1920-1960 from 2% 1920-1935 to 4% in 1960. Since 1965 defence expenditure has remained between 6% and 10% of total expenditure. (R2 514 ml in 1980).

Community Services: This service consists primarily of transfer payments and is dominated by the department of Social Welfare. This is reflected in the relative employment and expenditure data. In 1930 community services accounted for 0,28% of total employment (431 personnel) and for 0,38% (3 392) by 1975.<sup>5</sup> Expenditure fluctuated from 3% in 1920 to 8% in 1965.

### 3.3 The Sectors of State Employment

The State is conventionally broken into nine distinct sectors. These are: Central Authorities, Provincial Authorities, Local Authorities, Dependent and Independent Homeland Governments, Control Boards and Statutory Bodies, the South African Transport Services, the Post Office, and the Public Corporations. These are examined below.

### 3.3.1 The Sectors of State employment as Proportions of total State Employment

The discussion below refers to tables 3.7, 3.8 and 3.9 and figures 3.6, 3.7, and 3.8. The data presented in this section for the Central and Provincial Authorities is not for 'net' employment as discussed in Part II. It is the actual employment for the sectors shown.

Central Authorities: In 1980 the Central Authorities ranked as the largest employer in the public sector being responsible for 21% of white employment and 20% of black employment by the State. As a proportion of total white employment by the State it decreased from 30% in 1920 to 24% in 1945, then increased to 32% in 1965 before decreasing to 24% in 1970. As a proportion of total black employment it increased gradually from 6% in 1920 to 10% in 1950, to 22% five years later, 26% in 1965 and gradually decreasing to 20% in 1980.

Provincial Authorities: While data is only available after 1961 for Provincial employment some estimates have been made from incomplete data. In 1980 white employment by the Provincial Authorities ranked second in white employment by the State, accounting for 21% of the total. In the same year black employment

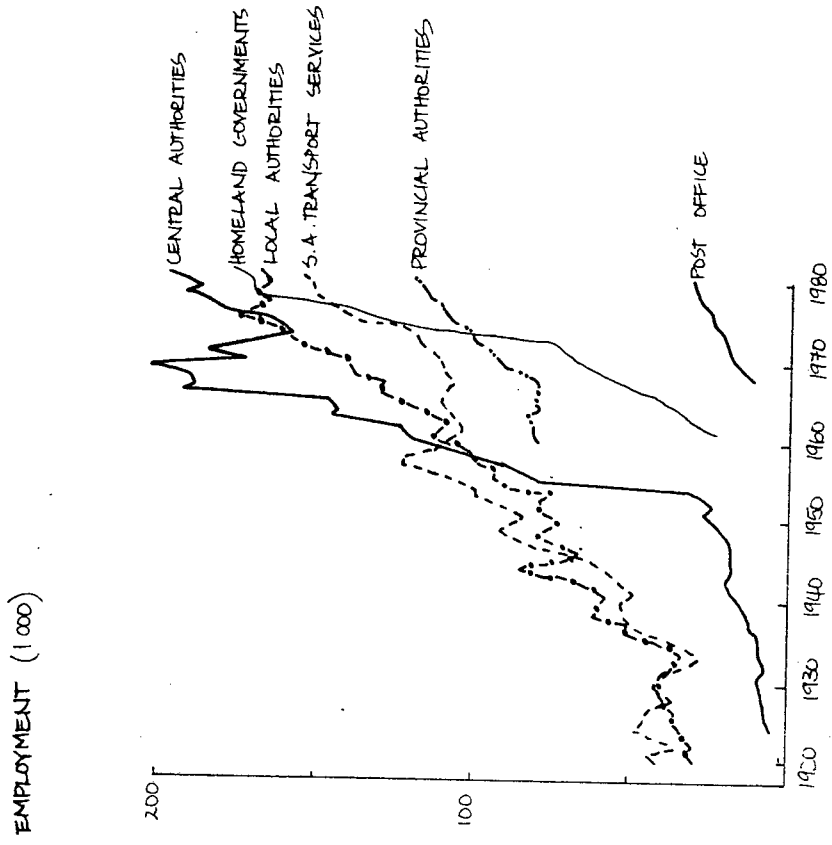


FIGURE 3-7: BLACK EMPLOYMENT BY STATE BY SECTOR, 1920 - 1980.

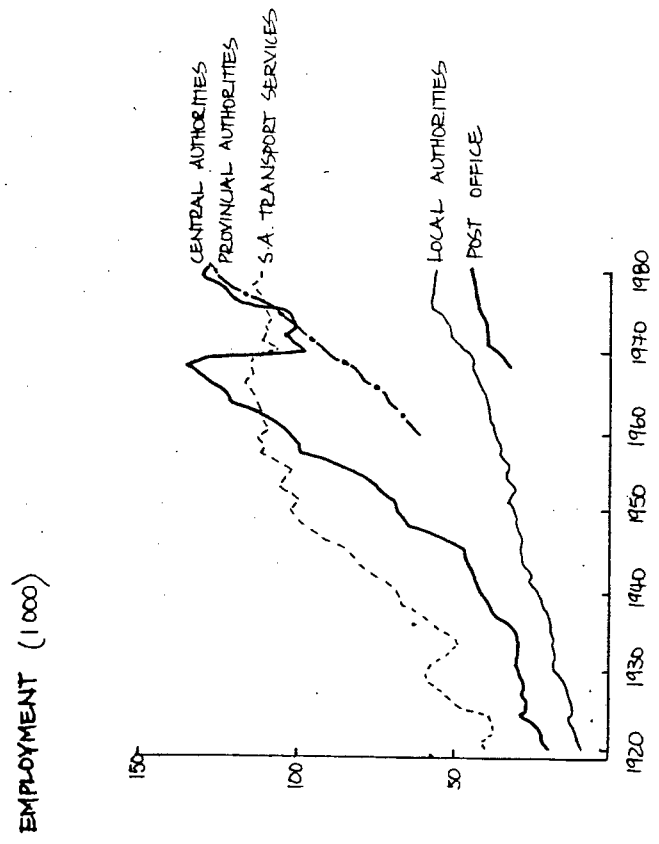


FIGURE 3-6: WHITE EMPLOYMENT BY STATE BY SECTOR, 1920 - 1980.

TABLE 3-7: The Contribution of the various areas of White State Employment to total White State Employment, 1920-1980 (five year intervals) (Percentages)

	Central Authorities	Provincial Authorities	Local Authorities	Homeland Authorities	Control Brd Statutory Bodies	S.A.T.S.	G.P.O. <sup>2</sup>	Public Corporations Estimate II	TOTAL
1920	30.00 <sup>(1)</sup>	9.00 <sup>(1)</sup>	13.50	0	0	61.00	-	0	100
1925	28.05 <sup>(1)</sup>	8.31 <sup>(1)</sup>	14.03	0	0	49.07	-	0.52 <sup>(1)</sup>	100
1930	25.59	9.34 <sup>(1)</sup>	14.73	0	0	49.50	-	0.85 <sup>(1)</sup>	100
1935	25.68	13.02 <sup>(1)</sup>	15.46	0	0	44.22	-	1.63 <sup>(1)</sup>	100
1940	26.33	13.07 <sup>(1)</sup>	15.25	0	0	43.30	-	2.05 <sup>(1)</sup>	100
1945	24.28	13.62 <sup>(1)</sup>	15.04	0	0	44.91	-	2.15 <sup>(1)</sup>	100
1950	27.91	14.73 <sup>(1)</sup>	12.73	0	0.04 <sup>(1)</sup>	42.29	-	2.29 <sup>(1)</sup>	100
1955	30.33	17.75 <sup>(1)</sup>	12.24	0	0.21 <sup>(1)</sup>	36.81	-	2.66 <sup>(1)</sup>	100
1960	31.33	19.03 <sup>(1)</sup>	11.59	0.15 <sup>(1)</sup>	0.36	33.00	-	4.53 <sup>(1)</sup>	100
1965	32.27	19.24	11.03	0.29 <sup>(1)</sup>	0.34	30.26	-	6.58 <sup>(1)</sup>	100
1970	23.70	21.84	11.24	0.38 <sup>(1)</sup>	0.37	24.93	9.06	8.47	100
1975	21.63	22.15	11.75	0.44	2.64	22.85	8.89	9.65	100
1980	20.92	20.62	9.17	0.40 <sup>(1)</sup>	2.44	18.46	7.29	10.18	100

Sources: Calculated from the relevant tables in Part II. Data estimated when unavailable.

Notes: (1) Estimated

(2) The G P O was a department of the Central Authorities until 1969

TABLE 3-8: The Contribution of various areas of Black State Employment to Total Black State Employment, 1920-1980 (five year intervals) (Percentages)

	Central Authorities	Provincial Authorities	Local Authorities	Homeland Authorities	Control Brd Statutory Bodies	S.A.T.S.	G.P.O. <sup>2</sup>	Public Corporations Estimate II	Total
1920	5.95 <sup>(1)</sup>	8.78 <sup>(1)</sup>	34.50 <sup>(1)</sup>	0	0	50.77	-	0	100
1925	7.97 <sup>(1)</sup>	9.81 <sup>(1)</sup>	36.21 <sup>(1)</sup>	0	0	45.01	-	1.00	100
1930	8.62	12.34 <sup>(1)</sup>	38.67	0	0	38.54	-	1.82 <sup>(1)</sup>	100
1935	7.76	17.64 <sup>(1)</sup>	38.55 <sup>(1)</sup>	0	0	32.46	-	3.59 <sup>(1)</sup>	100
1940	9.77	16.07 <sup>(1)</sup>	36.71	0	0	33.35	-	4.11 <sup>(1)</sup>	100
1945	9.18	16.75 <sup>(1)</sup>	36.19	0	0	33.59	-	4.29 <sup>(1)</sup>	100
1950	10.19	18.67 <sup>(1)</sup>	30.76	0	0	35.66	-	4.72 <sup>(1)</sup>	100
1955	21.95	17.27 <sup>(1)</sup>	26.62	0	0	29.94	-	4.21 <sup>(1)</sup>	100
1960	24.82	16.58 <sup>(1)</sup>	24.19	4.81 <sup>(1)</sup>	0.09	23.09	-	6.42 <sup>(1)</sup>	100
1965	25.74	14.40	22.24	8.78 <sup>(1)</sup>	0.10	19.86	-	8.87 <sup>(1)</sup>	100
1970	25.33	13.64	21.04	10.53 <sup>(1)</sup>	0.08	16.47	2.46	10.44	100
1975	19.58	13.13	20.49	15.36	1.27	16.25	2.83	11.10	100
1980	19.74	12.34	17.08	17.79	1.35	15.82	3.10	12.78	100

Sources: Calculated for the relevant tables in Part II. Data estimated where unavailable.

Notes: (1) Estimated

(2) The G P O was a department of the Central Authorities until 1969

EMPLOYMENT (1 000)

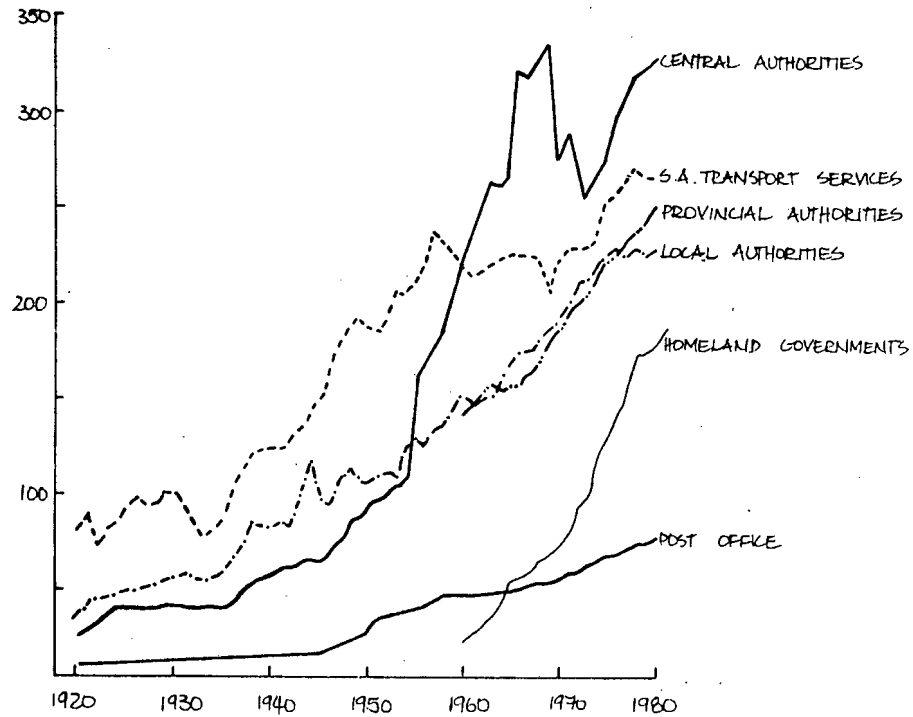


FIGURE 3-8: TOTAL EMPLOYMENT BY STATE BY SECTOR,  
1920 - 1980

TABLE 3-9: The Contribution of various areas of State Employment to Total State Employment, 1920-1980 (five year intervals) (Percentages)

	Central Authorities	Provincial Authorities	Local Authorities	Homeland Authorities	Control Brd Statutory Bodies	S.A.T.S.	G.P.O. <sup>2</sup>	Public Corporations Total Estimate II	Total
1920	16.59 (1)	8.88 (1)	25.21 (1)	0	0	55.29	-	0	100
1925	17.01 (1)	9.08 (1)	25.35	0	0	47.00	-	0.76 (1)	100
1930	17.41	10.79 (1)	26.27	0	0	44.22	-	1.32 (1)	100
1935	17.16	15.22 (1)	25.59 (1)	0	0	38.62	-	2.56 (1)	100
1940	18.05	14.57 (1)	25.98 (1)	0	0	38.32	-	3.08 (1)	100
1945	16.73	15.81 (1)	25.62	0	0	39.25	-	3.38 (1)	100
1950	19.18	16.67 (1)	21.61	0	0	39.03	-	3.49 (1)	100
1955	25.65	17.48 (1)	20.27	0	0	32.98	-	3.79 (1)	100
1960	27.52	17.59 (1)	18.97	2.88 (1)	0.20	27.20	-	5.63 (1)	100
1965	28.37	16.36 (1)	17.72	5.47 (1)	0.19	24.05	-	7.95 (1)	100
1970	24.71	16.77	17.30	6.66 (1)	0.19	20.05	4.98	9.69	100
1975	20.33	16.42	17.30	9.91	1.77	18.66	5.04	10.57	100
1980	20.24	15.53	14.03	11.09 (1)	1.78	16.64	4.71	11.78	100

Sources: Calculated from the relevant tables in Part II.  
Data estimated when unavailable.

Notes: (1) Estimated

(2) The G.P.O. was a department of the Central Authorities until 1961.

accounted for 12% of the total. White employment had increased gradually as a proportion of the total until 1975 and by 1980 it declined to 21% of the total. Black employment increased from 9% of the total in 1920 to 19% in 1950 before gradually decreasing to 12% in 1980.

Local Authorities: White employment by Local Authorities increased from 13% of the total in 1920 to 15% over the period of the Great Depression, before gradually decreasing to 9% in 1980. In 1920 black employment by Local Authorities was the second largest part of total employment at 35%. This increased to 39% during the 1930s before gradually declining to 17% by 1980.

Homeland Authorities: Data on employment by Homeland Authorities only became available in 1972. Employment has been estimated from 1960 to 1972 by intrapolation. White employment by the Homelands is minimal, having reached a maximum of one half of a percent of the total in 1975. Black employment by the Homeland Authorities is the second most important part of total black employment by the State reaching 18% of the total in 1980.

Control Boards and Statutory Bodies: White employment in this category increased from 0,04% of the total in 1955 to 2% by 1980. Black employment increased from 0,09% in 1960 to 1% by 1980.

South African Transport Services: Employment by the SATS has declined in importance since being the most important area of both black and white employment in 1920 (51% and 61% respectively). Proportionately, white employment declined gradually to become the third most important area of total employment in 1980 (18%). Black employment has also declined proportionately to become the fourth largest sector (16%).

Post Office: Prior to 1969 the Post Office was a department under the Central Authorities. Post Office employment is minor compared to the total State employment. For example it employed 3% of whites and 5% blacks in 1980.

Public Corporations: Significant public corporation employment started with the establishment of Iscor in 1925. White and black employment have increased gradually to become 10 and 13% respectively of the 1980 total.

### 3.3.2 Further Discussion on the Sectors of State Employment

Unlike the above section the figures discussed here for the Central and Provincial Authorities are the 'net' figures for Part II.

#### A: 'Net' employment by the Central Authorities

The growth of net employment by the Central Authorities shows the most notable growth rates of all areas of State employment (see table 2.1.3). Employment by Central Authorities employment grew from less than 29 000 in 1930 to a massive 335 000 in 1981. This is a compounded annual growth rate of nearly 5% since 1930, compared to a compound annual population growth rate between 1936 and 1970 of 2,53%.<sup>5</sup>

It can also be seen from figure 3.9 and table 3.10 that the proportion of whites and blacks employed over the period under study has changed considerably. From a B:W ratio of 0,54:1 in 1930, black employment increased to reach a maximum of 1,73:1 in 1970 and declined proportionately to 1,50:1 in 1980. White employment has grown at an average annual rate of 3,91% compared to the growth in black employment of 6,12%. A notable difference between white and black employment by the Central Authorities is the generally regular changes in the growth of white employment, compared to often abrupt changes in levels of black employment. It

TABLE 3.10: Net Employment by the Central Authorities.

Compounded annual growth rate and racial ratios, five year intervals, 1935-1980.<sup>1</sup>

	White	Black	Total	B/W <sup>2</sup>
1925-30	2,23	3,38	2,50	0,54
1930-35	0,93	-1,72	0,32	0,47
1935-40	6,03	12,65	7,60	0,46
1940-45	1,85	2,22	1,95	0,59
1945-50	8,03	6,63	7,73	0,67
1950-55	4,61	26,45	12,11	1,36
1955-60	3,96	8,22	6,08	1,12
1960-65	4,68	2,81	3,53	1,50
1965-70	1,72	4,65	3,52	1,73
1970-75	1,17	-0,79	-0,04	1,57
1975-80	3,99	2,19	2,90	1,50

Source: Table 2.1.3

Note: 1 Data estimated where not available  
 2  $\frac{B}{W}$  is for the last year of each period

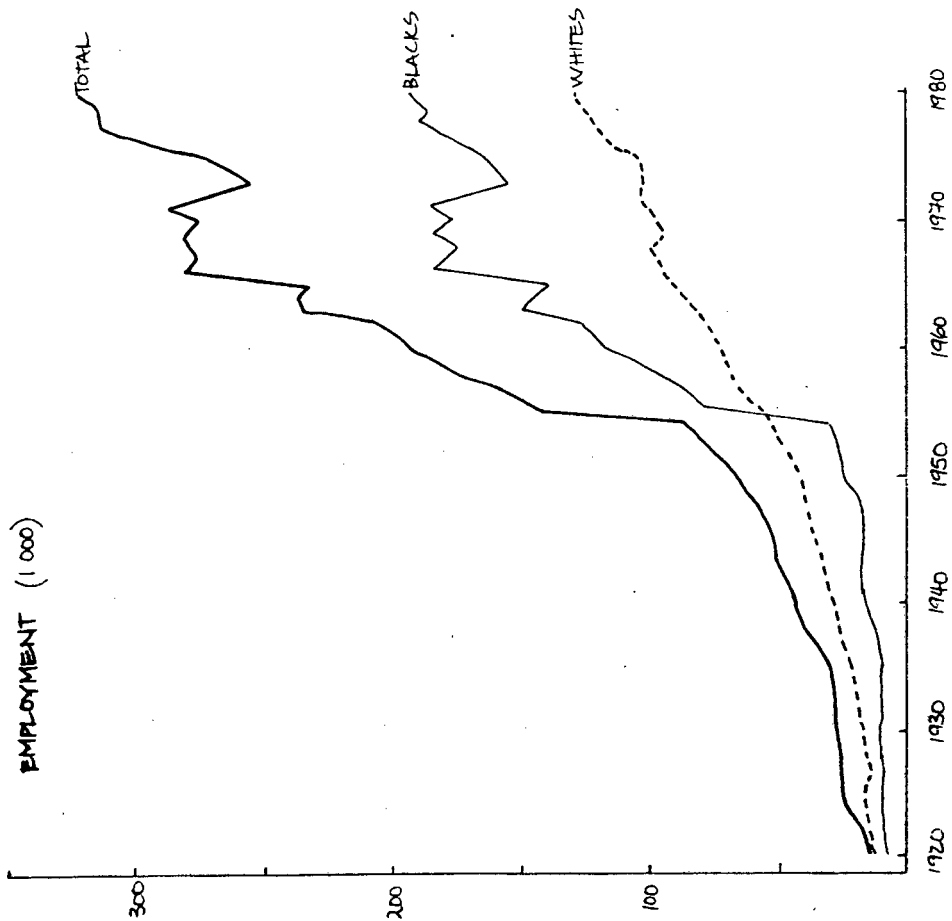


FIGURE 3-9: 'NET' EMPLOYMENT BY THE CENTRAL AUTHORITIES, 1920 - 1980.

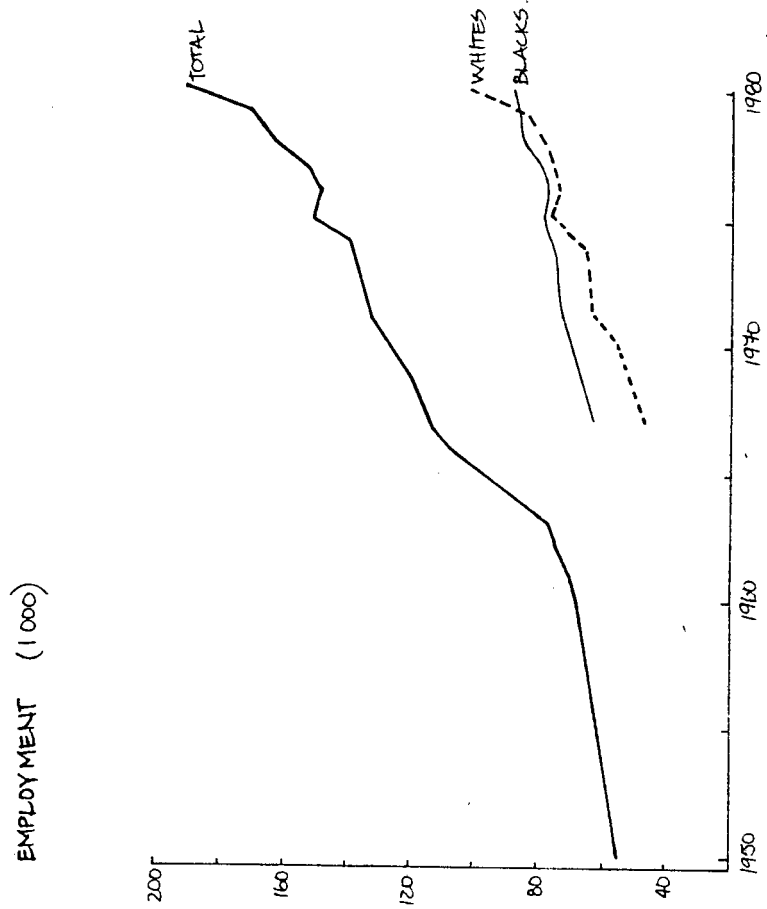


FIGURE 3-10: 'NET' EMPLOYMENT BY THE PUBLIC SERVICE, SELECTED YEARS 1950 - 1980.

can be seen from figure 3.9 that white employment only ever decreased in 1927 and 1968. The former period was a brief change; the latter persisted as slow growth until 1975 (see table 3-10) and was caused by labour being attracted by the private sector as a result of the Central Authorities not responding to rapidly increasing wages in the private sector. Black employment on the other hand has exhibited remarkable changes in growth. The tremendous growth which has been recorded under Central Authorities employment was caused by very rapid increases in black employment in the periods 1954-1965 and 1974-1980. The period 1966-1973 saw a net decrease in black employment of 2,73% p.a. with some fluctuations.

The growth in net employment by the Public Service:

The most reliable measure of public service employment, 'net real' public service employment (see table 2.1.5 and figure 3.10) shows that public service personnel grew in number from 49 000 in 1950 to 195 000 by 1980. This is an annual average increase since 1950 of nearly 5%. The 1960s is the decade over which employment growth was at its greatest. Between 1960 and 1970 employment grew at an annual average of 6% compared to 4% over both the 1950s and the 1970s.

A most notable event occurred in 1980 when, for the first time, more blacks than whites were employed in the public service. What is particularly significant is the magnitude of the increase. Since 1967 the number of blacks to whites employed changed slowly from 0,75:1 to 0,99:1 by 1979<sup>6</sup>. In 1980 black employment increased by over 27% (23 000) and the employment ratio increased to 1,22:1.

#### Central Authorities Residual Employment

Persons who are employed by the Central Authorities but who are not part of the Public Service form this Residual employment. There are five categories of persons who are part of this Residual, viz.

- (i) Board members and elected office bearers (for example, Members of Parliament and members of commissions of enquiry);
- (ii) 'Services' posts in the South African Defence force. This incorporates virtually all members of the permanent defence force;<sup>7</sup>
- (iii) 'Services' posts in the Police Force. This incorporates virtually all serving police personnel;

(iv) Teaching personnel involved in Coloured and Indian education; and

(v) general temporary labour.

It has been possible to reduce the Residual to contain only categories (i) and (v), the results of which are presented in tables 2.1.6 and 3.11. It is expected that category (i) is a small and stable component and that the fluctuations which have occurred in the Residual are due to changes in the size of the general temporary labour component of the Central Authorities. The Residual estimation process has rendered the results very unreliable, as evidenced by 'negative' white employment between 1969 and 1975, and as such the results can only be a general guide to the true situation.

The Residual grew from 72 000 in 1960<sup>8</sup> to over 113 000 by 1966 only to fluctuate downwards to a little over 42 000 by 1980<sup>9</sup>. It can be seen from table 3.11 that extreme fluctuations have occurred in the Residual and, where data is available, that these fluctuations have not been confined to any particular race group, although blacks constitute the largest component of the Residual.

It is quite obvious that the Residual is the temporary labour component of the public service. What is surprising is the numbers

EMPLOYMENT (1000)

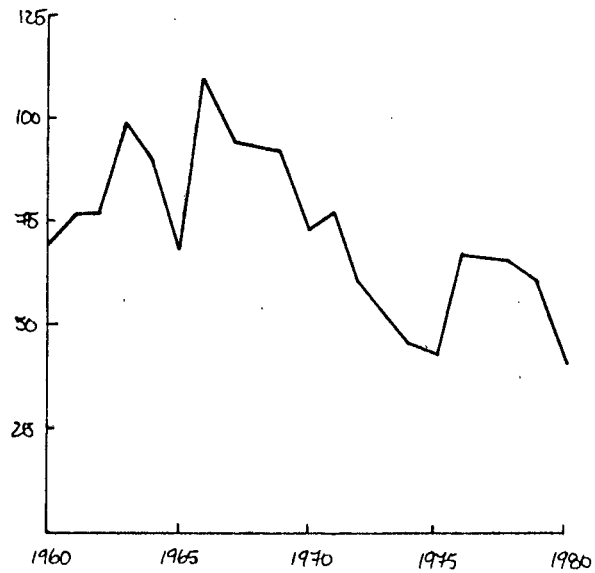


FIGURE 3-11: 'RESIDUAL' EMPLOYMENT BY THE CENTRAL AUTHORITIES, 1960 - 1980.

TABLE 3-11 Central Authority Residual Employment: Compound growth rate and racial ratios, 1961-1980

Year	Black White	Total % p.a.
1961	—	6,33
1962	—	- 0,14
1963	—	29,31
1964	—	-12,53
1965	—	-18,09
1966	—	62,28
1967	—	-17,52
1968	—	0,14
1969	—	- 4,08
1970	—	-16,79
1971	—	5,23
1972	—	-21,58
1973	—	N/A
1974	—	-13,77
1975	—	- 4,82
1976	9,67	58,23
1977	10,99	0,35
1978	22,14	- 1,42
1979	7,50	-10,84
1980	5,12	-28,87

Source:

Table 2-1-6

involved e.g. in 1966 the public service employed 103 000 permanent members while the Residual constituted over 113 000 i.e. the public service had a temporary labour force greater than its permanent staff. By 1980 these figures had changed to 195 000 and 42 000 respectively.

There are many institutional factors peculiar to the bureaucracy which might account for the existence of the Residual. The prime factor is seen to have been the growing need to increase public service employment which occurred at a time of increasing white labour shortages when political constraints prevented increasing the number of blacks in the public service. The greatest increases in Central Authorities employment occurred in the 1950s but this is not reflected in growth in public service employment. While it appears that the need for more labour occurred in the public service over the 1950s, its ability to employ more white public servants was limited through budgetary constraints and an inability to attract white labour at the wages offered. Its ability to allow increases in the number of black public servants was limited by the political constraints of the 1950s i.e. it would have been politically inadvisable for a government advocating apartheid policies to increase substantially the number of black public servants in its employment. The solution to this dilemma was to employ additional blacks as temporary labour and not as public servants and led to the creation

of the Residual. The implications of this are that until 1980 the public service (although possibly not the Central Authorities) operated under fixed factor proportions which limited the number of blacks that could be employed, given a particular level of white employment.

The level of this fixed factor proportion can be seen purely from observation and might be seen as, until 1980, simply employing more whites than blacks in the South African Public Service.

#### B : 'Net' Employment by the Provincial Authorities

This section examines two areas:

Employment by the Provincial Authorities in the post 1960 period when reliable data first became available, and secondly, a discussion of the employment growth since 1917. Available data prior to 1960 is incomplete and is not comparable to post 1960 data.

The growth in employment shown in table 3.12 and figure 3.12 is based on 'Net' Provincial employment and is therefore comparable over time<sup>11</sup>. For the period where data is available, 1961-1981, employment grew at an average compound rate of 3,32%, with no unusual fluctuations being noted. The numbers of blacks to whites

EMPLOYMENT (1000)

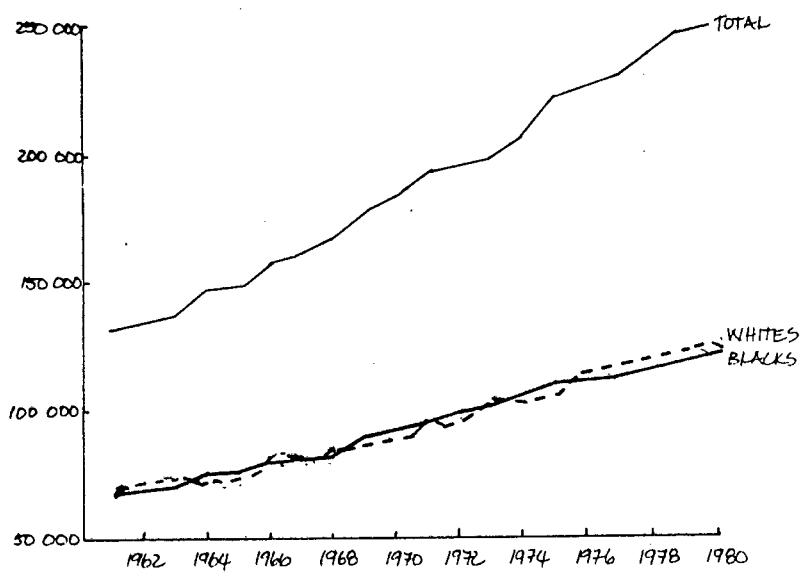


FIGURE 3-12: 'NET' EMPLOYMENT BY THE PROVINCIAL AUTHORITIES, 1961 - 1980

TABLE 3.12: 'Net' Employment by the Provincial Authorities. Compound annual growth rate and racial ratios, five year intervals, 1961-1980

Year	White	Black	Total	B/W <sup>1</sup>
1961	-	-	-	1,00
1961-65	2,35	3,85	3,40	1,04
1965-70	3,24	4,17	4,44	1,01
1970-75	3,32	3,69	3,51	1,03
1975-80	3,26	1,66	2,46	0,95

Source: Table 2.2.5

Note: <sup>1</sup> B/W is for the last year of each period

employed has ranged around 1:1 having achieved a maximum of 1,04 (B/W) in 1964, a minimum of 0,95 in 1980, and rose to 1,00 in 1981.

While reliable data on Provincial employment is only available for the years after 1960 some estimates<sup>12</sup> have been made to determine Provincial employment growth since 1917.

From the data which is available (table 3-13) employment by the Provincial Authorities has grown at an average annual rate of 3,50%. The period of greatest growth was 1950 to 1965 (5,82%) and that of lowest growth was 1965-1970 (1,08%).

The most remarkable factor noted about Provincial employment, particularly since 1961 is that while employment growth has shown some changes (but nothing like that of the Central Authorities) these moderate changes have occurred over both white and black employment and the ratio of the number of blacks to whites has remained almost constant over the entire period.

The issue is why the white to black employment ratio remained so stable when the Central and Local Authorities were both increasing black employment proportionately in the face of growing white labour shortages.

**TABLE 3.13:** Estimation of the growth in Provincial Authorities  
Employment, Selected Years, 1917-1979

Year	Employment Estimates	Annual Compound Growth
1917	16 759	-
1939	36 087	2,43
1950	53 446	3,63
1953	61 716	4,91
1965	121 714	5,82
1970 <sup>1</sup>	128 431	1,08
1970 <sup>2</sup>	185 361	-
1979	242 071	3,01

Sources: 1917-1953: Table 2.2.6

1965-1970<sup>1</sup>: Table 2.2.7

1970<sup>2</sup>-1979: Table 2.2.5

Notes: 1 This figure for 1970 is comparable to the data  
for 1917-1965

2 This figure for 1970 is comparable to the 1979  
data

The two largest components of Provincial Authorities employment are health services and white education. The low wages paid are partially explained by these both being monopoly markets in which one would expect wages to be lower. It is thought that the stable white/black employment ratio is partially the result of the services provided by the Provincial Authorities being uniquely racially separated viz. white education and health services: It can be expected that only whites will teach in white schools and until 1980 in health services the different race groups were largely served by their own people, even if shortages existed in white posts. Except for isolated positions, the Provincial Authorities were unable to place blacks in vacant white posts, even in a temporary capacity. As such, this has limited significant substitution of blacks for whites under Provincial Authorities employment.

While the above might explain that the growth in Provincial Authorities could have been greater if it had been institutionally possible to substitute blacks for whites, the above reasoning does not explain why the ratio of whites to blacks employed by the provinces should have remained at roughly 1:1 since 1960! The only explanation which can be offered is that the Provincial Authorities, as did the public service and the Railways, operated under a system of fixed factor proportions where the number of blacks employed should not significantly exceed the number of whites employed.

C: Growth of Local Authorities Employment

Since 1920 the long term growth rate of employment by Local Authorities has shown no remarkable change or divergence from trend (see table 3.14 and figure 3.13). Employment increased from 40 000 in 1920 to over 223 000 in 1979 which is a mean annual growth rate of 2,91%. Using five year intervals the percentage growth ranged from a maximum of 6% in 1920-1925 to minimum of -0,65% in 1975-80. The number of blacks to whites employed has ranged from 2,26 (B/W) in 1935 to 3,22 in 1970, and stood at 2,97 in 1980.

Local Authorities and Urbanisation

As was shown above, State employment has increased remarkably over population. Under Local Authority employment the opposite occurs. Local authorities employment as a proportion of total urban population has been decreasing since 1932 (see table 3.15). In 1932 employment by local authorities comprised 2,47% of the urbanised population while by 1980 this had fallen to 1,79%<sup>12</sup>.

There are three possible factors contributing to this relative decline:

EMPLOYMENT (1 000)

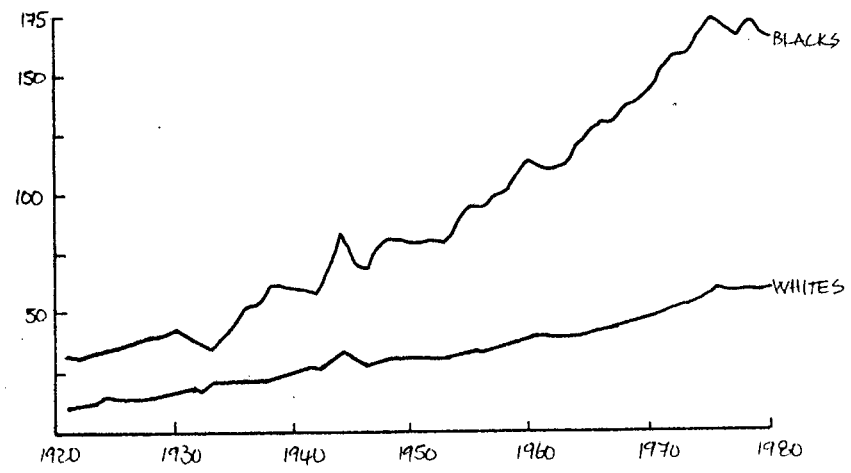


FIGURE 3-13: EMPLOYMENT BY LOCAL AUTHORITIES,  
1921 - 1980

TABLE 3.14: Local Authorities Employment. Compound annual growth rates are racial ratios. 1920-1980 (five year intervals)

Year	Whites	Blacks	Total	B/W <sup>1</sup>
1920	-	-	-	3,22
1920-25	8,45	4,61	5,60	2,69
1925-30	5,14	3,13	3,69	2,44
1930-35	1,83	0,29	0,09	2,26
1935-40	5,22	2,88	6,83	2,41
1940-45	3,22	3,21	3,22	2,41
1945-50	1,61	1,09	1,25	2,35
1950-55	2,08	5,37	4,43	2,75
1955-60	2,16	3,60	3,22	2,95
1960-65	1,79	0,94	2,00	2,99
1965-70	2,47	2,81	2,73	3,04
1970-75	3,95	3,93	3,93	3,03
1975-80	-0,32	-0,76	-0,65	2,97

Source: Table 2.3.1

Note: 1  $\frac{B}{W}$  is for the last year of each period

Local Authorities and Urbanisation

Table 3.15 Local Authority Employment as a Percentage of Total Urban Population (Selected Years) 1921-1980<sup>1</sup>

Year	Employment as Proportion of Urban Population
1921	2,32
1932	2,47
1946	2,29
1951	2,02
1960	1,98
1970	1,84
1980	1,79

Note 1: 1980 excludes Transkei, Bophuthatswana and Venda.

Sources: Employment: Table 2.3.1

Urban Population: 1921-1970: Calculated from R S A, Department of Statistics. Statistical Year Book 1975, Pretoria: Government Printer, 1976 pp 1.8 and 1.11, 1980 : Calculated from RSA, Department of Statistics South African Statistics 1982, Pretoria : Government Printer, 1983. pp 1.8 and 1.11.

- (i) Inherent economies of scale exist in the services provided by Local Authorities and it is these which are partly responsible for the falling employment/urbanisation ratios. As a town grows proportionately less firemen, ambulance drivers, administrators and library staff will be needed in order to provide the same services to the urbanised population;
- (ii) Since one can reasonably assume that blacks receive less services than whites, and that over time the proportion of blacks in the cities has been rising it follows that with relatively less services being provided proportionate increases in employment will be low.
- (iii) The relative fall in the size of Local Authority employment is consistent with the observations of David Solomon in his study on Local Authorities financing in South Africa.<sup>13</sup> Solomon finds that the relative size of Local Authorities has been decreasing consistently over time and he lays most of the blame for this phenomenon with the Central Authorities who appear to have discouraged any growth in Local Authorities.<sup>14</sup> It is possible that, with the current talks on greater Local Authority autonomy that the above trend might be reversed.

D: Employment by Control Boards

Employment by Control Boards has been very erratic but it is insignificant in relation to total State employment. While total

employment increased from 1 631 in 1960 to 2 684 in 1979 (an annual average increase of 3%) growth has not been on a regular basis. Decreases in employment have occurred in many years. This erratic behaviour was not confined to one particular racial group although decreases in black employment have occurred more regularly than in white employment. There is no consistent pattern in the ratio of white to black employment which ranged from 1:0,33 in 1970 to 1:0,56 in 1979 (table 2.4.1).

E: Employment by Statutory Bodies:

Data on this category of employment only became available in 1974. Employment in 1974 was 19 993. Between 1974 and 1981 employment increased to 25 843 (an annual average increase of 3,73%, see table 2.5.1).

F: Total Homeland Government Employment

In 1981 total employment by the Homeland governments stood at over 200 000 and for those years where data is available the growth in employment has in all cases been greater than population growth.<sup>15</sup> Between 1973 and 1981 the growth in total employment averaged 8,80% with Qwaqua showing a growth of more than 22% over the same period. (This was however a real increase of less than 3 000 personnel.)

While the growth in this category has been high, the growth against de-facto population and increases in the labour supply has been low. Employment by the Homeland governments as a proportion of total de-facto population is shown in table 3.16 for 1973 and 1980. In all cases, except for Gazankulu, this proportion has increased. Also in all cases can be seen evidence of the relatively low quantity of services provided to blacks, particularly blacks in the Homelands. If this is compared to table 3.3 which repeats the same exercise for total State employment it can be seen that the relative Homeland employment is considerably lower than that of both total white and total black employment by the State.

TABLE 3.16: Selected Homeland Government Employment as a Proportion of the Estimated de-facto population 1973 and 1980<sup>1</sup>

Homeland	1973	1980
Bophuthatswana	1,20	2,72
Transkei	1,60	2,87
Ciskei	1,37	1,97
Qwaqua	1,16	2,26
KwaZulu	0,76	1,06
Gazankulu	1,96	1,53

Note: 1 Black employees only

Sources: 1973 Calculated from Tables presented on pages 30 and 119 of Benbo's Black Development in South Africa Pretoria: Perskor, 1974

1980 Calculated from Tables 7 and 100 presented in Benso's Statistical Survey of Black Development Parts I and II. Pretoria: Benso, 1982

With regard to changes in the supply of labour, the most conservative estimate of which was 100 000 between 1973 and 1975<sup>16</sup>, total increases in Homeland government employment rank as insignificant.

#### Whites employed by the Homeland Governments

Whites are employed largely in the higher technical and administrative positions and a small number are employed as teachers. The number of whites employed is very low in proportion to total employment. The proportion declined from 1:45,8 (W:B) in 1973 to 1:66,0, in 1975. (table 2.6.3). This trend can be expected to continue as more blacks qualify for the higher technical and administrative positions.

#### G: Employment by the South African Transport Services

In 1920, with employment of over 83 000, the SATS ranked as the largest single employer in South Africa. With an annual average increase of 1,92% in employment the SATS employed over 265 000 personnel by 1979 (although it is no longer the largest employer.) This growth in employment has not been constant and can be broken into three distinct phases (see tables 2.7.3 and 3.17 and figure 3.14):

EMPLOYMENT (1000)

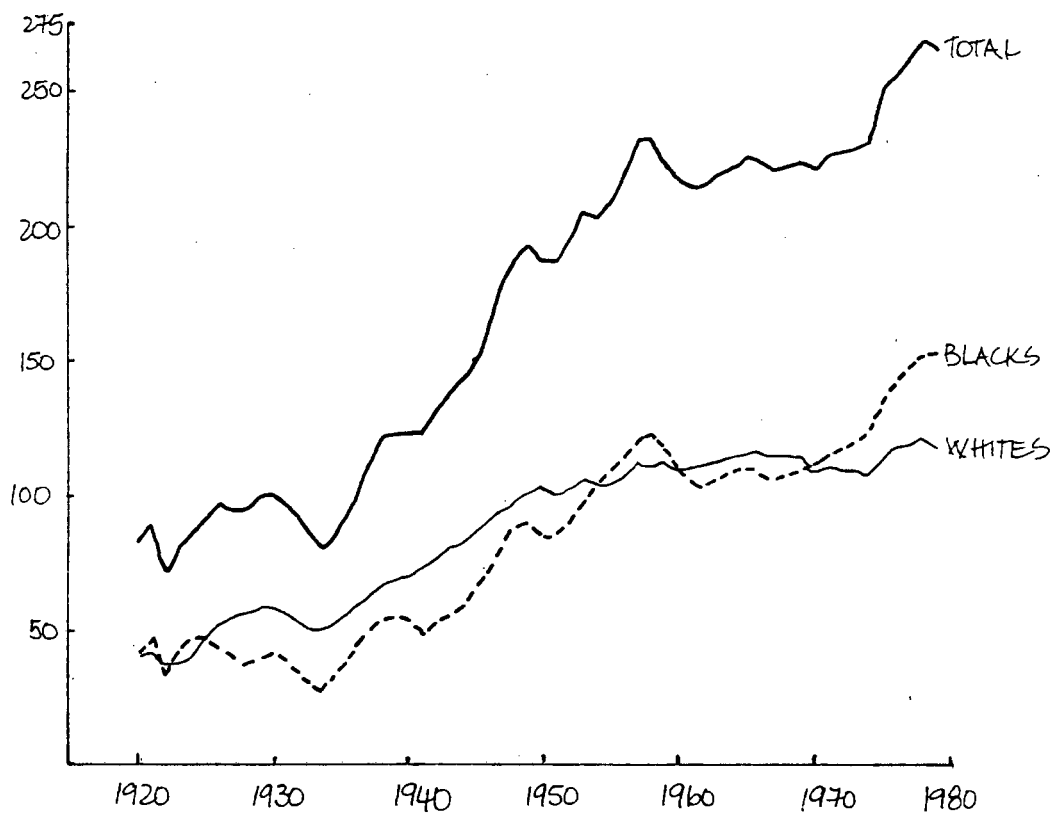


FIGURE 3-14: EMPLOYMENT BY THE S.A. TRANSPORT SERVICES,  
1920 — 1980.

1920-1935: The number of personnel grew from 83 000 in 1920 to over 100 000 in 1930 before falling off to a little over 90 000 by 1935. This is an increase of 0,54% p.a. over the period.

7.1.2 : 1936-1955: This span of twenty years marks the most rapid increases in SATS employment. The number of personnel increased from 90 000 in 1935 to over 220 000 by 1955. This was a very high average annual increase of 5% p.a.

7.1.3 : 1956-1980: Since 1956 the SATS employment has shown some fluctuation from year to year but the general long term growth between 1956 and 1980 has been a very low annual average change of 0,56%.

TABLE 3.17 S A Transport Services, Employment, Compound growth rates and racial ratios, five year intervals, 1920-1980.

Year	White	Black	Total	(B/W) <sup>1</sup>
1920	-	-	-	1,05
1920-25	3,03	1,14	2,08	0,96
1925-30	4,31	-1,32	1,71	0,72
1930-35	-1,40	-3,04	-2,07	0,67
1935-40	5,06	8,16	6,43	0,77
1940-45	4,27	3,66	3,99	0,75
1945-50	3,81	5,68	4,64	0,82
1950-55	0,07	4,74	2,32	1,00
1955-60	1,05	0,25	0,65	1,00
1960-65	1,03	0,72	0,88	0,97
1965-70	-1,79	0,13	-0,47	1,03
1970-75	1,25	4,20	2,46	1,24
1975-80	0,38	2,38	1,26	1,34

Source: Calculated from Table 2.7.3

Note: 1  $\frac{B}{W}$  is for the last year of each period

Except for three distinct periods the SATS has always employed more whites than blacks. In 1920 the ratio of black to white employed was 1,05(B/W) but this had fallen to 0,92 by 1922. Between 1954 and 1958 this changed from 0,94 to 1,11 only to fall back to 0,94 by 1961. Since 1970 the SATS has consistently employed more blacks than whites. In 1980 it employed 1,34 blacks to every white.

Within the context of the above there is one short term phenomenon which is noted. In 1955 the Railways, for the first time since 1929, employed more blacks than whites (see figure 3.14). Yet, by 1959 the position had again been reversed. The change is seen as significant because it was both large (see table 2.7.3) and occurred at a time of increasing labour shortages for the Railways (see section 3.5). While no evidence is available to explain this disturbance it is thought that the Railways, faced with a growing shortage of labour, attempted a substitution of black labour for white. It is felt that white Trade Union pressure forced a reversal of the trend, for the next time the Railways substituted whites with blacks, in 1970, this occurred only after consultation with white Railway Trade Unions.

The above hypothesis implies that the Railways functioned under a fixed constraint. It is unknown whether this was an implicit or explicit ratio but evidence would suggest that it was explicit but flexible. It is thought that this would have been monitored very

closely by the white Railway Unions. If the above is correct, it has important implications for the Railways potential growth in that period. Increases in Railway employment were constrained by the Railways having to employ such that the white : black ratio was greater than one. This would not be a constraint in periods of excess white labour viz until <sup>±</sup> 1948. In periods where there were white labour shortages viz after 1950, increases in Railway employment were constrained by its ability to attract white labour. This is reflected in the history of the Railways employment: the Railways experienced its most rapid growth in employment in the period 1936-1956 and as the economy began its dramatic advance over the 1950s and 1960s increases in Railways employment initially slowed and were almost constant for the 1960s while demand for Railways services increased dramatically. Only after 1969 when an easing of the racial employment constraint occurred did Railway employment again begin to increase.

#### H: Government Post Office

There is nothing particularly significant about GPO employment growth. Between 1920 and 1940 employment changed from 10 000 to 16 000 (2% growth) and between 1940 and 1980 has grown steadily at an average annual rate of 3,94% to 75 000. (See table 2.8.1 and figure 3.15).

EMPLOYMENT (1000)

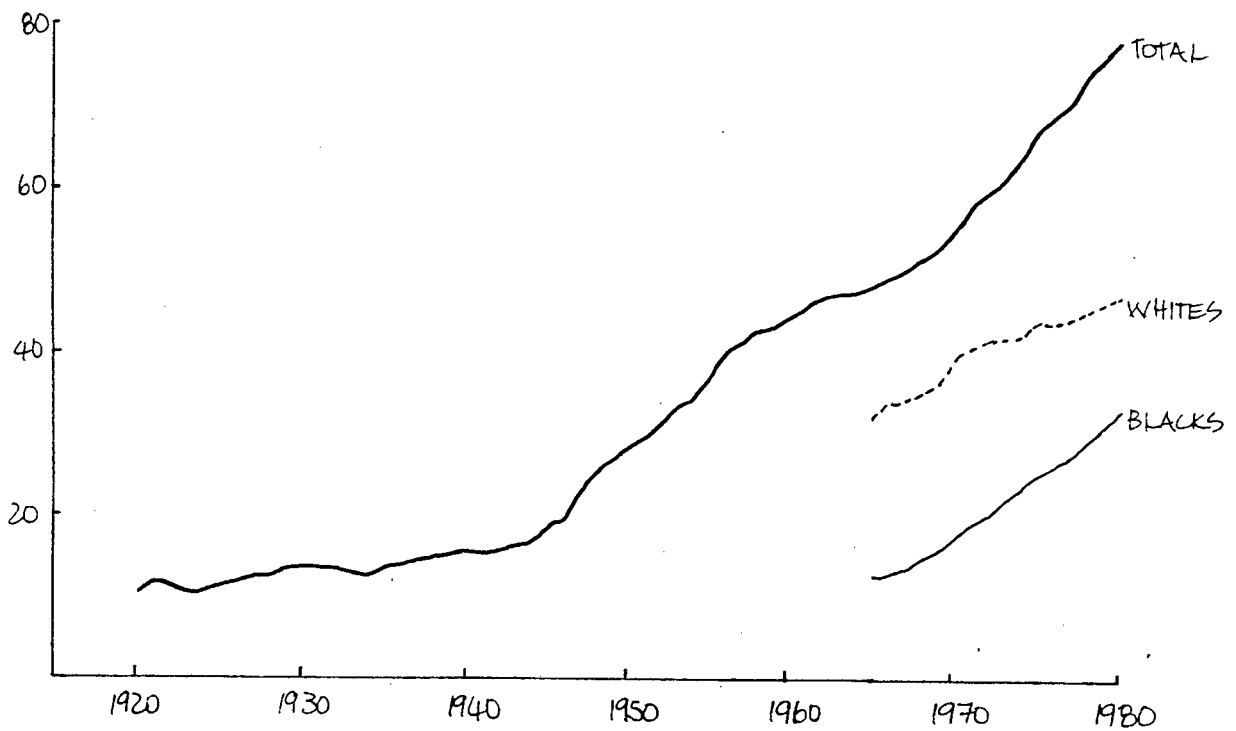


FIGURE 3-15: EMPLOYMENT BY THE POST OFFICE,  
1920 - 1980.

### I: Employment by the Public Corporations

Total employment by all the public corporations has already been discussed in Section 3.4.1 above. For the individual public corporation where data is available, only two are large enough to have significant employment levels viz. Escom and Iscor.

Escom: Both Black and White employment has increased at a reasonably stable rate (see figure 3.16). The annual average increase in employment between 1950 and 1980 was 5,38%.

The unusual increase in employment in 1948 was due to Escom assuming control over the Victoria Falls Power Company.

Iscor: For the years when data is available Iscor's employment increased from 1 445 in 1928 to 32 000 in 1970 (a compound growth of 7,31% on the 1928 total), to 47 000 in 1975 (9,39%) and to 62 000 in 1981 (8,18% p.a.) (An overall increase of 7,35% p.a.) see figure 3.17.

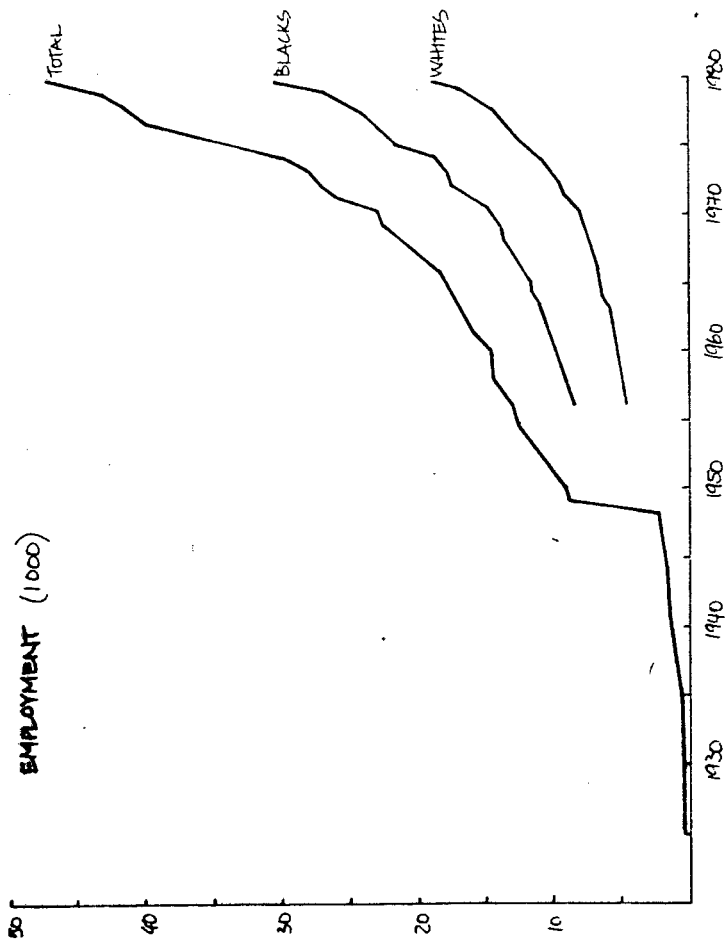


FIGURE 3-16: EMPLOYMENT BY RACE,  
SELECTED YEARS, 1927 - 1980

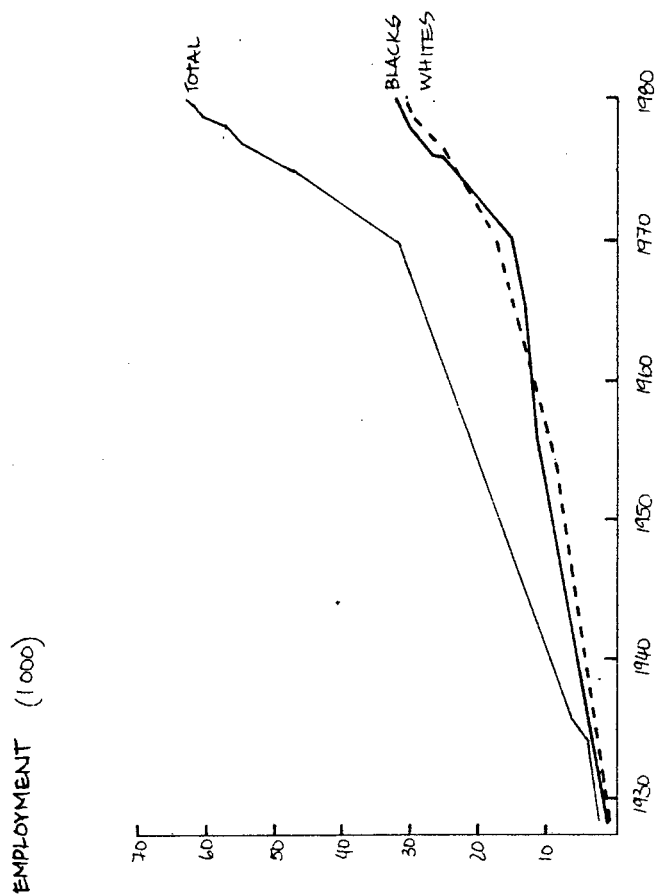


FIGURE 3-17: EMPLOYMENT BY INCOME,  
SELECTED YEARS 1928 - 1980.

### 3.4 STATE EMPLOYMENT AND THE POLITICAL ECONOMIC HISTORY OF SOUTH AFRICA

#### Introduction:

This section of the thesis is designed to give context to the work presented above.

In the course of this study it was realised that a number of issues, both short term and long term, could only be discussed within the political economic history of South Africa. These issues cover such short term factors as sudden short-lived employment variations as shown, for example, in figure 3.8 and isolated political or economic disturbances which might have affected employment like the Great Depression. The long term issues discussed deal with issues like the effects of different governments and social philosophies, and economic factors like the effects of skilled labour shortages on State employment. The objective of this section is to explain, if possible, the various changes which have occurred in State employment in relation to the political and economic forces acting on the State at the time. This section became particularly important when it was discovered that the role of the State as an 'employer of last resort' did not occur in the form originally expected and a need existed for a

deeper examination of the political factors which might have affected State employment.

A political economic history is presented below on which further discussion is based. It is both selected history and briefly presented; selected because only sections relevant to changes in State employment are discussed and brief because there are many written histories of South Africa

The discussion presented below is divided into five parts corresponding to periods which appear to have had differing influences on State employment.

#### Laissez-faire Government : Pre 1924

"Prior to 1924 the economic philosophy of the administration was essentially based upon the tenets of economic liberalism in all affairs other than labour matters."

Jill Nattrass (1981)<sup>17</sup>

There is little reliable data available on State employment for the years prior to 1920 and discussion is confined to the period 1920 to 1924. Between 1920 and 1924 total State employment increased from an estimated 150 000 to 188 000 (table 3.18). This growth was

greater than the OLS<sup>1)</sup> growth rate (see figure 3.1) of State employment as a percentage of population by between 0,03% in 1922 and 0,28% in 1924. This period is dominated by the Railways which was not only the largest sector of State employment but was also solely responsible for the decrease in total employment in 1922 (see figure 3.8). It is noted that this decrease occurred in both white and black railway workers (figures 3.6 and 3.7) although proportionately more blacks were affected.

TABLE 3.18 : Some indicators of the changes in State employment, 1920-1924

Year	Total Employment	$\frac{B}{W}$	Deviations from the OLS growth of employment as a percentage of population <sub>1)</sub>		
			White	Black	Total
1920	150 718	1,26	-0,33	0,40	0,14
1921	160 921	1,31	-0,35	0,46	0,20
1922	155 703	1,03	0,11	0,17	0,13
1923	171 693	1,14	-0,18	0,33	0,16
1924	188 153	1,11	0,14	0,38	0,28

Sources: Extracted and calculated from Part II. Data estimated where unavailable

Note: 1) OLS is the ordinary least squares line for 1920-1980 shown in fig. 3-1.

One interesting occurrence in this period is that it marked the start of a fundamental change in State employment. In this period black employment as a percentage of population is well above the OLS line and remained so until 1928. White employment as a percentage of population started below its OLS growth (-0,35% in 1921) and increased rapidly to 0,14% by 1924. This sudden increase in white employment and relative decrease in black employment marks the start of a declining number of blacks employed per white. The proportions existing in 1921 declined to a low of 0,81:1 in 1933 and did not return to the 1921 level until 1960. These changes can to some extent be understood in the light of the political forces operating at that time.

The main issues and problems that faced the administration and legislature were threefold. There existed at the time of Union a shortage of black mine labour prepared to work at wage rates which would keep the gold mining industry profitable although it is thought that the Land Act of 1913 did succeed partially in increasing the supply of black labour and depressing black wages by its restrictions on access to the land.<sup>18</sup>

The second problem, and one which is still felt today, was that in the face of this vast growing pool of unskilled labour an ever increasing shortage of skilled labour was experienced, particularly skilled mining labour. The resultant disparity

between skilled (white) wages and unskilled (black) wages, coupled with growing working costs and a falling price of gold, saw several attempts at black-white labour substitution and when it received government sanction, eventually led to the Rand Rebellion of 1922.

The third and most sensitive issue faced by the government was that of deteriorating relations between English speaking and Afrikaans speaking whites. Botha's policy as the Union's first leader was a reconciliation between English and Afrikaans speaking whites in an attempt to create a common white South African people. However it was clear by 1912 with Hertzog's break-away from the South African Party and the establishment of the National Party that Botha was not to succeed. This problem was further aggravated by two factors. Firstly, National elements were also Republican elements and those, already incensed by Botha's and the Union's close ties with the British Empire, were outraged by Botha's allegiance with the Empire at the outbreak of the Great War. The emergence of Smuts as Prime Minister on the death of Botha in 1919 further weakened English-Afrikaans relations as the Nationalists recognised "...the part he had played as imperial statesman during the First World War had enabled (them) to taunt him with being the handyman of the Empire". Secondly, a growing number of poor whites, the majority of whom were Afrikaans speaking, started to emerge as a political and social force. The increased supply of

unskilled black labour and the consequent downward pressure on unskilled wages, created greater competition for employment between unskilled white and unskilled black labour and further aggravated the poor white problem.

It is thought that the changing pattern in State employment is rooted in the above factors. Smuts' government, perceiving a growing discontent in the working population, deliberately increased white and decreased black employment proportionately. However, the measures applied were 'too little too late' and in 1924 the Nationalist-Labour coalition Pact government was brought to power.

#### Paternalistic White Government: 1924-1947

The emergence of the Pact government marked the end of a laissez-faire South African economy. As Jill Nattrass explains: "...the transference of political power to the Pact Alliance in 1924, produced a dramatic change in government attitudes towards the economy, and in the way in which the State perceived its own economic role. This government was the result of an alliance between white labour interests, those of the infant Afrikaner business sector and the white rural areas. Quite naturally, in view of its constituent members, this ruling party placed strong emphasis on the need for the South African economy to develop in its own right and on a broader basis than that of the mining

industry alone. The ideology brought in by the Pact government was destined to live on long after the alliance itself and the 26 years from 1924 - 50 saw a continuous growth in the extent of the economic activity undertaken by the South African state."<sup>20</sup>

The Pact union came about through a respective dislike of Smuts and his imperial ties and a basic distrust of foreign capital.<sup>21</sup> As a result, the economic policies which resulted from this union are not surprising. It is also not surprising that both the Fusion government of 1933 and the United Party government of 1939 continued with these policies as this can only be viewed as political expediency in accepting the delicately established status quo.

The Pact victory marked two changes in the South African political life. Firstly, as has been noted, there were the significant increases in direct government intervention in the economy. These policies were highlighted with the establishment of Iscor and the introduction of customs tariffs. Directly linked to the beginning of State economic intervention was a renewed drive to overcome the Poor White Problem, a problem which in 1931 the Carnegie Commission reported included 300 000 whites in a total white population of 1,5m.<sup>22</sup> Previous to 1925 the government had helped poor whites but it was the Pact government which led firm commitment to the 'Civilised Labour Policy'.<sup>23</sup>

Economically three events are important over this period:

Firstly, the Great Depression of 1929 which affected the South African economy from 1930-31. Secondly, South Africa leaving the gold standard and the devaluation of the pound in 1933, and thirdly between 1923 and 1945 what Hobart Houghton, in the light of Rostow, has called the period of take off into self sustained growth.<sup>24</sup>

TABLE 3.19: Some indicators of the changes in State employment, selected years, 1925-1947

Year	Total Employment	$\frac{B}{\bar{W}}$	Deviations from the OLS growth of growth of employment as a percentage of population		
			White	Black	Total
1925	196 541	1,04	0,33	0,30	0,28
1926	204 180	0,99	0,49	0,27	0,29
1928	204 434	0,90	0,29	0,02	0,04
1929	220 645	0,93	0,39	0,11	0,18
1930	227 408	0,93	0,36	0,09	0,15
1931	223 033	0,91	0,06	0,01	0,06
1932	211 982	0,85	-0,36	-0,25	-0,24
1933	206 802	0,81	-0,60	-0,37	-0,37
1938	308 079	1,06	-0,10	-0,06	-0,05
1940	321 403	1,00	-0,12	-0,18	-0,16
1946	405 340	1,00	0,13	-0,17	-0,02
1947	441 055	1,04	0,34	0,01	0,19

Sources: Extracted and calculated from Part II Data estimated where unavailable.

This 'take off' saw a rapid increase in demand for skilled white labour and a general disappearance of a need for the 'Civilised Labour Policy'.<sup>25</sup> Black labour supply increased as a result of both growing impoverishment of the reserves and greater effectiveness of the labour legal institutions.<sup>26</sup>

Over this period total State employment increased from 196 541 to 441 055 (an annual average growth of 3,74%, see table 3.19). The growth of total employment as a percentage of population was greater than the OLS growth rate until 1931 (figure 3.2). It remained below the OLS growth rate before growing to 0,19% above by 1947. The number of blacks employed per white decreased from 1,04 in 1925 (table 3.19) to 0,90 in 1928 and this is largely ascribed to the effects of the Civilised Labour Policy. The Railways is the only sector where any noticeable effect of the Civilised Labour Policy is evident (figures 3.6 and 3.7). Between 1925 and 1930 white employment by the Railways increased from 47 000 to 58 000 (an annual increase of 4,30%) while black employment decreased from 45 000 to 38 000 between 1925 and 1928 (an annual decrease of 5,40%). The result of this was that cost of implementing the civilised labour policy became so embarrassing to the Railways that the Railways and Harbours Board minuted the General Manager of the Railways need no longer record the cost of the policy.<sup>27</sup>

The only sector of the State where the Civilised Labour Policy

was implemented to any significant degree was the Railways. The other areas under State employment indicate little evidence of having accommodated the policy. In one area of the State, that of Local Authorities, direct controls existed through differential rates of subsidy for the government to force Local Authorities to implement the Civilised Labour Policy. While it is reported by Van Biljon that these controls were actively implemented during the late 1920s and early 1930s, no significant changes in Local Authorities employment can be observed.<sup>28</sup>

The Great Depression, reaching the country early in 1930, had a far greater impact on State employment than did the Civilised Labour Policy. State employment decreased from 227 408 in 1930 to 206 892 in 1933. This decrease was severest for black labour with the number of blacks per white employed falling from 0,93 to 0,81 over that period. The decrease was significant for both the Railways and Local Authorities (figure 3.8). For the Local Authorities the decrease was confined to black labour only, while it occurred over both black and white in the Railways (figures 3.6 and 3.7). The effects of the Great Depression were also felt by Iscor which had since inception employed a totally white labour force. Severely handicapped by the Depression, Iscor claimed in early 1932 that it could no longer employ labour on humanitarian and not economic grounds and allowed blacks into its workforce.<sup>29</sup>

Between 1933 and the beginning of World War II, little of

significance is observed in State employment with both black and white employment remaining below their respective long term growth rates. During the war black employment by Local Authorities increased by a significant 44% between 1941 and 1944 (58 484 to 84 404) only to decrease to 67 992 by 1946. This fluctuation remains unexplained but as white employment by Local Authorities did not decrease (figure 3.6) it is not seen as a result of war induced labour shortages. The year 1947 (and 1948) marked a sudden but shortlived increase in State employment which occurred over both black and white employment.

#### The Era of Pure Apartheid : Malan, Strydom, Verwoerd 1948-1964

The election of 1948 saw the triumph of a pure Afrikaner government even if it did comprise an uneasy truce within Afrikanerdom.<sup>30</sup> This victory had a twofold effect on government policies. Firstly, while the problem of the poor (Afrikaner) white was largely overcome well before 1948, and Afrikaner Nationalism had emerged as a decisive force, the Afrikaans volk was still commercially and economically dominated by English speaking whites. It appears to have become implicit government policy to change or at least equalise this economic imbalance of the ownership of capital. This emerged as active support by the government in favour of Afrikaner business and the Afrikaner bureaucracies established in the previous period, and a challenging of English business through the

various State enterprises and public corporations.<sup>31</sup> As Gilmore writes: "The Malan government started to use the Industrial Development Corporation (IDC) to strengthen Afrikaner participation in the industrial progress of the country.... The IDC was widely seen in Afrikaner circles as a bulwark against the Anglo American Corporation, which has caused concern because of its wide involvement in a large number of ventures.... The IDC, which, at the time of its establishment, was looked upon as a corporation intended to assist generally industrial development in the private sector, tended to become an industrial conglomerate like any financial corporation in the private sector, and tended to enter into direct competition with the private sector instead of assisting it."<sup>32</sup> It is likely that the creation of more public corporations was partly a result of similar motivation: "through the Industrial Development Corporation the government has built upon the precedent of Iscor ten further semi-public undertakings. Apart from giving the government an important leverage in the economy, these enterprises have created employment opportunities and training in entrepreneurial skills for Afrikaners."<sup>33</sup>

Secondly, the Nationalist government achieved political victory on the apartheid platform and began to implement these policies on a vigorous basis. It is not always obvious in the initial part of this period that Malan and Strydom had definite, predetermined policies for the implementation of apartheid and many

of the policies appear to be little more than a collection of ad hoc decisions. It required the vision of Verwoerd to formalise and institutionalise the rigorous doctrine of apartheid.<sup>34</sup> "The essence of Apartheid was that White and Non-white did not, could not and must not constitute a single social system. The self existence of the whites subsisted in excluding Non-whites from a shared reality of human relationships, however much the existence of the Non-white proved an economic entity. The parliamentary programme of Afrikanerdom directed itself accordingly."<sup>35</sup>

Just as the Pact government of 1924 had brought about decisive and important changes to the economy, so the Nationalist victory of 1948 brought about changes both economic and social. The hardening of the white attitude to the industrial colour bar, plus the effect of white trade unions, continued to keep blacks out of skilled positions. The separation of the various racial groups, both physically and socially, the report of the Tomlinson Commission and Verwoerd's apartheid plan created the need for that bureaucratic monolith the (now) department of Cooperation and Development. Growing social unrest as a result of the implementation of the implementation of the policies led to the introduction of conflict regulation which is interpreted as so powerful that much "conflict" is suppressed.<sup>36</sup> The effects of this has been to keep public order employment at a fairly constant proportion of State employment - approximately 10% (table 3.6), and at a fairly constant proportion

of total population.<sup>37</sup> After South Africa achieved Republican status, two other factors developed which affected State employment. Firstly the initial five years of the Republic saw the severest imposition of 'petty apartheid' or what Horwitz calls 'klein apartheid'.<sup>38</sup> Secondly, Republican status saw exchange control introduced to South Africa and a closure of the links between the Johannesburg Stock Exchange and the London Stock

TABLE 3.20 Some indicators of the changes in State employment, selected years, 1948-1964

Year	Total Employment	$\frac{B}{W}$	Deviations from the OLS growth of employment as a percentage of population		
			White	Black	Total
1948	471 644	1,03	0,58	-0,05	0,16
49	449 254	1,02	0,39	-0,23	-0,29
50	481 518	0,97	0,39	-0,38	-0,17
51	492 081	1,01	0,15	-0,42	-0,27
52	505 277	1,01	0,07	-0,44	-0,30
55	637 717	1,26	0,22	-0,19	0,26
58	727 075	1,30	0,39	0,30	0,39
59	749 491	1,29	0,48	0,05	0,14
60	798 545	1,41	0,45	0,18	0,20
62	840 744	1,39	0,44	0,05	0,08
63	892 646	1,46	0,43	0,17	0,17
64	912 783	1,45	0,30	0,08	0,09

Sources: Extracted and calculated from Part II. Data estimated where unavailable.

Exchange effectively 'trapped' foreign capital in the country. It is reported that the (then) Finance Minister, Dönges, persuaded Verwoerd that a favourable investment climate had become essential after the imposition of exchange control and the preferred means of achieving this was through a massive injection of State capital expenditure.<sup>39</sup>

Within the context of the above the State was poised to extend social, political and economic change over the country. The changes, when they occurred, are reflected in the changes in State employment.

In the 1945-1960 period State employment, particularly black employment, increased at a rate greater than at any other time. Total employment increased from 472 000 in 1948 (3,9% of the population) to 913 000 in 1964 (4,8%). This is an annual average increase of 4,21%. The dominant part of this increase is due to increases in the employment by the Central Authorities (see figure 3.8) but can also be partially attributed to increases in Provincial employment and in Railways employment (see section 3.3). The increase in employment by the Central Authorities was so great that in 1960 it became an employer larger than the Railways. Over the same period the number of blacks employed per white by the State increased significantly from 1,03 in 1948 to 1,45 in 1964. Again it was the Central Authorities which contributed largely to this change. By the end of the period the Central Authorities was

the largest single employer of Blacks in the State and in the country (see figure 3.7); table 3.20 and figure 3.1 reflects these changes. Total white employment varied between 0,07 percent and 0,58 percent above its OLS growth (with a mean of 0,36%). Total black employment was below OLS growth by -0,05% in 1948 and reached -0,44% in 1952. By 1955 this rose to -0,19% and by 1958 to 0,30%, declining erratically to 0,08% in 1964.

This period marks extensive contradictions between what the government was attempting socially and what it was doing with its workforce. The government introduced and implemented apartheid with such vigour that by 1964 no section of the country remained unaffected. In order to implement these changes, a large bureaucracy was needed, but this would, in keeping with government philosophy, have been a predominantly white bureaucracy. Unfortunately for what Davenport calls the 'Social Engineers'<sup>40</sup> the period was also marked by high economic growth, and structural changes in the economy that led to large demand increases for skilled (i.e. white) labour.<sup>41</sup> These changes brought significant increases in real incomes in the private sector, and yet apart from the public corporations<sup>42</sup> the public sector did not respond to the changed economic circumstances and began suffering white labour 'shortages'. The State's response to these changing circumstances was a toleration of white labour shortages and a substantial increase in black labour filling both vacant white posts where

possible and also filling some newly created black posts. This was contrary to apartheid philosophies, but necessary to overcome economic realities. Only by the tacit acceptance of this contradiction could the implementation of apartheid philosophies be achieved and as such the State set the country an objective which it could not itself accomplish.

From Apartheid to Separate Development 1965-1971

"The credibility of the Nationalist Government depended at all times on its ability to find a workable solution to its population problems which would enable the white people to survive as a distinct community and at the same time permit other communities to share the decencies of life."<sup>43</sup>

Davenport (1978)

It was over this period, especially after the death of Verwoerd in 1966, that growing labour problems presented themselves.<sup>44</sup> The increasing shortage of skilled labour really prevented pure apartheid from ever being fulfilled. "I need not dwell upon the subsequent history of the policy of separate development, save perhaps to mention that the National Party government never really gave it a chance. Not wishing to burden the white electorate to the extent envisaged by the Tomlinson Commission, the Government rejected from the outset some of the most fundamental demands

formulated by the Commission. It substituted in their place a lukewarm implementation of the policy of separate development, thereby frustrating the very purpose of that policy."<sup>45</sup>

Realising the country's economic need of black labour, the goal of complete separation in the labour market was abandoned. "It has built an elaborate structure designed to permit the use of African labour but to dispel any notion that Africans can be regarded as a permanent part of the population in the 'White areas' or acquire the rights reserved for the White population."<sup>46</sup> This period marked what Davenport has called a time of "Maintenance and Modification".<sup>47</sup> While pure apartheid was never implemented as a social system, the drive for productivity in the economy was never allowed to threaten the Afrikaner culture and way of life. The entire decade is marked with the realisation that apartheid would not work but that lip service would still be paid to the "objectives".<sup>48</sup>

The maintenance and adjustment of apartheid without any real changes evident is reflected under State employment. Total employment increased from 944 000 in 1965 (4,8% of the population) to 1 175 000 in 1972 (5,0%) an annual average increase of 3,18%. Total employment remained above the OLS growth until 1970 when it declined to -0,14% and reached -0,21% by 1972. The decline in 1970 centred largely on whites with the black/white employment ratio increasing from 1,54 in 1969 to 1,63 in 1971.

TABLE 3.21: Some indicators of the Changes in State employment, 1965-1972

Year	Total Employment	$\frac{B}{W}$	Deviations from the OLS growth of employment as a percentage of population		
			White	Black	Total
1965	943 676	1,48	0,11	0,09	0,05
1966	1 017 694	1,57	0,12	0,29	0,22
1967	1 025 611	1,54	0,04	0,15	0,07
1968	1 107 620	1,46	0,86	0,20	0,26
1969	1 143 365	1,54	0,44	0,24	0,22
1970	1 105 295	1,62	-0,74	0,04	-0,14
1971	1 160 000	1,63	-0,61	0,08	-0,08
1972	1 175 118	1,61	-0,76	-0,04	-0,21

Source: Extracted and calculated from Part II.

Data estimated where unavailable

The two most important sectors under State employment, the Central Authorities and the Railways, show the effects of the period: Under Central Authorities employment, black employment which had previously exhibited tremendous growth now entered a period of rapid fluctuation and an overall net decline. In the Railways the black/white ratio declined as less blacks were employed and only increased again in 1969.

It is this period which is noted for the tremendous shortages of skilled white labour.<sup>49</sup> It was a shortage which affected all employers but particularly those parts of the public sectors offering wages at the lower end of the market rate. As is shown in

tables 3.23, 3.24 and 3.25 vacancy levels increased significantly for the Public Service and the Railways between 1966 and 1971/72. It is also noted that the Post Office vacancy levels shown in table 3.24 are likely to be unrepresentative. It is the writer's impression that the Post Office also suffered increasing labour shortages over this period.

The modifications made by the public sector in the light of these labour shortage shows mainstream apartheid being modified, but primarily maintained. Even while the numbers of blacks to whites employed by the State continued to increase, nowhere is mention made of the pragmatic possibility that blacks should permanently fill vacant white posts. The response was rather to introduce labour saving capital where ever possible, two examples of which are the containerisation program of the Railways, and automatic mail sorting machines of the Post Office, which were introduced during this period. Yet even these measures were of little effect as the black/white ratio continued to increase and white labour shortages remained.

#### Economic Needs and the Easing of Racial Discrimination: 1972-1980

"If the 1960s was a decade in which the crass attack on the emerging welfare system began to abate, the 1970s represented something new - an acceptance of policy-orientations which had previously been under attack. By the end of the 1970s it was clear that a

tide had turned, and that a combination of internal and external pressures had pushed the South African political economy, probably irrevocably, towards integration, deracialisation and welfarism - a path that was in various ways 'in its own logic' to traverse. Few critics would have believed in 1970 that by the end of the decade black trade unions would be an established reality, all statutory job reservation outside the mining industry would be abolished, or that in a decade of relatively slow real growth a 10 percent change in the relative income shares of white and black would take place in a progressive direction."

Bromberger (1982)<sup>50</sup>

Four factors combined to bring about this movement away from discrimination: Internal unrest in the form of labour strikes, student protests and urban terrorism continued unabated throughout the decade. Secondly, external pressure began to mount in the form of pressure from South Africa's trading partners, particularly during the Carter administration and also as pressure from the newly independent 'frontline' states of Angola, Mozambique and Zimbabwe increased. Thirdly, skilled labour shortages which started in the mid 1960s reached epidemic proportions during the 1970s. And fourthly, there was an increasing concern for the growing army of black unemployed. The result of this was a move by government away from overt discrimination to a policy of 'winning the hearts and minds of the people'.<sup>51</sup>

This period saw State employment increase from 1 181 000 in 1973 (4,9% of the population) to 1 601 000 by 1980 (5,6%). This is an annual average growth of 4,44%. Apart from 1977 and 1978 total employment was below its OLS growth. Black employment was below OLS growth in 1973 and

1979-1980. White employment was below OLS growth from 1973 to 1976.

TABLE 3.22 Some indicators of the changes in State employment, selected years, 1973-1980

Year	Total Employment	$\frac{B}{W}$	Deviations from the OLS growth of employment as a percentage of population		
			White	Black	Total
1973	1 181 181	1,61	-0,85	-0,19	-0,08
74	1 264 059	1,70	-0,99	0,00	-0,22
75	1 341 063	1,74	-0,84	0,13	-0,09
76	1 383 719	1,72	-0,74	0,09	-0,12
77	1 495 600	1,55	0,60	0,09	0,11
78	1 548 894	1,57	0,55	0,10	0,05
79	1 548 379	1,58	0,09	-0,05	-0,09
80	1 601 158	1 59	0,08	-0,04	-0,10

Sources: Extracted and calculated from Part II. Data estimated where unavailable.

The year 1973 marked the first time that the State publically acknowledged that blacks would be substituted for whites in vacant white positions. In many cases, particularly with the Railways, this was only undertaken after extensive consultations with the relevant trade unions. Slowly, but with growing momentum, more and more blacks were being employed permanently as shunters/marshalls in the Railways and as telephone technicians and clerks in the Post Office and this change is

reflected in the number of blacks per white employed by the State which increased from 1,61 in 1973 to 1,74 in 1975 before declining to 1,72 in 1976. There is one very important feature of this period which needs highlighting. The year 1976 marks the first real decline in the economic prosperity which the country had been experiencing since the early 1960s., The recession lasted until 1978 and its effect on employment is evident. Between 1976 and 1977 the number of blacks employed per white declined from 1,72 to 1,55, its lowest since 1969 and had only moved to 1,59 by 1980 (see figure 3.2 and table 3.22). It is thought that this increase was a response to increasing white unemployment. The State, acting as employer of last resort for whites, was in a position to use vacant white posts to partially relieve the hardships of increased white unemployment.

### 3.5 Racial Wage Differences and the State in South Africa

There are two generally held beliefs amongst observers of the South African labour situation: Average earnings for blacks are consistently lower than for whites, and it is frequently argued that the public sector has assisted in maintaining these differences through a system of acting as an employer of last resort for whites. Racial wage differentials are both self evident and well documented (see figure 3.18(a)) and it has been argued that these earning differentials have been preserved on the supply side by superior educational facilities provided for whites and on the demand side by the effective provision of jobs for whites in the public sector.<sup>53</sup>

While these two beliefs are acknowledged, there exist considerable disagreement as to the factors causing the wage differences, and the role of the public sector in the formation and continued maintenance of the differences.

The purpose of this section is firstly to examine and, if possible, reconcile the different theories of racial wage differences. Secondly, to examine the role of the public sector and thirdly, offer a theory of racial wage differences which incorporates the public sector.

Most writers on racial wage differences in South Africa

AVERAGE WHITE WAGE  
AVERAGE BLACK WAGE

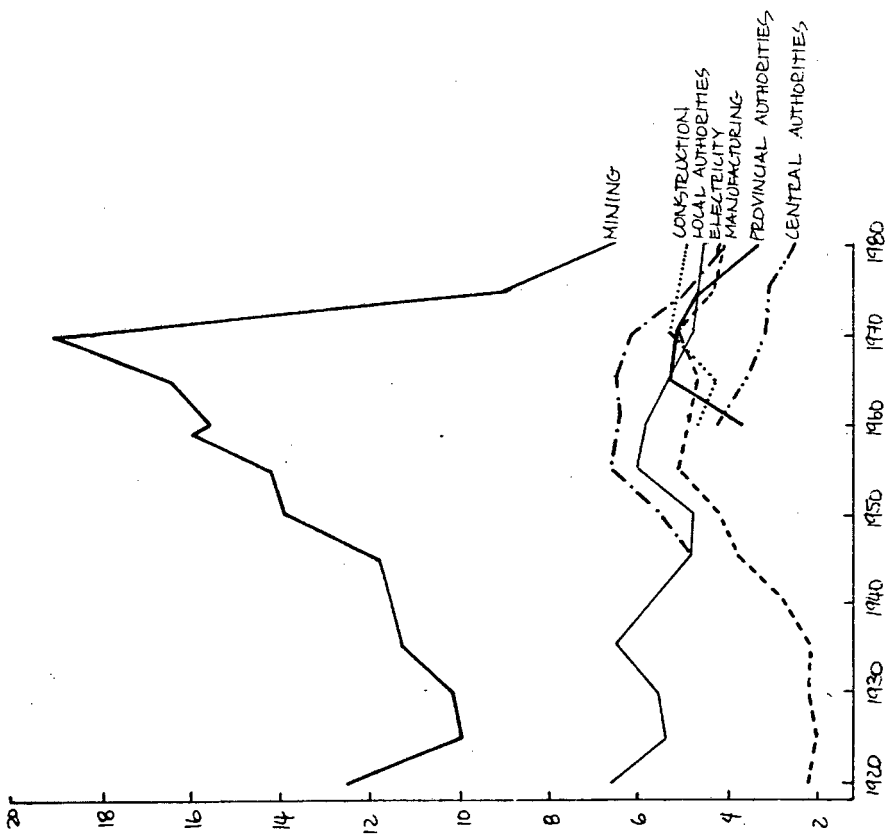


FIGURE 3-18 (B): RATIO OF AVERAGE WHITE TO BLACK WAGES, VARIOUS SECTORS, FIVE YEAR INTERVALS, 1920 - 1980.

BLACK EMPLOYMENT  
WHITE EMPLOYMENT

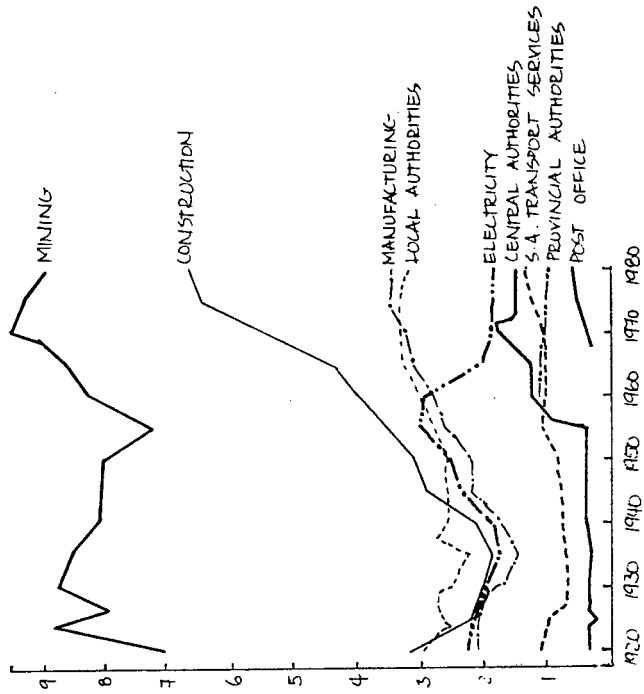


FIGURE 3-18 (F): NUMBER OF BLACKS EMPLOYED PER WHITE, VARIOUS SECTORS, SELECTED YEARS, 1920 - 1980.

generally agree that these are caused by market forces operating under constraints. The disagreement is which are the appropriate constraints to consider, and how these have caused racial wage differences. As Kantor and Rees suggest, "The analytical problem is to establish the separate effects on incomes of market forces and of trade unions - and government - imposed restraints on competition for jobs when all that can be observed are actual market incomes in cash and kind".<sup>54</sup>

There is a second body of theory which attempts to explain racial wage differences through segmented (or dual) labour market theory. Under segmented labour market theory the labour market is divided into a primary sector associated with skilled labour conditions and a secondary sector which offers the low pay and poor working conditions associated with unskilled labour.<sup>55</sup> Within these two markets, wages may be determined by market forces<sup>56</sup> or even, according to some theorists, by institutional arrangements and custom.<sup>57</sup> While it can be shown conclusively that wages are market determined<sup>58</sup> the possibility of the existence of a dual labour market needs further research.<sup>59</sup> It should however be noted that one of the earliest academics to advance dual labour theory (John Knight, 1964<sup>60</sup>) concludes in a 1977 article that available evidence no longer supports the applicability of dual labour theory to South Africa.<sup>61</sup>

### 3.5.1 Neo Classical Wage Determination

Neo Classical theory sees the determination of wages purely as a function of the demand and supply of labour. Exogenous factors acting to constrain demand and/or render the supply of labour non-homogenous can be analysed within the neo classical theory.

What follows below is a discussion of the relative factors which might have affected the demand and supply of labour in South Africa:

A: Levels of Skill: Wages paid are a direct reflection of the expected productivity of the worker by the employer. To the extent that there is a tremendous, although decreasing, disparity between black and white skills, there exists the likelihood that this is the main cause of wage differences. Three factors are important when considering skill levels: formal education, in-house training and returns to education.

Formal Education: With regard to the first factor it is well known that there exists wide differences between race groups due to State redistribution policies. For example in 1980 60% of whites had attained at least a full primary course (8 years of schooling) while only 14% of blacks attained the same level.<sup>62</sup> It is generally acknowledged that there also exists a considerable

quality difference in formal education with white education having better qualified teachers, lower pupil-teacher ratios and no double teaching sessions.<sup>63</sup>

In-house training: With regard to in-house training, i.e. the acquisition of specific skills as opposed to general skills, observation would lead one to conclude that employers faced with unskilled black labour turnover, are less likely to invest in general skill training for blacks.<sup>64</sup>

B: Fixed factor proportions: Fixed white to black employment ratios are an integral part of some industries in South Africa although the proportion of affected industries has been decreasing. Fixed factor proportions are important to wage differences as they limit the demand for blacks and therefore depress black earnings. Employment ratios in many sectors of the economy have been increasing since the mid 1960s (see figure 3.18(b)) but as this is primarily a response to a shortage of skilled white labour, it in no way undermines the effects of fixed factor proportions on wage differences.<sup>65</sup>

The argument that fixed factor proportions do in fact work against racial wage differences is only relevant in one specific case. Kantor and Rees argue that where white labour is paid according to the output of a black labour team, it is in the

interest of a white team leader to increase the size of his black team to the point where the productivity of an extra worker is equal to his wage rate.<sup>66</sup> This argument is only relevant where white labour is paid according to black output i.e. where the white team leader is acting as a firm, and the returns to this factor is profit not wages. In the more general case where white labour receives wages (and not profits) any substitution of black for white leads to increased supply, a reduction in the rate for that job and the surplus accrues to the firm. The special case described by Kantor and Rees will hold for the entire mining industry when the surplus is redistributed by the Mine Workers Union. In the Gold Mining case black labour has been substituted for white wage earning categories like locomotive drivers, artisan aides, timbermen, journeymen and onsetters in contrast to white (profit earning) labour like miners, developers and shaft sinkers. The meaning of this is that the mines have a decreased wage bill while the remaining white workers are no better off (for at least the short term). The only way in which the remaining white workers might experience immediate benefit is if the black/white substitution is negotiated through white trade unions and white wages are increased. It follows that the white workers who actively encourage increased employment of blacks are the profit earning white workers who are paid set rates per metre of rock broken or cleared. For these whites increased profit will be

realised by increasing the size and number of teams working under a white miner.

In recent years there is evidence to suggest that there has been a white motivated move to increase the size of black teams working for white miners and developers.<sup>67</sup>

C: Job Reservation: Job Reservation would be likely to increase racial wage differences in the same way as fixed factor proportions by limiting demand for blacks. The roots of Job Reservation lie in the Mines and Works Act No.12 of 1911 and as amended in 1926 where the Governor General was empowered to issue certificates of competency to most grades of mine labour.<sup>68</sup> This was revised and expanded by the Industrial Conciliation Act of 1956 which allowed certain jobs to be reserved for specific race groups.<sup>69</sup>

As the actual number of jobs reserved never affected more than two or three percent of the work force,<sup>70</sup> and this was limited by the increasing shortage of white labour,<sup>71</sup> it might be suggested that job reservation has had little impact on racial wage differences. As Sheila van der Horst writes "Formally this is true, but the importance of job reservation was the uncertainty it created and the fear amongst employers that it would be applied if they transgressed government policy, as distinct from legislation."<sup>72</sup>

Also important in this 'implicit' job reservation is the attitude of white management: On this Knight and McGrath comment "This picture of profit maximising managers constrained only by circumstances beyond their control is too simple. Virtually all employers and managers in South Africa are of the white race. Even in multinational companies the majority of managerial staff normally are whites. While the good relationship which often exists between management and white workers is likely to be based on rational economic calculation by management, there may be an element of racial sympathy and fellow-feeling."<sup>73</sup>

D: Trade Unions: Trade unions can either opt for the highest possible wage for its employed members, or it can bargain for full employment of all its members irrespective of the wage received, or it can settle on some compromise between these two extremes. In South Africa it is likely that white trade unions have also been able to use the unique political position of the whites to further enhance and reinforce racial wage differences. It has been suggested by Kantor and Rees that white trade unions have effectively gained little for white workers.<sup>74</sup> With only 30% of white workers unionised, effective union power would have resulted in incomes to unionised workers being greater than incomes to non unionised workers. This would result in excess supply to these industries. As there actually exists excess demand in these unionised industries Kantor and Rees conclude that white trade unions have not directly benefited their members.

However on the other hand it can be argued that even though only one third of white workers are unionised the agreements concluded between these trade unions and employers have affected the entire labour market and as a result have benefited the entire white working population by maintaining (or increasing) racial wage differences. Just as with only 2 to 3% of workers being directly affected by statutory job reservation, yet this having direct repercussions on the entire economy, in the same way white trade union policies are likely to have affected the entire economy and have benefited most of the white working population, both unionised and non-unionised. White trade unions have been party to: fixed (although negotiable) factor proportion agreements in the mining industry, job reservation agreements (particularly those unions affiliated to the S A C L),<sup>75</sup> closed shop agreements (which, in the period when mixed trade unions were illegal, effectively created racially reserved jobs) and 'rate for the job' policies.<sup>76</sup>

In the face of strong white trade unions, white government and black trade unions not being legally recognised, organising black labour proved difficult and sometimes impossible. The result was that for most of the period under study black labour was unable to effect any change in racial wage differences. Some of the causes of narrowing black-white differences since 1972 are likely to have been the decrease in supply of black labour following from the

aircraft crash in Francistown in 1974, the uncertainty regarding the continued supply of labour from Mozambique following that country's independence and the increase in the price of gold. The wide-spread labour unrest of 1972 marked a significant start to growing black labour power, and the legal recognition of black trade unions added further impetus to this.<sup>77</sup> Little can really be said yet as to the future role of black trade unions. If black trade union power does become effective they have three avenues for increasing their earnings: they can either appropriate some of the producers' surplus, compete with white labour and reduce white incomes or limit the number of black workers in particular industries.<sup>78</sup>

### 3.5.2 The Role of the State in determining Racial Wage Differences

The role of the public sector in determining racial wage differences in South Africa can be examined in two parts viz. the role the public sector might play in maintaining white wages and therefore furthering wage differences in the economy, and secondly a discussion of the actual wage differences in the public sector. Bromberger sees the government as influencing the primary and secondary distribution of income in seven ways.<sup>79</sup> In this section we are concerned with the first of these ways: that of a labour market operator.

A: The State and White Labour

As whites have until very recently been the sole enfranchised group in the country they can by definition be expected to have been favoured by the public sector. As circumstances change and have changed since Union the objective and manner by which white labour has been favoured by the public sector will also have changed.

Over the period under study various changes have occurred which have directly affected the position of white labour and the role of the public sector as a labour market operator. A detailed chronological discussion of the forces operating in the country are discussed in section 2.4 above. What is discussed here are the general observations of the behaviour of the public sector as a labour market operator, particularly in the white labour market.

Two sets of observers have commented on the expected role of government behaviour towards white labour.<sup>80</sup> Bromberger summarises Knight and McGrath's view as:

"The relevant policies included (a) a preference for whites in government employment and something like a commitment to find work for all whites otherwise unemployable; and (b) a salary and wage policy of paying whites a 'civilised wage' and practising wage discrimination either by paying whites more than blacks for similar work or, when white and black performed different work, by overpaying the former."(81)

Kantor and Rees have suggested that it is possible that racial wage differences can be maintained by the public sector acting as an "employer of last resort"<sup>82</sup> and as such determining a minimum wage for whites.

Some tests were devised in order to see whether the public sector really does conform to the above analysis. In order to do this it was accepted that public sector employment was expected to grow endogenously as a proportion of total population (from Part I) and that real G D P was expected to grow over time. The data that was tested was (a) deviations in the long term growth rate of white public sector employment as a percentage of total white population, (b) deviations in the long term growth rate of black public sector employment as a percentage of total black population, (c) deviations in the long term growth trend of G D P,<sup>83</sup> (seven year moving average) (d) registered white employment, and (e) deviations in the growth of the number of blacks per white employed by the State (seven year moving average).

The tests that were carried out are (i) (a) against (b) for 1921 to 1981 where a negative correlation was expected, i.e. it was expected that whites would be substituted for blacks during recessions and blacks would be substituted for whites during periods of white labour shortages; (ii) (a) was tested against (c) where a negative correlation was expected, i.e. it was thought that during economic recessions more whites would be employed and during

booms the reverse would occur (irrespective of whether there is an opposite effect on black employment); (iii) (a) against (d) where a positive relationship was expected, i.e. white employment by the State was expected to increase during periods of growing white unemployment; and (iv) (c) against (e) where a positive relationship was expected i.e. in boom period the number of blacks employed per white was expected to increase and in recessionary period the reverse was expected.

Some of the test results proved surprising:

Test (i): It was expected that there would be some negative relationship between deviations for the longterm growth trends of white and black State employment. It was found that between 1920 and 1960 there was some positive correlation ( $r = 0,55$ ). For the entire period 1920 to 1981 the results are less significant. The results imply that for the period ending 1960, changes in State employment were reflected, in the same direction, in both black and white labour.

Test (ii): It was expected that there would be some negative relationship between business cycle fluctuations and changes in the growth of white State employment. It was further expected that this relationship would be more significant over the earlier part of the period. The results showed relatively insignificant but negative relationship viz. 1920-1939:  $r = -0,19$ ; 1920-1950:  $r = -0,20$ ; 1920-1960:  $r = -0,21$ ; 1920-1970:  $r = -0,19$ ; 1920-1981:  $r =$

-0,19. The results suggest that the State, to some extent, increases its white employment during recessions and decreases it during booms.

The insignificant results to test (ii) led to test (iii), an examination of white State employment against white unemployment. The results for the period examined (1948-1980) show an insignificant but positive relationship ( $r = 0,29$ ). Unfortunately unemployment data prior to 1948 are unavailable as more significant results were expected for this earlier period. What both test (ii) and (iii) suggest is that there is little relationship between white unemployment, particularly that as a result of business fluctuations, and changes in white labour employed by the State.

Test (iv) was designed to check for any relationship between changes in the number of blacks per white employed by the State and fluctuations in economic activity. The results for the entire 1920-1980 period were positive but insignificant ( $r = 0,31$ ). However for the latter part of the period the results are significant and positive (1960-1969 :  $r = 0,63$ ; 1960-1980 :  $r = 0,52$ ). The results mean that since 1960, during economic boom periods the State tended to increase its black employment relative to white employment and in economic recessions it tended to increase white employment relative to black employment. The reason appears fairly obvious: Since 1960, when white labour shortages

were beginning to appear, boom periods drew white labour away from the public sector and to some extent blacks were substituted for these whites; during economic downturns unemployed white labour would be drawn to the public sector and thus displace black labour with the State acting as an employer of last resort for white labour. It does again appear fairly obvious why the test evidences the 'last resort' role of the State only for the period after 1960: prior to 1960 there was little white labour shortage - as a result economic booms would not cause a net white labour decrease in the public sector; economic booms would simply draw more whites into the economically active part of the population.

Therefore as a result black labour would not be displaced in periods of economic recession. In the period prior to 1960 it can therefore, a priori, be expected that business cycle activity would have little effect on the number of blacks employed per white by the State.

If the above is correct it defines more closely the role of the State when it acts as an employer of last resort: This role is only relevant with regard to unemployment as a result of business cycle fluctuations.

The State did not function as an employer of last resort for white labour which was structurally unemployed viz. during the 'poor white' period.

With the insignificance of tests (ii) and (iii) one more test was devised. Test (v) measured the relationship between business cycle fluctuations and vacancies in the public service. The result was expected to be positive. Over the period where data is available (1960-1972) the results are somewhat significant and positive ( $r = 0,49$ ), although the limited number of observations undermine the reliability of the result.

The largely insignificant results found on some of the tests does not of course mean that the role of the public sector proposed above is wrong. Deviations from longterm public sector employment trends are affected by both economic and political factors. The above section tested for economic factors. If political factors have dominated economic factors in causing the deviations from longterm growth trends then the model is still correct even if the tests are insignificant. Obviously if economic factors have dominated political factors then the model is wrong. It is unfortunately impossible to separate economic and political factors to the extent that the testable data would be reliable.

B: Employment Practises of the State The second area which is examined in relation to the public sector and white labour, is the labour policies of the public sector (where evidence is available). The purpose of this exercise is to reconcile, if possible, the generally held notion by scholars of South African political

history that the State has, and does, actively favour white labour at the expense of black labour, having something like a commitment to reducing white unemployment, against the statistics of the previous section which show this to be only partially correct.

The evidence since Union suggests strongly that the State has imposed (or had imposed on it) two forms of employment practises which stand to have benefitted whites. These are fixed factor proportions and a preference for white labour through a 'Civilised Labour Policy'.

Fixed Factor Proportions: It has been suggested in section 3.3.2 that fixed factor proportions operated or still operate in the public service, in provincial employment and in the Railways. It is also possible that fixed factor proportions existed in the Post Office and Iscor where the proportion of whites to blacks employed is surprisingly high. Unfortunately no evidence is available to support the proposal for these two organisations.

These fixed factor <sup>proportions</sup> propositions have helped whites by: firstly, benefitting whites who work for the State by assuring them that they are unlikely to be replaced by blacks. Secondly, it will have reduced any white unemployment which might have existed. Thirdly, by having increased the demand for white labour it will have raised white wages generally.

The effect which fixed factor proportions appear to have had on State employment is to have restricted its potential growth during periods of white labour shortages. This result certainly follows theoretically, as, given white labour shortages, the State would be unable to increase employment in those sectors affected by fixed factor proportions. Two sets of evidence support this hypothesis: The period noted for the largest increases in State employment was  $\pm$  1935 to  $\pm$  1958 - a period over which there was little shortage of white labour. In the post 1960 period there is a marked slowing in the growth of State employment with no a priori reason why this should occur. In fact given the dramatic changes in the country since 1960 one would have expected the opposite to have happened. The second set of evidence is the unexpected decline in type (d) growth between 1965 and 1975. Type (d) growth (i.e.  $\lambda$ ) shows if the growth in State employment is above or below that which is expected as a result of the State having grown relative to GDP. (Type (d) is a priori, expected to grow). It is thought that this sudden and unexpected decline in type (d) between 1965 and 1975 reflects the State's inability to increase total employment as a result of fixed factor proportions and white labour shortages.

The Civilised Labour Policy: the evidence since Union suggests that the white protection program - later known as the 'Civilised Labour Policy' - was endorsed by the public sector and did only at times

meet with some success. Hepple writes of the 'Civilised Labour Policy' that civilised labour was "...the labour rendered by persons whose standard of living conforms to the standard generally recognised as tolerable from a European standpoint", while uncivilised labour was "...labour rendered by persons whose aim is restricted to the bare requirements of the necessities of life as understood among barbarous and under developed people."<sup>84</sup>

During the years after Union there was a substitution of whites for blacks in the labourer categories. The policy was pursued with such vigour in the Railways that by 1915, 4 160 blacks had been replaced by whites.<sup>85</sup> In fact, the programme was so successful that by 1920 the Railways admitted itself to be overstaffed.<sup>86</sup> The Pact victory of 1924 and the reintroduction of the 'Civilised Labour Policy' was again actively pursued by the Railways. While by 1925 it had only increased white employment by 853 personnel<sup>87</sup>, the number of white labourers increased from 4 705 in 1921 to 15 878 by 1925.<sup>88</sup> The consequences of this were that in 1925 the black/white employment ratio in the railways had been 0,96 (B/W)<sup>88</sup> by 1930 it fell to 0,72 and by 1935 to 0,67. Except for the brief period 1956- to 1960, this ratio did not reach and stay above 1,00 until 1970.

By the late 1940s the consequences of this labour practice were being felt in the public service, the post office and the

Railways in the form of labour shortages. The Railways, even after absorbing 7 500 white and 3 200 black ex-volunteers in 1945<sup>90</sup>, experienced labour shortages a few years later. (In the Public Service the first indication that labour shortages were being experienced was in 1946.<sup>91</sup>) By the 1950s the situation had become chronic and has continued relatively unabated to the 1980s.<sup>92</sup>

The vacancy levels in the Public Service, the Post Office and the Railways are given in tables 3.23, 3.24 and 3.25 for those years where data is available.

For the Public Service, vacancy levels increased from 15% in 1950 to almost 20% by 1955. By 1960 the level had fallen to around 13%, only to climb steadily to nearly 26% by 1972. From 1972 the form of the data changes; the post 1972 data is described in a format different to the pre 1972 data. Some doubt exists as to the comparability of these two sets of data and it is no longer possible to extract accurate vacancy levels. The Public Service reduces vacancy levels by the use of temporary labour. These temporaries are unqualified (by Public Service standards) for the work they perform and cannot therefore be appointed to permanent posts.

Post Office vacancy levels are shown in table 3.24 as ranging between nearly 11% in 1951 to overfull in 1971. The vacancy levels

TABLE 3-23 Public Service Vacancies and Temporary Labour, Selected years, 1950-1980<sup>1)</sup>

Year	(1) Authorised establish- ment	(2) (1) less Adminis- trative posts	(3) Number em- ployed on Auth.Estab.	(4) Vacancies	(5) (4) as percentage of (1)	(6) No. of temporary employees	(7) Actual vacancies	(8) (7) as percentage of (1)	(9) Temporary M : B
1950	106 956	N/A	91 053	15 903	14,87	16 889	- 986	- 0,01	N/A
1955	124 065	N/A	100 361	23 704	19,11	18 002	5 702	4,60	N/A
1960	140 592	N/A	129 726	18 866	12,69	15 764	3 102	2,09	1:0,36
1961	152 174	N/A	135 092	17 082	11,23	15 708	1 375	0,90	1:0,27
1962	161 035	N/A	142 473	18 562	11,53	17 062	1 500	0,93	1:0,41
1963	167 100	N/A	146 680	20 420	12,22	17 905	2 515	1,51	1:0,40
1964	187 049	N/A	162 109	24 940	13,33	15 071	9 869	5,28	1:0,19
1965	191 946	N/A	164 656	27 290	14,22	19 502	7 788	4,06	1:0,29
1966	202 934	N/A	172 180	30 754	15,15	24 593	6 161	3,04	1:0,55
1967	212 788	N/A	182 628	30 160	14,17	25 618	4 542	2,13	1:0,31
1968	150 136	N/A	121 831	28 305	18,85	25 282	3 023	2,01	1:0,90
1969	155 326	N/A	134 257	21 069	13,56	17 765	3 304	2,13	1:0,36
1970	129 822	N/A	92 756	37 066	28,55	32 849	4 217	3,25	1:1,02
1971	134 193	N/A	99 826	34 367	25,61	33 289	1 078	0,80	1:0,99
1972	136 883	N/A	101 543	35 340	25,82	34 510	830	0,61	N/A
1973	142 705	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1:0,84
1974	149 276	92 403	102 794	N/A	N/A	32 604	13 678	9,16	1:0,19
1975	157 827	97 753	123 433	N/A	N/A	26 458	7 936	5,03	N/A
1976	162 178	100 189	109 341	N/A	N/A	33 573	19 264	11,88	N/A
1977	167 357	102 242	110 037	N/A	N/A	39 418	17 902	10,70	N/A
1978	170 111	100 555	128 300	N/A	N/A	30 737	11 074	6,51	N/A
1979	179 362	106 559	143 200	N/A	N/A	24 529	11 633	6,45	N/A
1980	205 840	108 282	159 253	N/A	N/A	32 499	14 088	6,84	N/A

Source: Calculated from the Annual Reports of the Public Service Commission for the relevant years.

Note:

1) The post-1974 data excludes vacancies in administrative posts.

TABLE 3-24 Post Office Employment and Vacancies 1951-1971<sup>1)</sup>

Year	Authorised Establishment (A E)	Employment under Authorised Establishment	Vacancies	% Vacancies	Total Employment	Total Employment in Addition to A E	Additional as % of A E
1951	24 953	22 236	2 717	10,9	32 304	7 351	29,5
1952	26 016	23 647	2 369	9,1	34 330	8 304	31,9
1953	27 459	24 513	2 946	10,7	25 672	8 213	31,5
1954	29 067	26 944	2 123	7,3	37 276	8 209	28,2
1955	30 779	27 881	2 898	9,4	39 140	8 361	27,2
1956	31 460	30 043	1 417	4,5	42 410	10 950	34,8
1957	33 699	31 823	1 876	5,6	45 425	11 726	34,8
1958	34 452	32 752	1 700	4,9	45 603	11 151	32,4
1959	34 993	33 341	1 652	4,7	45 291	10 298	29,4
1960	35 556	33 426	2 130	6,0	44 426	8 870	24,9
1961	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1962	35 948	35 124	824	2,3	46 520	10 572	29,4
1963	36 445	35 637	808	2,2	46 707	10 262	28,5
1964	37 407	35 604	1 803	4,8	46 608	9 201	24,6
1965	38 302	36 103	2 199	5,7	47 447	9 145	23,9
1966	39 260	37 612	1 648	4,2	48 690	9 430	24,0
1967	40 347	38 657	1 690	4,2	49 812	9 465	23,5
1968	41 145	39 315	1 830	4,4	51 140	9 995	24,3
1969	41 903	40 583	1 320	3,2	52 773	10 870	25,9
1970	45 387	43 831	1 556	3,4	57 540	12 153	26,8
1971	46 560	46 842	- 287	- 0,6	61 298	14 738	31,7

Source: South Africa, Government Post Office Annual Reports for the relevant years. Pretoria: Government Printer

Note 1 These are the only years for which data is available.

TABLE 3- 25 Vacancies in the S.A. Transport Services 1966-1973<sup>1)</sup>

Year	Authorised	PARENT GRADES		TRAINEE & ENTRY GRADES		
		Vacancies	% Vacancies	Quota	Vacancies	% Vacancies
All employee grades except artisans						
1966	33 038	3 254	9,85	7 171	3 619	50,47
1967	33 275	4 374	13,15	6 797	3 488	51,32
1968	33 534	4 466	13,32	4 009	855	21,33
1969	33 597	5 365	15,97	3 944	1 347	34,15
1970	33 491	6 079	18,15	4 345	1 207	27,77
1971	33 895	6 367	18,78	4 405	1 861	43,25
1972	32 826	6 550	19,95	4 677	2 548	54,48
1973	31 835	6 305	19,80	4 355	2 138	49,09
<u>CLERKS GRADE II</u>						
1966	9 586	305	3,18	1 812	871	48,07
1967	9 299	722	7,76	1 806	709	39,26
1968	8 186	335	4,09	1 555	385	24,76
1969	6 241	N/A	N/A	1 534	493	32,14
<u>ARTISANS</u>						
1966	12 011	2 067	17,21			
1967	12 095	2 732	22,59			
1968	12 042	1 795	14,91			
1969	12 204	2 393	19,61			

SOURCE: R S A, S A R & H Annual Reports of the Railways & Harbours, for the relevant years, Pretoria : Government Printer

NOTE 1 The years shown are the only years for which data is available.

shown are misleading as 'Employment under Authorised Establishment' counts both permanent and temporary workers and cannot be disaggregated. Certainly these figures understate the vacancy problem: in 1970, the year the Post Office declared a -0,6% vacancy, the South African Institute of Race Relations records a 33,9% vacancy level for permanent staff.<sup>93</sup> The difference (12 812) is filled by temporary staff. The Post Office also employs temporary staff in addition to those temporaries| employed under permanent posts. For example in 1970 it employed 12 153 additional temporary workers. This results in the Post Office having had in 1970 a labour force comprising over 43% temporary labour and therefore unqualified (by Post Office Standards) for permanent posts. As if these problems are not already sufficient, the Post Office has also in this period, experienced a chronic labour turnover problem.<sup>94</sup> In 1976 the Post Office experienced a turnover in labour of 24%<sup>95</sup>, in 1978 and 1979 over 20%<sup>96</sup>, 1981 and 1982 were both 27% and in 1983 experienced a 20% turnover.<sup>97</sup> The area of greatest shortage to the Post Office is in technical staff, particularly telephone technicians.<sup>98</sup>

Table 3.25 shows the vacancy levels for the S A Transport Services for those years where data is available. In the non-artisan grades the levels range between 10 and 20%, in the artisan grades between 15 and 23% and in the trainee grades between 25 and 55%.<sup>99</sup>

The question which the above raises is why has the State, or at least a very large section of the State, allowed itself to suffer white labour shortages since the late 1940s, a period of nearly forty years? It could have been as a result of institutional factors derived from political forces operating over that time. This might have caused certain categories of work to be reserved for whites and if no whites could be found to fill these posts they simply remained vacant (or were filled by blacks employed on a temporary basis).

Yet it appears extraordinary that a situation like that could have endured for nearly forty years if it had not been reinforced by other factors. One of these factors might have been the misinterpretation by the State of the role required for it as an 'employer of last resort'. In the years up till World War II a purpose was definitely served by the State acting as an 'employer of last resort'. Subsequent to the economic development of the economy of the 1950s and 1960s, a state of white labour shortage, not surplus, was the norm. Certainly there were and are whites who would not be able to find employment other than working for the State. Yet as the evidence in tables 3.23, 3.24 and 3.25 suggests, white labour shortages were experienced over all grades, even the less skilled (white) grades.

Either the public sector is myopic by acting as if there still remains a need for it as an employer of last resort of white

labour, in the face of very large white labour shortages, or the public sector feels that there is still a need for it to act as an employer of last resort for whites. As it is very unlikely that even the public sector could misinterpret a situation for nearly forty years, it can only be concluded that the State still sees a need for itself to act as an employer of last resort for whites. Certainly the evidence in recent periods of raising white unemployment bears out that the State does still act as an employer of last resort for whites. As was shown in section 3.4, growing levels of white unemployment in 1976 led to significant increases in white employment by the State and the first large change in the black-white employment ratio since the mid 1950s.

C: Wage discrimination in the Public Sector

The Public Sector is the meeting ground of the least advanced white labour, and the most advanced black labour. Knight and McGrath: "In 1970 it employed 74% of Africans in professional, technical, administrative and managerial occupations. This sector was less dominant at the clerical level, accounting for 24% of African employees."<sup>100</sup> In the same year it employed 51% of whites in professional and technical occupations and 35% at the clerical level.<sup>101</sup>

This is commented on by Knight and McGrath:

"The most overt cases of wage discrimination are to be found in the public sector, where for many years it has been the enshrined principle. A three-tier salary structure, applying in descending order to Whites, Asians, and Coloureds, and Africans, is found over a broad spectrum of skills".(103)

In 1977 it was announced by the Prime Minister that a move was being made towards the gradual elimination of racial differences in public sector salary scales.<sup>104</sup> In 1983 it was announced that this task had been completed in the public service and progress was being made in other areas of the public sector.<sup>105</sup>

Since Knight and McGrath reported on racial salary scale differences in 1977 this data is no longer made available by the public sector.<sup>106</sup> All sources for the data no longer publish these figures and questions asked in Parliament are unanswered, in the apparent interest of State security.<sup>107</sup> The only areas where some information was found are education, and health services. Racial salary scales have been eliminated in education from Category C up.<sup>108</sup> Category C posts relate to an inexperienced teacher with three years of post matric training. Racial salary scales for staff in health services are given in table 3.27 below.

TABLE 3-26 Ratio of average white to black wages, various sectors, 5-year intervals, 1920-1980

Year	Mining & Quarrying	Manufacturing	Construction	Electricity	Central Authorities	Provincial Authorities	Local Authorities	S A T S	G P O
1920	12,35	2,36	N/A	N/A	N/A	N/A	6,41	N/A	N/A
1925	9,78	2,01	"	"	"	"	5,47	"	"
1930	10,29	2,21	"	"	"	"	5,66	"	"
1935	11,23	2,16	"	"	"	"	6,54	"	"
1940	11,66	2,70	"	"	"	"	N/A	"	"
1945	11,86	3,73	"	4,75	"	"	4,86	3,98	"
1950	14,26	4,14	"	5,55	"	"	4,78	3,76	"
1955	14,31	5,13	"	6,49	"	"	5,96	5,12	"
1960	15,11	4,81	4,70	6,24	4,30	3,80	5,71	5,79	4,24
1965	16,14	4,63	4,24	6,47	3,63	5,19	5,14	5,28	3,80
1970	19,06	5,15	5,18	6,00	3,19	5,05	4,68	4,32	2,75
1975	8,45	4,39	4,15	4,60	3,15	4,71	5,04	5,73	3,52
1980	5,91	4,00	4,70	4,18	2,54	3,38	4,45	3,99	3,18
1981	5,72	3,93	4,81	3,97	2,58	3,41	4,49	4,11	3,02

Sources: 1920 - 1955: Department of Statistics: Union Statistics for Fifty Years Pretoria : Government Printer, 1960  
 1960 - 1970: Department of Statistics: Statistical Year Book 1970 Pretoria : Government Printer, 1971  
 1975 - 1981: Department of Statistics: South African Statistics 1982 Pretoria : Government Printer, 1983

**TABLE 3.27** Maximum Salary Scales by Race in Selected Health Services Posts in Natal, 1982. (Rands pa.)

Post	Whites	Africans	Other Races
Medical Specialist	17 400	16 200	17 400
Intern	6 000	4 320	5 160
Security officer	4 950	2 820	3 540
Nursing Sister	6 300	6 300	6 300
Student Nurse	3 360	3 360	3 360

Source: Province of Natal, Estimates of Expenditure 1982/83, Pietermaritzburg: Government Printer, 1982.

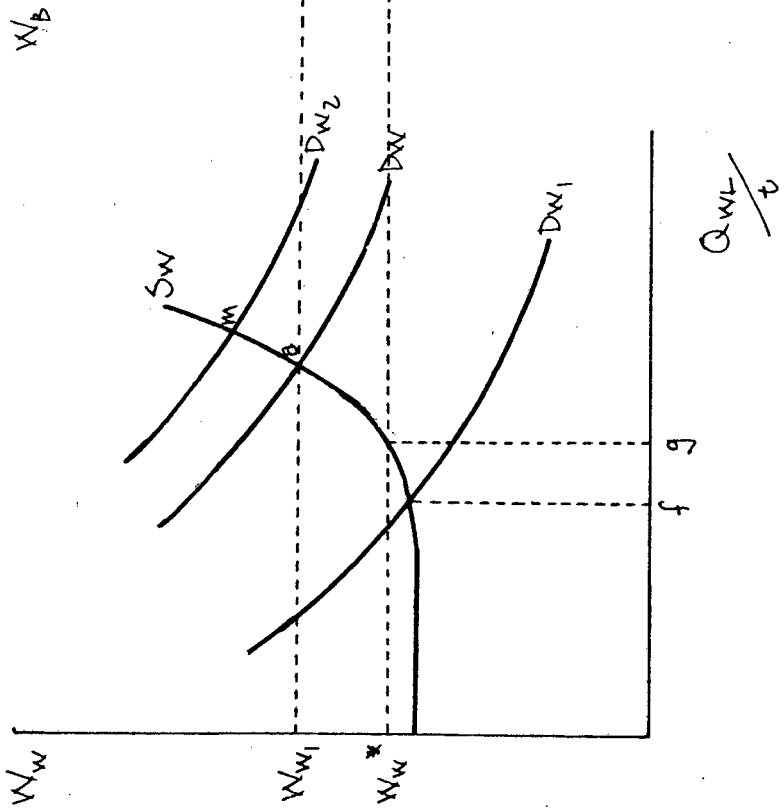
D: Theory of Wage Differences

This section makes no pretence at being original work as it draws heavily on the ideas of Kantor and Rees, and particularly Knight and McGrath. The objective of this section is to present the redefined role of the State sector and incorporate this into a more general model of wage discrimination as initially developed by Knight and McGrath.

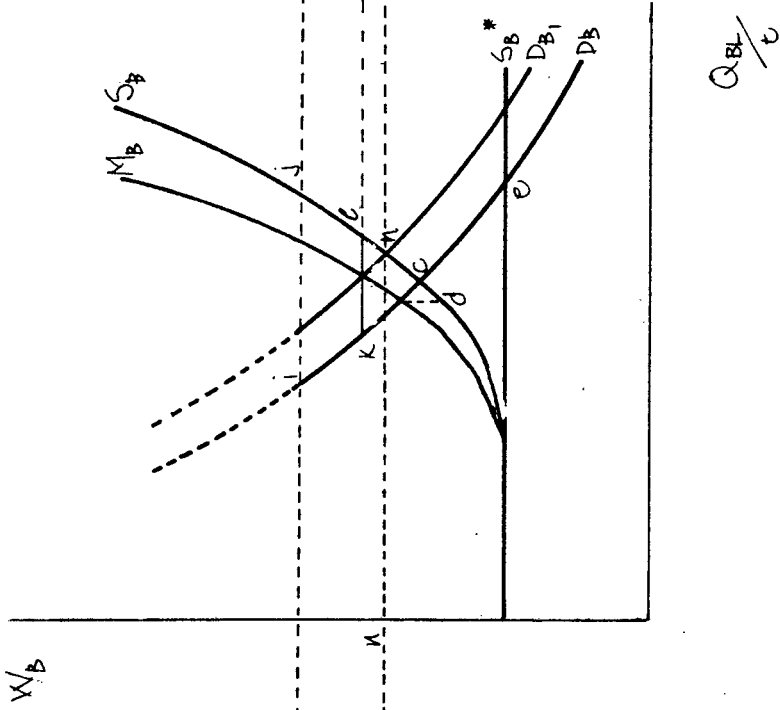
The two critical assumptions are that the demand curves for black and white labour can be separated, and that the State effectively maintains some minimum white wage (a 'civilised labour' wage). The demands for labour are separated through implicit or explicit job reservation and as a result of educational differences. The public sector maintains white wages mainly by maintaining vacancies for whites but also by substituting white for black labour when necessary. It is not necessary to distinguish whether in doing this the public sector will attempt to maintain a constant level of employment or a constant budget.<sup>109</sup> The fixed factor proportions which appear to have operated in portions of the public sector will not prevent the demand curves of white and black labour from being separated. This would only be the situation had fixed factor proportions been in force across the entire economy.

Figures 3.19 (a) and (b) show respectively a separated white

(a)



(b)



(c)

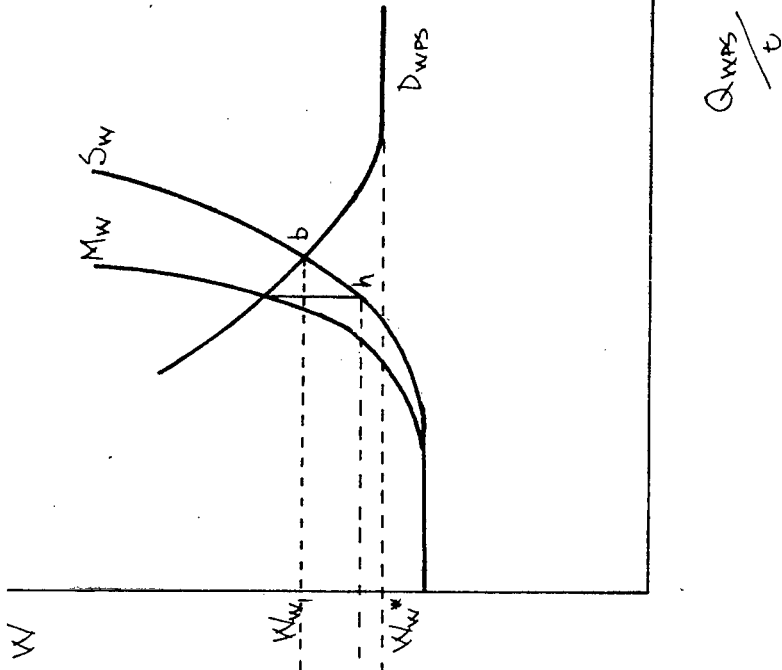


FIGURE 3-19.

RANDS

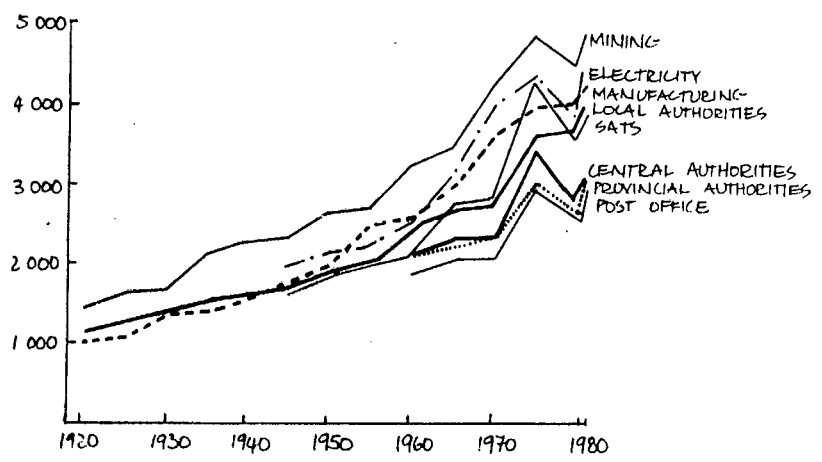


FIGURE 3-20: AVERAGE WHITE WAGES AT 1970 PRICES (RANDS P.A.), VARIOUS SECTORS, FIVE YEAR INTERVALS, 1920 - 1981

RANDS

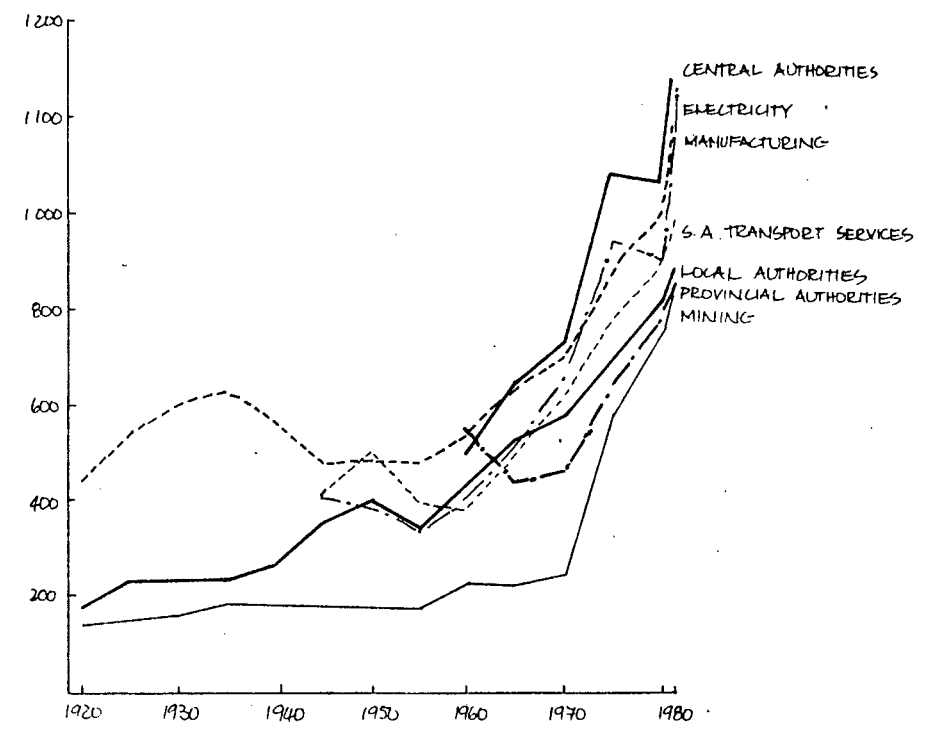


FIGURE 3-21: AVERAGE WAGES PAID TO BLACKS BY VARIOUS SECTORS AT 1970 PRICES (RANDS P.A.), FIVE YEAR INTERVALS, 1920 - 1981

and black labour market. Both supply curves are shown as typically perfectly elastic, becoming increasingly less elastic as the quantity supplied per time period increases: The only period where the supply of white labour might have been perfectly elastic would have been during the 'poor white' era ending approximately 1939, even though real white wages have been increasing consistently since 1920. (See figure 3.20)

The supply of black labour appears to be elastic until the 1950s when real average wages began to increase (see figure 3.21).  $S_W$  is shown as having a higher initial starting point than  $S_B$  as some blacks have access to the land as a means of increasing income.<sup>110</sup> The demand curves for whites ( $D_W$ ) and blacks ( $D_B$ ) are separated. Whites can be substituted for blacks but up until the mid-1970s no black could be substituted for a white, then  $D_B$  is discontinued above the equilibrium white wage  $w_{W1}$ . Blacks are only really placed in previously held white positions as whites move up the job hierarchy. The removal of racial wage differentials in the public service and some Provincial posts should not be seen as blacks being positively substituted for whites. In some cases these blacks are being placed in vacant white positions as, for example, in the police force. In other cases, for example, black teachers and nurses, this is not substitution as teachers and nurses serve primarily their own race groups.

The role of the public sector in de facto determination of wage differences is shown in figure 3.19 (c) which shows public sector demand for white labour. Public sector demand for black labour is not shown as in the earlier periods black employment levels appear to have been constrained through white employment levels. In the latter period figure 3.19 (c) can be seen as public sector demand for both black and white labour given the non differential wage policy in the public service and in some posts in the other areas of the public sector.

The public sector demand curve - ( $D_{WPS}$ ) is a kinked demand curve becoming perfectly elastic at some pre-determined minimum or 'civilised' wage ( $W_{W*}$ ). The public sector therefore sets de facto minimum white wage levels. With regard to supply the public sector faces the same supply curve of white labour ( $S_W$ ) as does the private sector. The public sector is a price (wage) taker and must therefore offer a market wage ( $W_{W1}$ ) in order to attract labour. For the purposes of this model these wages are cash wages but can incorporate subsidies (housing benefits) and non-pecuniary benefits (e.g. job security, and job satisfaction in 'vocational' work).

Should the demand for white labour fall to  $D_{W1}$ , as a result of business fluctuations, or structural factors such as in the 'poor white' era, then the market determined wage would be below the 'minimum' white wage. The public sector 'automatically' take up

white labour by filling vacant white positions and increases the market wage to  $W_{W*}$ .

Given  $D_W$ ,  $S_W$ ,  $D_B$  and  $S_B$  white labour is paid  $W_{W1}$  and black labour, except for some public sector grades, is paid at  $c$ . Should monopsony powers exist in either market the wage will then be less than these. If a monopsony market exists in the recruitment of black labour the wage paid will be  $d$ . If a monopsony market exists for white public sector labour, as it does for teachers and nurses, then it will be paid at  $h$ . The shortage of white teachers and nurses since the late 1960s is a direct result of the longterm effect of these monopsony policies. Monopsony will effect lower wages in the short term but given sufficient labour mobility in the longterm, supply will fall and raise wages in these grades to market rates for the given levels of training and work conditions.

To the extent that the public sector pays black labour the same rate as (the equivalent) white labour some black labour is paid  $W_{W1}$ . This leads to a surplus of black labour willing to work for the public sector equal to  $ij$ . If a monopsony market exists and pays a rate equal to  $h$ , there will be a surplus of black labour equal to  $kl$ .

In the private sector where white trade unions insist on the rate for the job, black wages are fixed at  $W_{W1}$  and black entry is

controlled. With economic growth the demand for white labour increases to  $D_{W2}$  and white wages increase to  $m$ . If employers are able to bargain with white trade unions to allow blacks to move into previously filled white positions two events occur:  $D_W$  will not move as far as  $D_{W2}$  and white wages will not rise to  $m$ . Secondly  $D_B$  moves to  $D_{B1}$ . As blacks now enter previously held white positions, crowding occurs and the previous rate paid for the job i.e.  $a$  now falls to  $n$ . The net effect on the black labour market is a wage increase from  $c$  to  $n$ . (If black labour supply is perfectly elastic wages remain at  $e$ .<sup>111</sup>

## S U M M A R Y

There are four main features which emerge from this part of the work:

The most surprising and the least expected result is the evidence regarding the tremendous growth in the number of blacks working for the State. This growth is largely centred around the growth of black employment in the bureaucrat services viz: the Central Authorities during the 1950s and the homeland governments since the 1960s.

The second most important finding was to see the way in which the Civilised Labour Policy affected State employment: The numbers who benefitted from the Civilised Labour Policy appear to have been low and the policy itself appears to have been applied only at irregular intervals and for short periods. This policy has had one fundamental effect on State employment: The State has, and still does, regard itself as an employer of last resort for white labour. It implements this through the existence of perpetual vacancies for whites in lower grade posts at wages which are at the lower end of the market rate. This has two important effects: It sets a minimum wage for whites - a civilised wage. Any change in the rate of pay to whites in these positions changes the minimum wage to whites in the economy. Secondly, the State, because it implements the policy through the existence of

vacancies is likely to be operating at less than the full efficiency level which can be expected of bureaucratic organisations.

Evidence suggests that for certain periods and for certain sectors of the State, a limit was imposed on the number of blacks who could be employed given the number of whites employed. The effect of this was to severely restrict the growth in employment by these sectors in those periods where there were white labour shortages.

State employment divided by activity shows the interesting result that half of all State employment is involved in the provision of economic services. The 1980 results show employment in education, the second most important employment activity, involved 20% of State employment.

SOME AREAS FOR FUTURE RESEARCH

At some point in thesis work it becomes necessary to stop researching and to write up the existing conclusions. The result of this is that some areas of the work are not fully considered or might not be considered at all. It can be that when these under examined areas are focussed on, the conclusions reached in the initial stages of the work are inaccurate or inconclusive. Contained below is a list of some of the areas which might yield important insights to future research.

1. The discussion on black/white employment ratios and wage ratios could be refined by incorporating the relative shares of the various sectors as well as the conditions operating within the sectors.
2. The discussion on the wages paid to the private sector/public sector might benefit from the development of a composite private sector/public sector wages index which takes account of all income accrued, not simply cash income (as is the case in this thesis).
3. The discussion on public sector vacancies might benefit from a micro analysis of public sector/private sector wages, i.e. does any real income difference exist (cash and kind) between identical jobs in the private and public sector?
4. The discussion on public sector vacancies might benefit from an analysis of the ability of the government to raise wages in the light of increasing vacancies.
5. The effects of Afrikaner Nationalism on State employment have not been touched on in this work. Persons working in the fields of Political

NOTES TO PART III

- 1 It should be noted that this is the only area of decrease. It should also be noted that this decrease in expenditure had no effect on employment in this activity.
- 2 See Part II for a discussion of these estimates.
- 3 Data after 1975 are not available.
- 4 Data after 1975 are not available.
- 5 Calculated from R.S.A., Department of Statistics. South African Statistics 1980. Pretoria: Government Printer, 1981. p 1.7.
- 6 A racial breakdown of the data are not available before 1967.
- 7 National Servicemen are not included in Central Authorities employment and are therefore not part of the Residual.
- 8 1960 is the earliest year for which data is reliable.
- 9 See table 2.1.6
- 10 For a discussion of 'Net' Provincial Employment see Part II Section 2.2.
- 11 For a discussion of the difficulties in determining growth rates, see Part II Section 2.2.2.
- 12 These percentages are likely to be overstated in the later years due to the possible under-counting of certain population as a result of the existence of 'illegal' urban residents.
- 13 Soloman, D. The Economic and Financial Policies of Local Government in South Africa: A Theoretical Analysis. M.A. Dissertation, U.C.T., Cape Town, 1983.
- 14 Ibid., Ch. 7.
- 15 See table 2.6.3.
- 16 Benbo. Black Development in South Africa. Pretoria: Perskor, 1974, p.105.

- 17 Nattrass, J. The South African Economy, its growth and change, Oxford University Press, Cape Town, 1981, p.26.
- 18 Wilson, F. Labour in the South African Gold Mines, 1911-1969, Cambridge: Cambridge University Press, 1972, p.3.
- 19 Marquard, Leo. The Peoples and Policies of South Africa, Oxford University Press, Cape Town, 1969, p.146.
- 20 Nattrass, op. cit., p.231.
- 21 Marquard, op.cit., p.147 .
- 22 Horwitz, R. The Political Economy of South Africa, Praeger, New York, 1967, p.94.
- 23 Ibid.
- 24 Hobart Houghton, D. The South African Economy, Oxford University Press, Cape Town, 1972, p.16.
- 25 Ibid.,
- 26 Horwitz, op.cit., p.241.
- 27 Horwitz, op.cit., p.116.
- 28 Van Biljon, F.J. State Interference in South Africa, London: King & Son, 1939, p.72.
- 29 Horwitz, op.cit., p.253.
- 30 Giliomee, H. The Growth of Afrikaner Identity, in "The Rise and Crisis of Afrikaner Power" by H. Adam and H. Giliomee (eds), David Philip, Cape Town, 1979, p.5.
- 31 Adam, H. Modernizing Racial Domination:South Africa's Political Dynamics, University of California Press, London, 1971, p.170.
- 32 Wassenaar, A.D. Assault on Private Enterprise, The Freeway to Commission, Tafelberg, Cape Town, 1977, p.123.
- 33 Welsh, D. The Political Economy of Afrikaner Nationalism, in "South Africa : Economic Growth and Political Change" by A. Leftwich (ed) Allison & Busby, London, 1974, p.261.
- 34 Davenport, T.R.H. South Africa. A Modern History (2nd Ed.) MacMillan, Johannesburg, 1978, Ch.14.

- 35 Horwitz, R. op.cit., p.272.
- 36 Schlemmer, L. Conflict and Conflict Regulation in South Africa. In "The Government and Politics of South Africa" by Antony de Crespigny and Robert Schrire (eds). Cape Town: Juta, 1978, pp 160-1.
- 37 South African Police, Annual Report 1976 Pretoria: Government Printer. Annexure II.
- 38 Horwitz, op.cit., p.410.
- 39 Ibid. p.287.
- 40 Davenport, op.cit., p.257
- 41 Hobart Houghton, D. op. cit., p.219.
- 42 For which there is little information regarding their labour shortages.
- 43 Davenport, op.cit., p.295.
- 44 Van der Horst, S.T. Labour Policy in South Africa (1948-76) : A Sketch. In "Public Policy and the South African Economy" by M.L. Truu (ed), Oxford University Press, Cape Town, 1976, p.102.
- 45 Van der Vyver, J.A. Prospects for the Future Political Development of South Africa, in "The Government and Politics of South Africa" by A. de Crespigny and R. Schrire (eds), Juta & Co, Cape Town, 1978, pp 247-8.
- 46 v.d. Horst, op.cit., p.101.
- 47 Davenport, op.cit., Ch.16.
- 48 Horwitz, op.cit., p.275.
- 49 Hobart Houghton, D. op.cit.
- 50 Bromberger, N. Government Policies Affecting the Distribution of Income, 1940-1980, in "South African Public Policy Perspectives" by R. Schrire (ed), Juta & Co, Cape Town, 1982, p.183.
- 51 This paragraph draws heavily on Bromberger (1982) pp 183-185.

- 52 See Hendrie, D. Employment and Earnings Statistics for the South African Manufacturing Sector 1970-1979, Vol.II, SALDRU working paper 38, April 1981.
- 53 Kantor, B and Rees, D. South African Economic Issues, Juta, Cape Town, 1982, Ch.3
- 54 Ibid. p.49.
- 55 Cassiem, F. Labour Market Segmentation in South Africa. African Studies Institute, University of the Witwatersrand, Mimeograph, 1982, p.5.
- 56 Ibid. p.6.
- 57 Doeringer, P. and Piore, M. Internal Labour Markets and Manpower Analysis, Massachusetts, 1971. Original source - Cassiem (1982).
- 58 See for example Wilson, F. : Current labour Issues in South Africa in "The Apartheid Regime. Political Power and Racial Domination" by R.M. Price and C.G. Rosberg (eds), David Philip, Cape Town 1980, and also figure 3.18(a) in the text.
- 59 Op.cit., Cassiem p.16.
- 60 Knight, J. A theory of income distribution in South Africa Oxford Bulletin of Economics and Statistics, Nov.1964.
- 61 Knight, J and McGraath, M. An Analysis of racial wage discrimination in South Africa. Oxford Bulletin of Economics and Statistics, Nov. 1977.
- 62 R.S.A. Department of Statistics. Census 80 No.02-80-02 Government Printer, Pretoria, 1980.
- 63 See, for example, South African Statistics 1982, part 5.
- 64 Hobart Houghton, D. The South African Economy 3rd Ed. Oxford University Press, Cape Town, 1973, p.91.
- 65 Kantor & Rees, op.cit., pp 55-6.
- 66 Ibid., pp 51-2.
- 67 This is based on the writers personal experience from working on the Free State gold mines. This is an area where future research might prove useful.

- 68 Horwitz, R. : The Political Economy of South Africa. Praeger, New York, 1967, p.83.
- 69 Van Der Horst, S.T. Labour Policy in South Africa (1948-1976) : A Sketch In M.L. Truu (ed) "Public Policy and the South African Economy". Oxford University Press, Cape Town, 1976, p.102.
- 70 Ibid., p.102.
- 71 Davenport, T.R.H. South Africa. A Modern History (2nd Ed.), MacMillan, Johannesburg, 1978, pp 363-4.
- 72 v.d. Horst, op.cit., p.107.
- 73 Knight & McGraath, op.cit., p.264.
- 74 Kantor & Rees, op.cit., p.56.
- 75 Knight & McGraath, op.cit., p.263.
- 76 As discussed by Knight & McGraath p.262, and Kantor & Rees, p.60, "rate for the job" agreements effectively "crowd" lesser skilled (black) workers into lower paying work and so further increase racial wage differences.
- 77 F. Wilson (1980), op.cit.
- 78 Kantor and Rees, op.cit., p.58
- 79 Bromberger, N Government Policies Affecting the Distribution of Income 1940-1980, in R. Schrire (ed) "South Africa - Public Policy Perspectives" Juta, Cape Town, 1982, p.168.
- 80 Knight & McGraath, op.cit., 1977 and Kantor & Rees, op.cit, 1982.
- 81 Bromberger, op.cit. p.169.
- 82 Kantor & Rees, op.cit., p.57.
- 83 The approach was necessary in order to prevent auto correlation.
- 84 Hepple, A. South Africa : A Political and Economic History, London : Pall Mall, 1966, p.211.
- 85 Union of South Africa, Board of the Railways and Harbours, Annual Report - 1915, Pretoria : Government Printer, 1966, p.9.

One of the less successful policies of the Railways at that time was to slow the rapid urbanisation which was taking place. The jobs which were offered to whites were confined to rural areas.

- 86 Ibid., Annual Report - 1920, p.15.
- 87 Ibid., Annual Report - 1925, p.24.
- 88 Hepple, *op.cit.*, p.211.
- 89 Table 2.7.3.
- 90 Board of the Railways and Harbours, *op.cit.*, 1945, p.14.
- 91 Union of South Africa, Public Service Commission, Annual Report - 1946, Pretoria : Government Printer, 1947, p.7.
- 92 The occupational differentiation scheme recently introduced into the Public Service will undoubtedly solve some of the Public Service's labour problems.
- 93 S.A.I.R.R. A Survey of Race Relations, 1970, Johannesburg: Natal Witness Press, 1971, p.122.
- 94 Given the extent of its temporary labour force, a high turnover rate must be expected.
- 95 S.A.I.R.R. A Survey of Race Relations, 1977, Johannesburg, Natal Witness Press, 1970, p.281.
- 96 G.P.O. Annual Reports, 1978 and 1979, pp 25 and 28 respectively.
- 97 G.P.O. Annual Reports 1981 and 1982, pp 27 and 22 respectively.
- 98 G.P.O. Annual Report 1983, p.26.
- 99 SATS Annual Reports : 1953/1954 p.2, 1963/1964 p.3, 1972/1973 p.29, 1974/1975 p.6.
- 100 Knight & McGraath, *op.cit.*, pp 257-8.
- 101 Department of Statistics, Population Census 1970 Occupations, No.02-05-04.
- 102 Calculated from Table 3.21.
- 103 Knight & McGraath, *op.cit.*, p.258.
- 104 Ibid., p.259.
- 105 SABC-TV News item 1/11/83.
- 106 Knight & McGraath (1977).
- 107 Hansard, No.10, 7 October 1981, Col.659.

- 108 Personal communication with the Department of Education and Training.
- 109 The distinction is relevant to size of government theory.
- 110 See: Bell, T. Migrant labour : Theory and Policy SAJE, December 1972.
- 111 This paragraph draws heavily on Knight & McGraath 1977.

APPENDIX A : SOURCES TO FIGURES

- 2-1 : Table 2.2.2
- 2-2 : Table 2.2.3
- 2-3 : Table 2.2.4
- 2-4 : Table 2.7.1
- 
- 3-1 : Employment data calculated from data presented in Part II.  
Data estimated where unavailable. Population data from  
department of Statistics.
- 3-2 : As for fig. 3-1
- 
- 3-3 : Employment data as for fig. 3-1. Expenditure and G.D.P.  
data from I. Abedian and Standish, B. An inquiry into the  
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from 1911 to 1982. U.C.T., Mimeograph, 1984.
- 
- 3-4 : Table 3-4
- 
- 3-5 : As for fig. 3-3
- 
- 3-6 : Part II; Data estimated where unavaiable.
- 
- 3-7 : As for fig 3-6
- 
- 3-8 : As for fig. 3-6.

- 3-9 : Table 2.1.3.; data estimated where not available
- 3-10 : Table 2.1.5.; data estimated where not available.
- 3-11 : Table 2.1.6
- 3-12 : Table 2.2.5
- 3-13 : Table 2.3.1
- 3-14 : Table 2.7.3
- 3-15 : Table 2.9.1
- 3-17 : Table 2.9.2
- 3-18 : Calculated from department of Statistics: Union Statistics,  
Statistical Year Book 1976, South African Statistics 1982
  
- 3-19 : =====
- 3-20 : As for fig 3-18
- 3-21 : As for fig 3-18

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