THE LABOUR MARKET CONSEQUENCES OF RESTRUCTURING STATE-OWNED ENTERPRISES: THE CASE OF SOUTH AFRICA

Prepared for: School of Economics
University of Cape Town

Prepared by: Mei-Chi Liou
In partial fulfilment of requirements for a
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Student No. LXXMEI001
Supervisor: Dr Haroon Bhorat

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ABSTRACT

There are ongoing debates on the topic of restructuring. More so in South Africa (especially in terms of welfare consequences that are likely to arise) when its government undertook the difficult task of restructuring State-Owned Enterprises (SOEs). There is however a general lack of information and data on the labour dynamics of restructuring SOEs to inform that debate. This paper tries to fill that gap by looking at (Labour Force Survey) LFS data as well as extensive data provided by one of the SOEs – namely Eskom.

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1. INTRODUCTION

Realising that inefficiencies place a large strain on the fiscus and draws resources away from essential social programmes, the South African (SA) government has undertaken the difficult task of restructuring State Owned Enterprises (SOEs). This usually entails downsizing or privatisation in an attempt to reduce the size and improve the efficiency of the SOEs.

There are four major sectors that the SOEs in SA operate within; energy (Eskom group), telecommunication (Telkom group), transport (Transnet group) and defence (Denel group)[1]. While restructuring has taken place (and continues to take place), there has been little or no data on any one specific SOE in terms of how their employment structure has changed over time. It is also important to consider the impact that such restructuring may have on the welfare of individuals as well as the economy as a whole. We were given the golden opportunity of gaining access to raw data from various SOEs (and in particular Eskom) when the Department of Public Enterprises (DPE) commissioned a study on the employment impact of the restructuring program. The bulk of this research paper involves an in-depth analysis of the given data, which for the *first time* provides the reader with a more realistic idea of how restructuring has affected SOEs employment structures over time.

There are vast amounts of research on privatisation, though less so downsizing – the bulk of which is written or co-authored by Martin Rama. While the purpose of this paper is not to delve into the issues and complexities regarding restructuring, it is useful to provide our readers with an overview of the topic as well as some international experience of restructuring. Hence we begin with a brief look at restructuring in Section 2 before moving onto examining SOEs in South Africa.

One of the key issues of concern within the restructuring debate is of course the welfare consequences that are likely to arise at both the individual and household level, as a result of the internal reorganisation of these state resources. These welfare consequences are intermediated through the labour market. Simply put, it is employment losses amongst workers in these enterprises that may result in deleterious household poverty outcomes. To this extent therefore, the broader labour market within which these SOEs operate is a critical starting point. It is with this 'big picture' approach that the paper starts its analysis of SA SOEs. Using the September 2000 Labour Force Survey[2], one looks at current employment and employment trends in South Africa and how it compares to that of SOEs in terms of race, gender, education, location, sector and occupation.

A first crucial take and something to bear in mind when reading this paper is that SOE employment constitutes only 3% of total employment in the society, translating into about 340,000 workers. What this suggests is that purely on the basis of SOEs' minor contribution to total employment, their relative impact on aggregate unemployment levels will be insignificant. This does not minimise the importance of welfare

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[1] Appendix A provides a broad overview of the four SOEs.

[2] A brief summary of the survey along with a description of certain variables that were created is presented in Appendix B.

consequences to SOE restructuring, but they do suggest that both public and private sector restructuring, with their much larger contribution to total employment, are likely to yield more serious effects on aggregate unemployment levels in the society. In terms of employment demographics, SOEs are underrepresented by Africans and females – the possible outcome of either/the combination of *Apartheid* labour policies that provided preferential access to employment opportunities for Whites and a more skills-biased demand for labour.

The paper then goes on to look at wage trends, bills, wage differentials and whether a wage premia exists or not in SOEs. Wages also serve as an indication of the relative importance certain skills may have which may differ within the sectors. This section however uses cross-sectional data and involves using either graphical representation to expose trends or medians of wages to draw inferences. A more formalised methodology: the earnings function is used in Section 5 to confirm results found in both employment trends as well as wages findings. Cumulative distribution functions (c.d.fs) as well as the earnings function show that the average worker in the public sector and SOEs command a wage premium by simply working in these sectors. This is particularly true when applied to unskilled labour employed in SOEs. SOE workers receive approximately a 21% wage premium compared to those in the private sector. Assuming that private sector wages may be used as a proxy for an efficiency wage, it may be said that SOEs are paying a higher than efficiency wage to their employees. If this is the case, then the factor cost reasoning for restructuring in the pursuit of higher efficiency levels, is a strong one. Wage differentials are also lower in these two sectors, i.e. the difference between high wage earners and low wage earners are not as large as those in the private sector. This simply says that SOEs and the public sector are better remunerators in South Africa.

Having better understood how SOEs are structured, we turn to the labour market evidence of SOE restructuring in Section 6 which is divided into (1) a case study of Eskom and (2) other case studies. As mentioned previously, there is little or no data regarding any one specific SOE in South Africa. The LFS, which is conducted bi-annually by Statistics SA, does provide aggregate data, but at the time of writing the survey had only been conducted once (the pilot study notwithstanding). Even so, the finer dynamics of employment changes are often lost in aggregate data and there is still a need for more detailed time series data. Eskom was able to provide valuable and extensive raw data[3] on their workforce – a rare opportunity and the reason why it commands so much attention in this paper. The remaining SOEs were also able to provide data although not to the extent that Eskom could.

Focusing on Eskom as a prime example of an SOE, we find that though terminations were 20828 strong, the workforce decreased by only 8,482 over the period 1995 to

[3] The data provided by Eskom and is by far the most comprehensive data set that is available. The data was converted and analysis was made using a statistical software application Intercooled Stata 7.0. Though data was provided for 1994 to 2001, there were inconsistencies in the 1994 data set and therefore this paper focuses on the period 1995 to 2001. The variables provided included gender, race, age, household size, marital status, qualifications, designations, union membership, termination dates and income. Another data set, which contains the details of all the terminations over the years, was also provided and is used extensively to find the characteristics of terminated Eskom employees. Also, by data manipulation, basic characteristics of entry-level employees were discernible allowing us to make inferences about the nature of employment patterns within the electricity regulator. Also, please refer to Appendix D2 for misalignment problems in the Eskom data.

2001. This means that both hiring and firing took place, intrinsically involving the reorganisation of the firm.

A combination of forces drives the reorganisation. They are (1) employment equity, (2) restructuring, and (3) normal business processes.

A movement toward a more demographically representative workforce is clearly represented by the high rate of terminations amongst White employees (in particular highly skilled workers) and the substitution of these numbers by African employees. The same is true in terms of gender. This movement is clear and indicative of labour transformations toward a more equitable workforce in Eskom. Despite the fact that these White employment losses extend to the skilled category; there is still significant employment attrition amongst the unskilled African workforce. There seems to be a general shift toward skilled labour in Eskom and Africans are affected greatly as they formed the bulk of basic skilled labour to start with. Considering the wage premia existing in the public sector, this could possibly be the price employees are paying for receiving that wage premium. This employment equity transition is certainly not considered as restructuring in the context of this study.

It is found that a maximum of 51% of total terminations and minimum of 36% (i.e. between about 10,500 and 7,400 individuals) may be attributed to restructuring (remembering that a net of only 8,482 employees were lost over the seven years). A paper on restructuring is never complete without an analysis of terminations and the dynamics between SOEs and their trade unions. Applying the Hick's model[4] to the relationship dynamics between unions and the benevolent state instead, it is shown that the benevolent state would offer either better wages or severance packages than employers in the private sector. Also the presence of the Congress of South African Trade Unions (COSATU is also likely to generate superior compensation for not only their workers but for all workers in Eskom. The combination of a benevolent state and good trade union relations means that those retrenched are at an advantage compared to the same situation in the private sector.

The large "retrenchment" category found under terminations is evidence that normal business processes contributed to reorganisation in Eskom. There is also movement toward skilled labour in Eskom, denoting a possible shift to more technologically advanced process. This is shown by the termination of a large number of basic skilled workers.

It is clear that there is great difficulty in separating restructuring and business process changes for both encompasses each other. Given such changes in a firm, an employee is faced with two scenarios, either job loss or no job loss. It is easy to make the wrong assumption that this is the end of the story. On the contrary, after job loss, an employee is faced with four possible scenarios. First, the employee may be

[4] Hick's (1966) industrial dispute graph shows employer behaviour as mapped by the "employer's concession curve" and union behaviour by the "union resistance curve. The premise is that unions start off with relatively high demands and as time progresses would lower these demands if negotiations drag on since this would result in loss of income to their members (Ehrenberg & Smith, 2000). Conversely the employer begins by offering small wage increases and slowly raising their offers as the expected strike period rises causing profits to fall. This bargaining process continues until the two curves meet, resulting in a wage increase of W0 and an expected strike period of S0.

outsourced, i.e. the employee continues to work but on a contractual basis. Second, the employee may re-enter into the market but to another sector, i.e. worker mobility such as an Eskom engineer going to work as an engineer in the mining industry. Third, the worker may re-enter back into the same sector due to dynamic effects, e.g. the ex-Telkom worker going to work for Vodacom. Lastly, the employee may be faced with no employment. When this occurs, there should be a social net for these persons in terms of a social plan and skills development.

Policy makers have had an ongoing struggle with the tough task of finding the most effective labour market policies that would create sustainable reduction in the unemployment in South Africa. Active expenditure involves employment services that include training, direct job creation in the public and private sector and support for unemployed who are interesting in starting up their own business. In terms of the restructuring of SOEs and the impact this has on employees, there have been and will still be retrenchments. As contributors of the Skills Development Levy, SOE employers are able to claim levy grants, the first of which comprises 15% of the levy paid. A second grant is also available to them should they reach the targets sets in their workplace skills plans (50% of levy). SOEs should use the claim to set up a social plan that suits their needs. This could include training employees and equipping them with skills that may be transferred to either other sectors or elsewhere in their existing sectors. For workers already unemployed by SOEs, there is the National Skills Fund which deals predominantly with the training of unemployed persons in the hope that they would become self-sufficient (e.g. set up their own businesses) or become more employable. However frequently argued that there is no acceptable basis for privileging certain workers or recently unemployed workers over and above millions of already unemployed workers (Dept. of Labour, 1996). 90% of the National Skills Fund has already been allocated, mostly for survivalist purposes. A "Queue Management" system will be put in place and preference given would depend on social accords. Taking this into consideration, it would be unlikely that an ex-SOE employee would qualify for a position in the front of the queue.

Given this, it would seem that the onus would fall on SOES to provide a social plan to the ex-employees by setting up their own fund. however instead of having to finance this entirely on their own, it would make more sense for the social plan to take place before the actual retrenchment occurs since the SETA's would be able to contribute to the training.

2. BACKGROUND

In a world of finite resources, efficiency should be a common goal in that it produces a higher standard of living. Savas (2000, p.10) insightfully notes that just as "freedom and justice are menaced by an overly powerful government, so is efficiency". While this paper is focused on South African issues and data, it is important to begin by giving our readers a basic understanding of what restructuring entails as well as international experiences of it.

2.1 Restructuring of State Owned Enterprises

State owned enterprises are simply those that are majority-owned by government.[5] As mentioned earlier, overstaffing and inefficiency is a common characteristic of both government and SOEs, but why focus on SOEs? Perhaps the main difference between the public sector as a whole and SOEs is the decision making process. Public sector decisions are based on either vote/budget maximization or welfare maximization (Gregory & Borland, 1999). SOEs must in addition consider issues of efficiency and profit maximising, and that is mainly the reason why SOEs have been the focus of restructuring.

For the purpose of this paper restructuring incorporates both downsizing and privatisation; both are believed to increase efficiency and should be implemented when there are signs of:

(1) inefficiency, overstaffing and low productivity,
(2) poor quality of goods and services,
(3) continuing losses and rising debts of SOEs,
(4) lack of managerial skills or sufficient managerial authority,
(5) unresponsiveness to the public,
(6) under maintenance of facilities and equipment,
(7) insufficient funds for needed capital investments,
(8) excessive vertical integration,
(9) obsolete practices or products and little marketing capability,
(10) multiple and conflicting goals,
(11) misguided and irrelevant agency missions,
(12) under-utilised and under performing assets,
(13) illegal practices and
(14) theft and corruption (Savas, 2000, p.111).

Do note that these can exist in privately owned enterprises too, but it's the high preponderance of all these 14 factors that is relevant to the SOEs. The symptoms above often reflect more systematic problems based on the fact that many government activities are monopolies, which have little incentive to use resources efficiently and suffer no penalties for poor performance (Savas, 2000, p.112), for example private

[5] They may be categorized as enterprises wholly owned and operated by the state, enterprises partially owned by the state and partially by private sector investors sometimes called "parastatals", enterprises owned by government but operated by outside managers and public services owned and provided by governments, local or national including railways, telecommunication networks, national airlines, and national health and educational services (Alexeev, Ernst & Marer, 1996).

firms that perform poorly are either taken over or go out of business, while government on the other hand get bigger budgets!

Downsizing is often used to streamline the workforce, in the hope of reducing costs and expenses, increased profitability, productivity and customer satisfaction (US National Performance Review, 1997). In other words downsizing is thought to increase efficiency. Needless to say, involuntary dismissals are often politically and socially unfeasible, and as a result, voluntary approaches to reducing public sector employment have been popular (UNDP, 1999).

Privatisation on the other hand involves the change from governmental or public ownership or control to private enterprise. This is also done in an attempt to become more efficient and profitable; and it is possible while maintaining and even improving the level and quality of services (Savas, 2000). As overlapping functions and inefficient administration is a problem often experienced in government functions, downsizing usually follows. Downsizing may even happen prior to privatisation in order to make the enterprise more attractive to potential investors. In other words restructuring could entail downsizing, privatisation or a combination of the two.

This matter of sequencing, i.e. downsize then privatise or vice versa is an interesting one and should be explored. Figure 1 below is a decision tree designed by Rama (1999). It is intended to assist policy makers in developing countries, multilateral organisations as well as donor countries in the decision-making process (Rama, 1999, p.8). Chong & Rama (2001, p.8) makes an important observation that often the choice is not between downsizing or not downsizing, but rather between downsizing by the government or downsizing by the private sector. The answer to this question again involves efficiency considerations and public interest issues and should be carefully evaluated (Chong & Rama, 2001, p.8). If downsizing was not undertaken by the government prior to privatisation, the new owners would have to deal with labour redundancies. The amount, composition and compensation of the downsizing exercise would probably differ depending on who downsized. Also the price that potential buyers are willing to pay would vary according to how overstaffed the organisation was (Chong & Rama, 2001, p.8).

When government downsizes, there are certain problems that arise. The World Bank (2003) identifies 3 main problems, namely (1) paying too much, (2) adverse selection and (3) the revolving door. Paying too much is a problem intrinsic to downsizing by the government because "buying out" the workers is a simple and convenient way to "defuse the opposition to public sector reform" and usually there is an excessively high cost of separation simply because governments are able to shift part of the downsizing costs to the tax payer (Chong & Rama, 2001, p.11). When multilateral organisations and donor countries are willing to lend substantial amounts of money for severance pay, adverse selection arises as this creates biases toward voluntary separation schemes (Chong & Rama, 2001). Another area where adverse selection could occur would be when severance pay packages creates an incentive for the most productive workers (as these are the people who are probably able to easily find another job) to leave while the least productive stay (Chong & Rama, 2001, p.11). The "revolving door" syndrome, where separated workers are later re-hired arises from this adverse selection and suggests that downsizing operations lead to the departure of the few who make the public sector work. All these issues need to be taken into serious consideration when downsizing and are incorporated in a decision tree designed by Rama, in Figure 1. However one reason why downsizing may be justified prior to privatisation is the credibility of the reform process as the ability to overcome labour resistance is seen as a signal that the government is committed to privatisation (Rama, 2001, p.11). This signal then reduces the uncertainty faced by potential investors making privatisation possible.

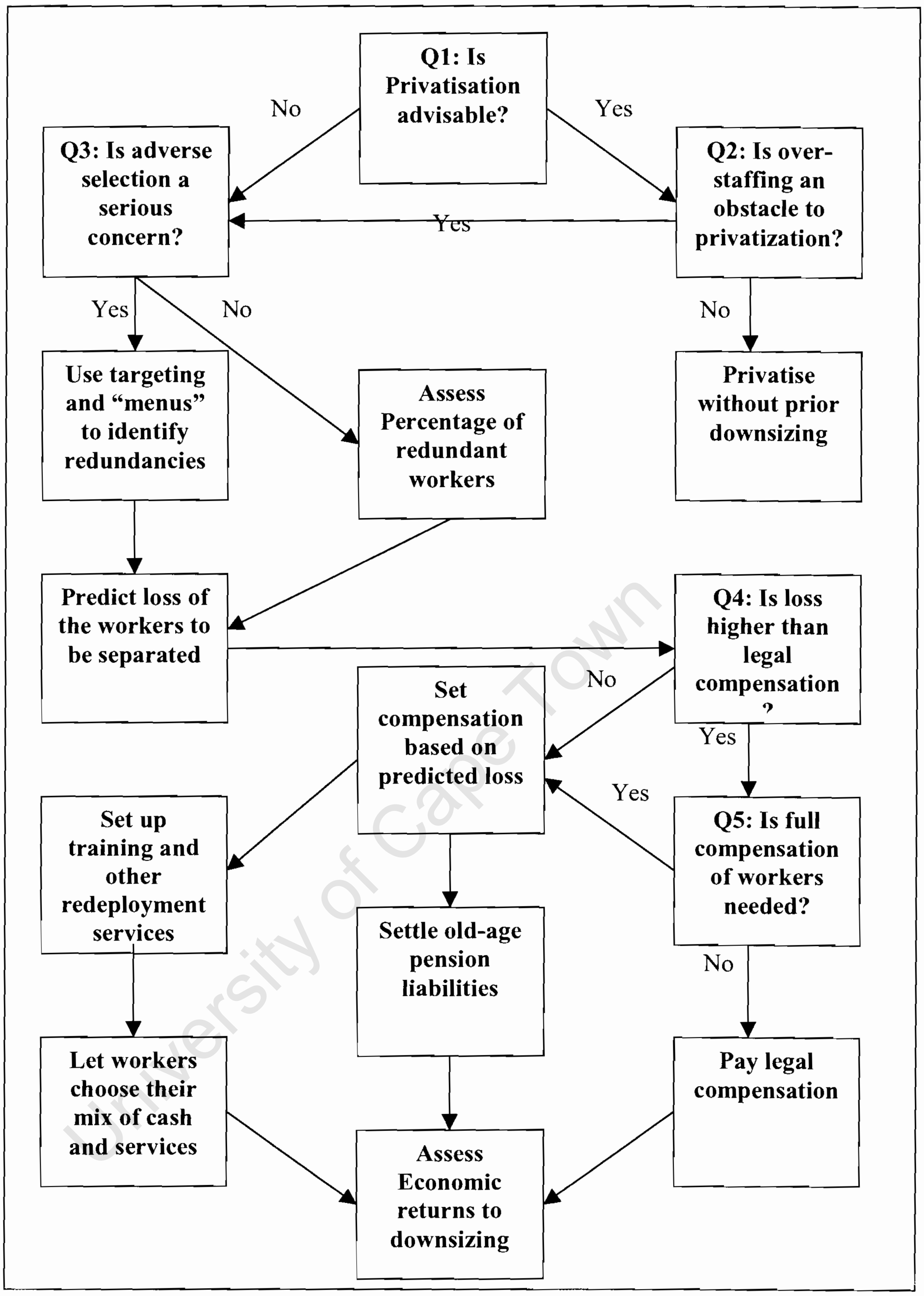

Figure 1: Privatisation Decision Tree

2.2 International Experience and Learning from International Experience.

There is conflicting evidence as to whether restructuring has lived up to its expectations of increased efficiency and productivity. This section will take a look at international case studies that show both excellent and poor results of restructuring. As the processes of restructuring have already been put into place in South Africa's SOEs, the next section is one on how best to implement a restructuring programme.

Before the effects of restructuring are examined, let's first make comparisons of public, private and mixed enterprises in competitive environments, i.e. let's compare ownership arrangements. A study by Boardman & Vining (as cited in Savas, 2000) on 500 largest manufacturing and mining firms was conducted on 419 private companies, 58 SOEs and 23 mixed enterprises. The findings show that (1) private firms are both more profitable (return on equity was 14% larger) and more efficient (the ratio of sales to assets was 27% larger) than SOEs or mixed enterprises (2) ownership does matter, not just competition and (3) that SOEs and mixed enterprises performed equally badly showing that not just private investment is important but private control (Boardman & Vining as cited in Savas, 2000, p.168). Savas (2000, p.168) concludes that the popular practice of selling minority shares in SOEs, is in fact *not* privatisation but merely raising capital and that it may not lead to much improvement.

To understand the differences between successful and unsuccessful SOE reform one requires an objective measure of success. The World Bank establishes three objective indicators, financial returns, SOE productivity and the savings-investment deficit[6] (World Bank 1995). Using these indicators The World Bank finds that Chile, Korea and Mexico achieved the best results, as they performed better than the other countries and were able to improve on performance that was considered good already (The World Bank, 1996). Egypt, Ghana and the Philippines had mixed results while India, Senegal and Turkey had the poorest results; though there was limited data, partial indicators show that the Czech Republic, China and Poland show mixed to good results (The World Bank, 1996, p.4).

The reform of China's State-Owned Enterprises is a good example of where restructuring succeeded with good planning. It is a complicated case particularly when they had to consider combining a socialist system with market economy, and the success of the restructuring is unprecedented[7]. Experiences of Algeria, Poland and Egypt all suggest that restructuring is good but only under certain conditions. In Algeria and Poland, the evidence suggests that in an economy with an underdeveloped financial system, the reform should focus on corporatisation that involved government oversight and monitoring rather than on corporatisation involving greater autonomy for public enterprises -- at least in the early stages of reform (Bhattacharya, 2000, p.18). Also these programs seem to recommend a financial plan that should "impose steadily tighter budget constraints on public enterprises, place strict limits on their access to bank credit and address directly the role that commercial banks should play in their restructuring" (Bhattacharya, 1000, p.18). The Egyptian case study also suggests that the improvement in the efficiency and financial performance of SOEs

[6] For a detailed discussion of these measures look in "Bureaucrats in Business: the economics and politics of government ownership" by the World Bank, 1995).
[7] For the whole story, read "Reform of China's State-Owned enterprises" by Ping & Welyun (1998).

requires exposing them to the threat of foreign competition through trade liberalisation measures if the domestic market fails to provide significant competition (Bhattacharya, 2000, p.18).

A 1982 Kenyan report stated "experience suggests that many of these commercial investments would be more productive, better managed and more profitable in the hand of private owners" (Shirley, 1994, p.12) summarises the findings that support the restructuring of SOEs. Studies in Sub-Saharan Africa show that earnings from public enterprises are low and many run losses (Grosh & Mukandala, 1994) [8]. A 1985 World Bank report on transport sector SOEs in eighteen African countries estimated that only 20% of the public enterprises in the transport sector could generate revenue sufficient to cover operating costs, 20% covered operating costs plus depreciation, 40% could scarcely cover operating costs, and 20% were far from being able to cover these costs (Institut de developpement economique as cited in Grosh & Mukandala, 1994, p.13). However it is crucial that one remembers to exercise care in interpreting financial data in SOEs due to differences in accounting and tax systems that apply to them.

Numerous other studies have been conducted to find the effectiveness of restructuring programs, particularly privatisation. The US National Performance Review (1997) reports of a 1993 survey of restructuring practices among 531 large companies which revealed that although more than half the companies achieved goals of reducing costs and expenses, less than half the companies achieved goals of increased productivity, productivity and customer satisfaction. Thus, whilst downsizing has been identified as a tool that can successfully eliminate excesses in staffing, bureaucracy and expenditures, it is one that must be used with other management tools.

So, what explains the differences in the experiences of countries that render restructuring of SOEs a success or failure? The five components of reform that economic theorists and reform practitioners widely recommend are: divestiture, competition, hard budgets, financial sector reform, and changes in the institutional relationship between SOEs and governments (The World Bank, 1995, p.4). The World Bank (1995, p.4) found that the more successful reformers made the most of all five components, using them as synergetic components of an overall strategy versus using them as separate options. The key findings about the ways that successful reformers and less successful reformers approached each of these five components include the following:

- Successful SOE reformers divested more, especially where the initial size of the state enterprise sector was large.
- Successful SOE reformers introduced more competition. They liberalised trade, eased restrictions on entry, and unbundled large enterprises.
- Successful SOE reformers hardened SOE budgets. They reduced or eliminated direct subsidies, put access to credit on a more commercial basis, improved regulation of SOE monopoly prices, and reduced or eliminated hidden subsidies.

[8] For more information on these studies, look at "State-owned enterprises in Africa" Edited by Grosh &Mukandala, 1994).

- Successful SOE reformers reformed the financial sector. They strengthened supervision and regulation, relaxed controls over interest rates and reduced directed credit. They also relaxed entry restrictions and privatised banks once SOE reform and supervisory and regulatory reform were well under way.
- Surprisingly, successful and unsuccessful reformers alike tried to improve the incentive structure by changing the relationship between SOE managers and the government. Countries at the top and bottom of the performance ratings introduced new oversight bodies, increased managerial autonomy, and signed explicit performance agreements.

(Source: World Bank, 1995, p.5)

A brief look at restructuring reveals that the process of restructuring as a complex process with no guarantees. Welfare consequences that are likely to arise from restructuring are often at the top of debate list, more so in South Africa – a country riddled with unemployment problems. In the next section, this paper gives a picture of the broader labour market within which SOEs operate.

3. A SNAPSHOT OF THE SOE LABOUR MARKET

In order to derive a more naunced understanding of the specific labour market consequences that may arise out of SOE restructuring it is critical that we, in the first instance, provide an overview of the nature of the SOE labour market. Hence, this section will attempt to provide this snapshot, through the use of a nationally representative household survey dataset, the Labour Force Survey (LFS). The LFS is conducted twice a year (the first being a pilot run in February 2000) by Statistics South Africa and focuses primarily on labour market issues[9].

One of the key issues of concern within the restructuring debate is of course the welfare consequences that are likely to arise at both the individual and household level, as a result of the internal reorganisation of these state resources. These welfare consequences are intermediated through the labour market. Simply put, it is employment losses amongst workers in these enterprises that may result in deleterious household poverty outcomes. To this extent therefore, the broader labour market within which these SOEs operate is a critical starting point. According to the LFS of September 2000, there were 11.7 million individuals employed in either the formal or the informal sector. In addition, approximately 6.6 million workers were jobless, representing an unemployment rate of about 36% using the expanded definition. Two points are worth considering here. Firstly, the high unemployment figures result from new entrants in the labour market who cannot find employment – typically school leavers. Here, any form of restructuring is not directly responsible for the unemployment amongst this cohort of workers. Secondly, for workers that have lost their jobs, the number of jobs that a sector has lost will be proportional to its contribution to total employment. The larger the sector in total employment, the bigger its contribution to total unemployment figures, should it decide to fire workers.

The two points above are important in the context of Figure 2 below. The figure provides a breakdown of total employment in South Africa, by type of employer. Hence, it is evident that 57% of all workers are employed in the private sector. The second largest employer (discounting the 'not applicable' code) is the public sector, accounting for 14% of all employees in the labour market.

[9] A detailed overview of the data, definitions as well as explanations on how variables were created in our analysis, refer to Appendix B.

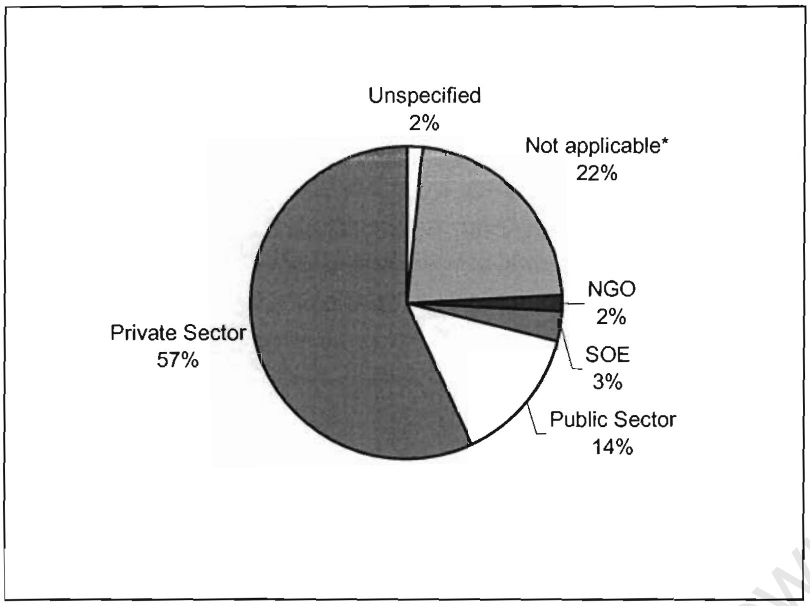

Figure 2: Composition of Employment in SA[10]

What is of interest here is of course the SOE representation. It is evident that SOE employment is only 3% of total employment in the society. To put this into perspective, public sector employment numbers 1.7 million, the private sector approximately 6.7 million, while aggregate employment in SOE s stands at about 340,000 workers. In the context of the above discussion this is a crucial first take on the SOE labour market. What this suggests is that purely on the basis of SOEs' minor contribution to total employment, their relative impact on aggregate unemployment levels will be insignificant. This does not minimise the importance of welfare consequences to SOE restructuring, but they do suggest that both public and private sector restructuring, with their much larger contribution to total employment, are likely to yield more serious effects on aggregate unemployment levels in the society. This initial, very basic take on the data therefore suggests firstly, that SOE employment numbers are relatively small when compared with the public and private sector. In addition, this base employment level is suggestive of the fact that restructuring within SOEs, is statistically not likely to engender significant effects on national unemployment levels – while reiterating that this should not discount from the welfare losses that could still occur through such firm reorganisation.

3.1 SOE Employment by Race & Gender

Within this broad comparative snapshot of SOE employment, it is useful to try and understand the SOE labour market in more detail. An overview of the distribution of SOE employment by race and gender (and further below by occupation and education) are necessary as a backdrop for understanding the possible labour market

[10] Note that in the LFS Sept. 2000 the "Not applicable" variable contains those that are: (1) working on his/her own or on a small family farm/plot or collecting natural products from the forest of sea, (2) working on his/her own or with a partner, in any type of business (including commercial farms) and (3) helping without pay in a family business. One is comfortable categorising the first and last as part of the informal sector however the second seems to be better suited as forming part of the self-employed and thus part of the private sector. Though this is an interesting and important issue it should not affect our analysis in anyway except make the private sector slightly bigger.

consequences of the proposed restructuring programmes within the different SOEs. In an attempt to make the private sector more comparable with the public sector and SOEs, domestic workers and workers involved at the elementary agricultural, hunting and related services are excluded in the construction of the private sector dummy. Henceforth, we will refer to the employee as part of the private sector but note that it is essentially the non-agricultural and non-domestic private sector.

Figure 3 below presents employment distribution, using the LFS 2000 again, by type of employer. For example, 68% of all employed in the society are African, compared with a White representation of 17%. We provide these distributions then for the private and public sector as well as SOEs.

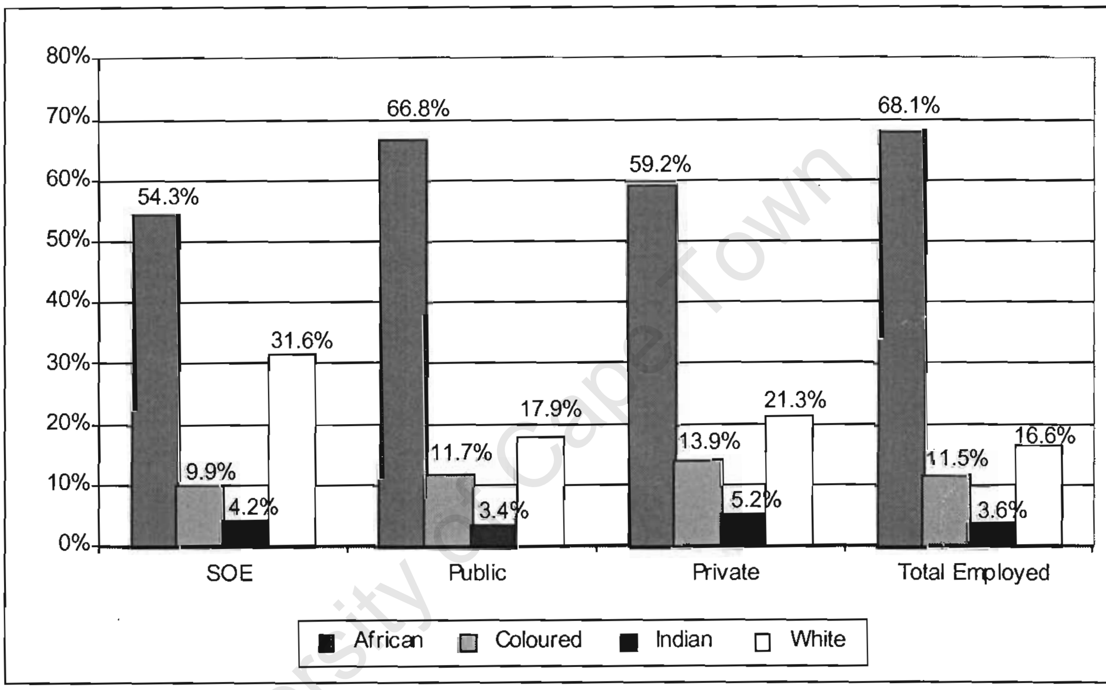

Figure 3: Racial Breakdown of SOEs, Public and Private Sector

The national trends are closely mimicked in the private and public sector distributions. For example, African representation was 59% in the private sector and 67% in the public sector. Similarly White employment shares were fairly close to the national distribution. Statistically, of course this is also what we would expect, given the large weighting of these employers in the national employment levels. Conversely, though, SOE employment by race is counter to the national distribution. Hence, it is evident that within SOEs, there is an over-representation of Whites (31.6%) and an under-representation of Africans (a low 54.3%) relative to the national distributions of 17% and 68% respectively. This uneven racial representation of SOE employment is a key labour market characteristic that differentiates it from both private and the public sector employers.

One conjecture from this result is that it is perhaps an outcome of the *Apartheid* labour policies that provided preferential access to employment opportunities for Whites. Secondly, and related to the first and an issue we delve into detail below, is that the SOE labour demand needs are more skills-biased than its private and public sector counterparts. Given this, the preference for higher skilled workers, who would invariably be White, reflects in this maldistribution in employment by race. It is important to reiterate that despite the fact that there is a large racial disparity in the sector, the relative size of the SOEs makes the disparity less significant – a point made at the outset of this analysis. In other words, though Africans (Whites) only form 54.3% (31.6%) of aggregate SOE employment, they constitute only 2.3% (5.5%) of the African (White) workforce as a whole. What would be interesting to determine however, and it is something we turn to in our analysis of specific cases of SOE restructuring, is the extent to which one of the unintended consequences of restructuring has been to positively alter this racial distribution of employment.

Using the same approach as the above figure, we present below employment by gender according to the three employer types in the economy. Figure 4 tries to capture both the male/female composition of each employer type as well as the proportion of the entire working male/female population that these individuals form. For example, of the entire working population, 52% of females and 32% of males work in the private sector. The private sector in turn has a female/male composition of 33% and 67% respectively.

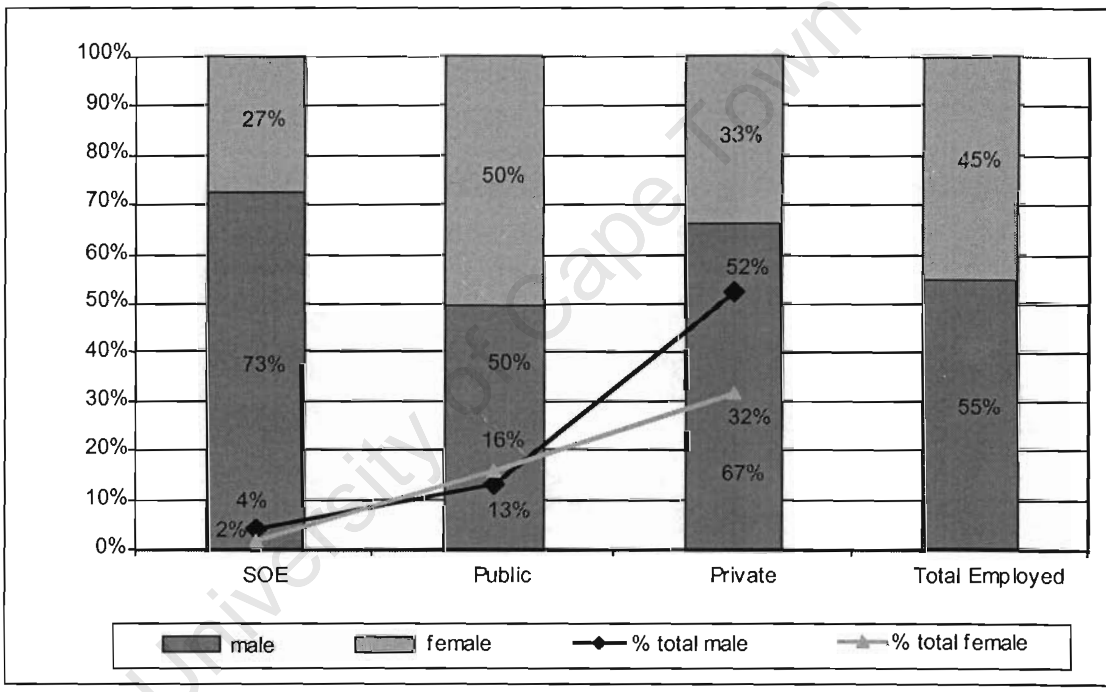

Figure 4: Gender Breakdown of SOEs, Public and Private Sectors

Considering that the employed have a male/female breakdown of 55% and 45%, we find that both the public and private sector are fairly representative – a repetition of the race results above. SOE employment in absolute terms is small, represented by the share of males and females in total employment. In terms of intra-SOE gender distributions, SOEs reveal a very skewed gender composition. Hence, while the public and private sector have a male representation of between 50 and 67%, the figure for SOEs is 73% - constituting almost three-quarters of their workforce. This could perhaps be explained by the more technical nature of SOE work, a traditionally male dominated field – an issue we explore later in the paper. Once again, it would also be interesting in the specific SOE cases that are taken up below, to determine the extent to which a more representative gender distribution of employment was unintentionally achieved through restructuring.

3.2 SOE Employment By Occupation

In the previous section, we found an over-representation of males and Whites in the SOEs. We postulated that this was due to the more technical nature of work in SOEs that tended to be more male-dominated and the preference given to Whites as a result of *Apartheid* labour market practices and an *a priori* skills-bias in employment needs that implicitly meant a higher proportion of White workers. We extend this notion in this sub-section, by exploring employment distributions by occupation across the different employer types, and within the SOEs themselves[11].

Table 1: Occupational Breakdown of SOEs, Public and Private Sectors

Occupation	SOEs	Public	Private	All Employed
Managers	6.0%	3.3%	4.7%	4.8%
Professionals	7.7%	13.4%	3.8%	4.5%
Technicians	14.5%	28.2%	8.1%	9.2%
Clerks	24.5%	11.8%	13.7%	9.0%
Service	8.6%	15.5%	13.9%	12.1%
Crafts	13.6%	5.1%	19.5%	13.0%
Operators	11.1%	4.8%	16.4%	9.8%
Elementary	13.1%	15.6%	15.6%	28.5%

The full ranking of the occupations covered in the graphs above, in terms of high to low skills levels, and according to the Standard Industrial Classification of Occupations are:

- Professionals
- Legislators, senior officials and managers
- Technicians and associate professionals
- Clerks
- Service workers, shop and market sales workers
- Skilled agricultural and fishery workers
- Craft and related trades workers
- Plant and machine operators and assemblers and
- Elementary occupations

Keeping this in mind, Table 1 paints an interesting picture. First we find that in terms of the professionals and managers (i.e. the two highest skilled categories), the SOEs have a much higher percentage of skilled labour in comparison with the private sector (13.7% as opposed to 8.5%). Interestingly, these shares of skilled employment are both below the public sector, where professionals and managers account for close to 17% of total public sector employment. If one incorporates both skilled and semi-skilled workers, the share of these workers in total employment is 28%, while it is slightly higher in the private sector at 30%. In contrast in the public sector, semi-skilled and skilled workers account for over 55% of all the sector's employment. For SOEs, this figure stands at 53%. As a consequence of this high skills quotient amongst SOEs and in the public sector, the share of unskilled labour is well below the

[11] For the sake of simplicity, during the construction of these figures "unspecified" observations as well as "Skilled agricultural and fishery workers" were omitted as they formed a negligent proportion of the SOEs. As a consequence, the percentage shares do not add up to 100%.

national mean and the average for the private sector. Interestingly, the share of elementary workers in SOEs, is lower than that for the public sector.

What the above suggests, in the first instance, is that SOE employment is skills-intensive relative to the private sector, but no less so than the public sector. As a consequence, the share of unskilled employment within SOEs, is relatively small. This high skills requirement within SOEs thus does go some way to explaining the disproportionate share of Whites in SOE employment, and to some extent the high share of male employees. In order to more exhaustively verify the existence of a race-occupation overlap, we examine, in Figure 5 below, the racial shares of employment by the major occupational divisions, within SOEs[12]. The figures confirm that the skilled and semi-skilled groups i.e. the first 4 groups are predominantly White. Hence, of all professionals and managers employed by SOEs, approximately 60% are White and 30% African.

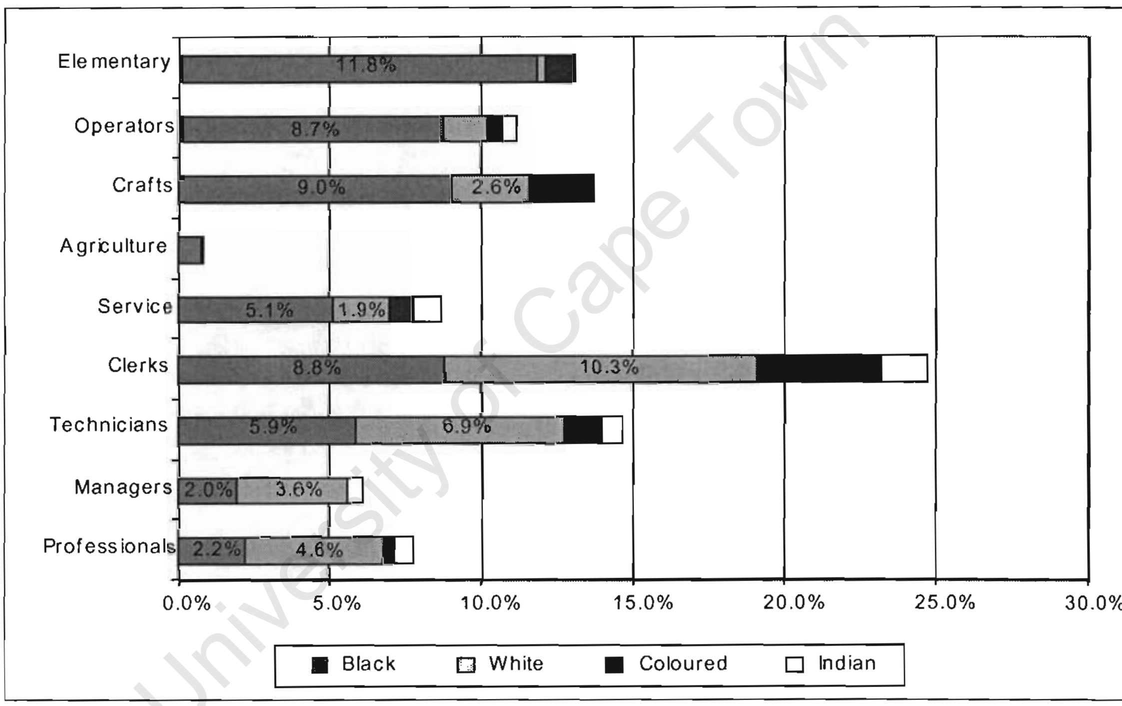

Figure 5: Racial Breakdown of Occupations in SOEs

African representation does increase as we move into semi-skilled occupations. African representation for technical staff therefore stands at 40% compared with 47% for White employees. In addition, of the aggregate SOE employment of clerks, 42% are White and 36% African. Not surprisingly, the representations are reversed at the bottom-end of the labour market, as a large proportion of elementary workers, operators and craft workers are African.

In one sense, the above figure mimics the national occupational trends, in that White representation increases at higher skill levels, relative to African representation. The SOE occupational labour market thus reflects the familiar racial division of labour of the broader South African labour market. There remains one crucial difference

[12] Note that percentage shares of less than 1.5% are not included in an attempt to make the figurer less cluttered without losing important information.

though: given that the SOE is predominantly an employer of high skilled and semi-skilled workers, with (it would seem) very specific human capital requirements, it means that its racial division of labour is even more skewed relative to the private sector and indeed the public sector. To this end, one would hope that the restructuring initiatives of the various SOEs are undertaken in a manner that, at a minimum, do not exacerbate this already unusually high representation of white employees.

The gender division of the above occupations replicates the overall SOE gender distributions. The figure is presented in Appendix C1, Figure 42 below. Across all the 9 major occupational divisions, with the exception of clerks, the data indicates that the number of males outweighs that of females. There would seem therefore to be an even distribution of the male-female ratios observed for all SOE employees, when examining the data by occupations. Once again, as with the race data, it would be interesting to determine whether there is, as an unintended consequence, a more equitable gender distribution in employment arising out of SOE restructuring.

Table 1 above illustrates the very high share of clerical workers within SOEs. Specifically, the data shows that a quarter of SOE employees are clerical workers – twice that of the public and private sector, as well as the national employed population. This could be the result of two things. Firstly, it is possible that this high share of clerical staff reflects an excess quantum of administrators or "paper pushers" within SOEs – often a sign of a bloated workforce and a marker usually of inefficiency and low productivity levels. Secondly, it is also probable that the large clerical work force is due to the sector specificity of some of the SOEs. In other words, it is plausible that the nature of some of the SOEs require this sort of work force. The postal and telecommunications industry, represented by Telkom is a prime example here. In order to interrogate this issue further, we have attempted to provide a more detailed description of the type of clerical staff employed by SOEs.

Figure 6 below provides this breakdown, and shows that there is a wide variation in the specific sub-occupations within the clerical category.

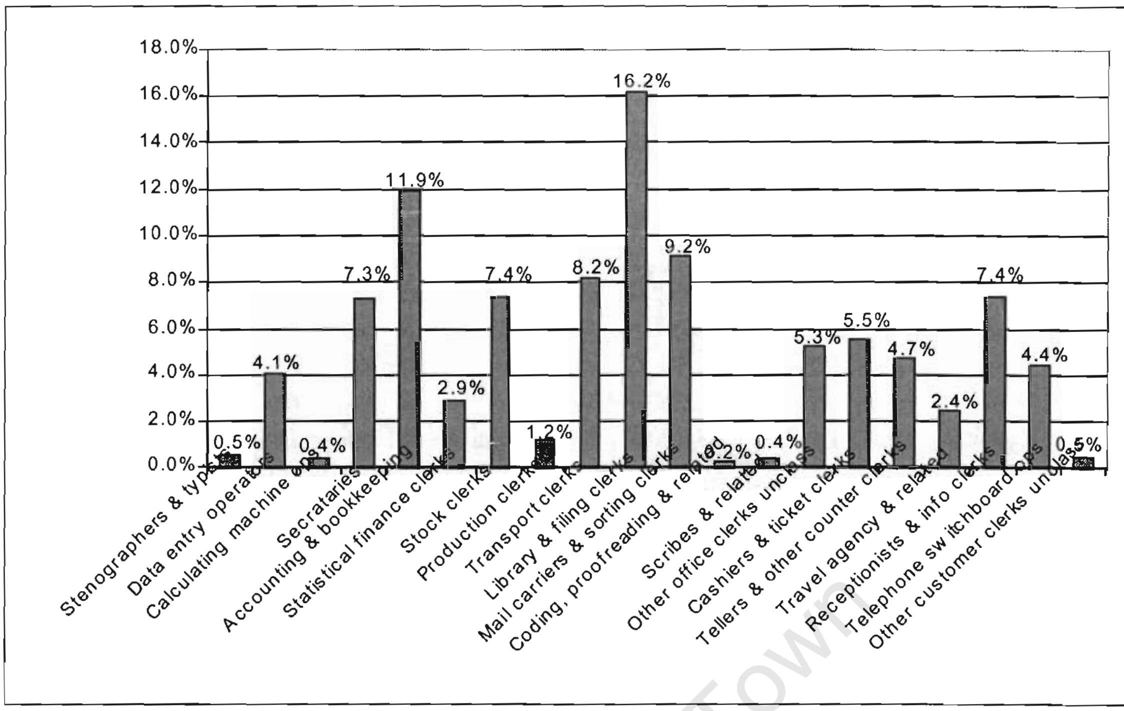

Figure 6: Clerical Breakdown of SOEs

These sub-divisions include categories such as "mail clerks and sorting carriers", "telephone switchboard operators" and "cashiers and ticket sales" [13]. The largest component of the "clerks" variable is "library and filing clerks" forming 16.2%, a category that is not necessarily specific to the operations of SOEs. Following this, 'accounting and book-keeping' and 'mail carriers & sorting clerks' are the 2nd and 3rd largest component of the clerical SOE workforce. The data in this form, makes it hard to find any strongly suggestive information on the presence of inefficiency within the different SOEs. It is possible however, that the high share of filing clerks, together with those categorised as being in accounting and bookkeeping are key to interrogating more carefully, whether they represented inefficient work organisation within SOEs.

[13] The variable "Clerk" is broken down into office clerks and customer services clerks. In turn office clerks are divided into (1) secretaries and keyboard operating clerks, (2) numerical clerks, (3) material recording and transport clerks and (4) library, mail and related clerks. Customer service clerks are also divided into subsections, namely (1) cashiers, tellers and related clerks and (2) client information clerks.

4. WAGE BILLS, LEVELS & DIFFERENTIALS

One of the key issues that would drive restructuring initiatives within SOEs would be the nature and level of factor costs within the individual enterprises. In our context here, this translates into the importance of considering the role of wage costs within the SOE sector, and as a starting point, to determine how these compare both in terms of levels and differentials, with the public and the private sector. This information would remain a critical backdrop in understanding the nature of wage commitments within enterprises that are embarking on a programme of restructuring.

4.1 Wage Levels and Differentials

Using the data from the September 2000 Labour Force Survey again, this section thus focuses on wages and wage differentials that may occur between the different employer types and continues by comparing the wage bills for production and non-production workers in the three sectors. Analysing the wage bill allows one to see the relative importance (non)-production workers have in the various sectors. Interesting patterns can also be found by looking at the median[14] wages of different groups and cumulative distributions are useful in highlighting differences in income distributions between sectors.

Table 2 below presents a snapshot of earnings in South Africa as a whole, as well as according to the three employer types. The racial wage wedge so common in South Africa is evident here, as across all employer types and for the economy as a whole, White workers at the median, earn more than their African, Coloured and Asian counterparts. Specifically, for the national sample, Africans earn at the median about one-fifth of the median White earner.

Table 2: Median Wage by Employer Type and Race

Sector	African	Coloured	Asian	White	Total	% of Public (Total)	African as % of White
Public	2500	3056	4000	5000	3000	100%	50.0%
SOE	2000	2500	5000	5700	3000	100%	35.1%
Private	1200	1517	2500	4133	1400	46.7%	29.0%
National	980	1400	2600	4800	1300	43.3%	20.4%

The employer type wages though are very interesting. They suggest that for African and Coloured workers, the highest return is to be found in the public sector, then SOEs and finally the private sector. For these workers therefore, the public sector is at the median, the most lucrative employer in the economy. However, for Asians and Whites, the ranking alters. While, the private sector still remunerates the lowest of the three, it is in fact SOEs that offer the highest return to these two cohorts. Put differently, Whites and Asians are better off being employed in SOEs than any other type of employer in the economy – at the median. Now it is clear that this result may

[14] The median values are used instead of mean values since outliers in the data set would distort the mean.

be a function also of the specific skills and occupations that SOEs require, yet it is evident initially at least, that SOEs seem to be remunerating their most skilled employees (predominantly Whites) better than any other employer in the labour market.

What is provisionally evident from the above though, is that there is a premium for Africans and Coloureds to working in the public sector, and for Whites and Asians, in SOEs. We can extend this analysis, to arrive at a more nuanced understanding of this differential in earnings, by examining the entire distribution of earnings according to these employer types. Figure 7 below derives what is known as a cumulative distribution function (c.d.f.) of earnings. The two figures below derive a set of c.d.fs firstly for all employees in the sample, and secondly for African workers only – both by the different employer types.

Figure 7 thus derives four different c.d.fs firstly for the aggregate employed, the public and private sectors and finally one for SOE employees. The figure provides the wage per month on the horizontal axis, and the cumulative share of individuals earning at or below this monthly amount on the vertical axis. For example, Figure 7 shows that for individuals in SOEs or the public sector, about 75% are earning R5000 per month or less.

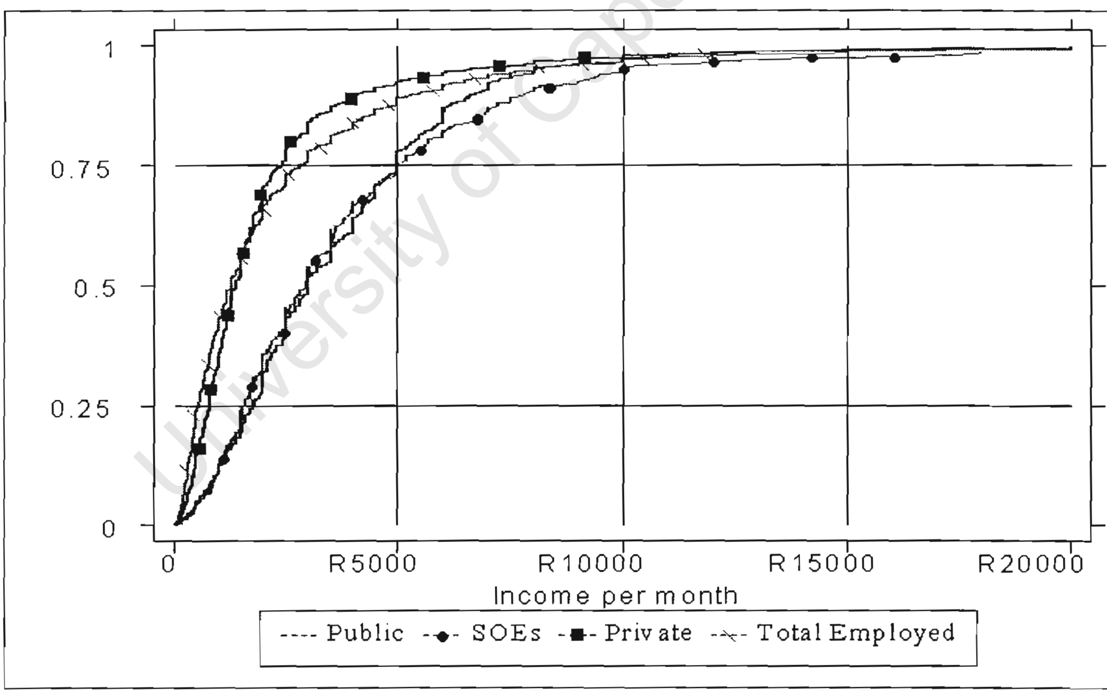

Figure 7: Cumulative Distribution of Total Wages in SOEs, Public and Private Sector

The c.d.fs offer the advantage of examining relative earnings across the entire wage distribution. For example, then, while 75% of public sector and SOE employees earn R5000 or less, the share of private sector employees earning below this figure, is much higher at about 85%. Visually the functions impart a crucial message: they inform us that *at every point in the wage distribution*, the share of private sector workers earning below a specified wage, is higher than that for the public sector or SOEs. The latter two sectors are therefore uniformly better remunerators than the private sector. Interestingly the curves are also informative in terms of wage differentials and wage inequality. In this regard, the gradient of the curve tells us of the level of intra-group wage inequality. The flatter the curve, the more evenly distributed income is. Corroborating the evidence provided above, the c.d.fs show clearly that the wage differentials are lower in the private sector, relative to the other two employer types.

It would be interesting though to examine the distribution of wages amongst African workers, and in this way control for at least one of the key confounders in the determinants of earnings in the labour market. As a result, Figure 8 below displays the distribution functions for the set of employer types amongst African workers only. The low earnings overall for African workers in the private sector, are again displayed below. In contrast, SOEs and the public sector, reveal in conformance with the median wage data, higher wages than the national and private sector distributions for African workers.

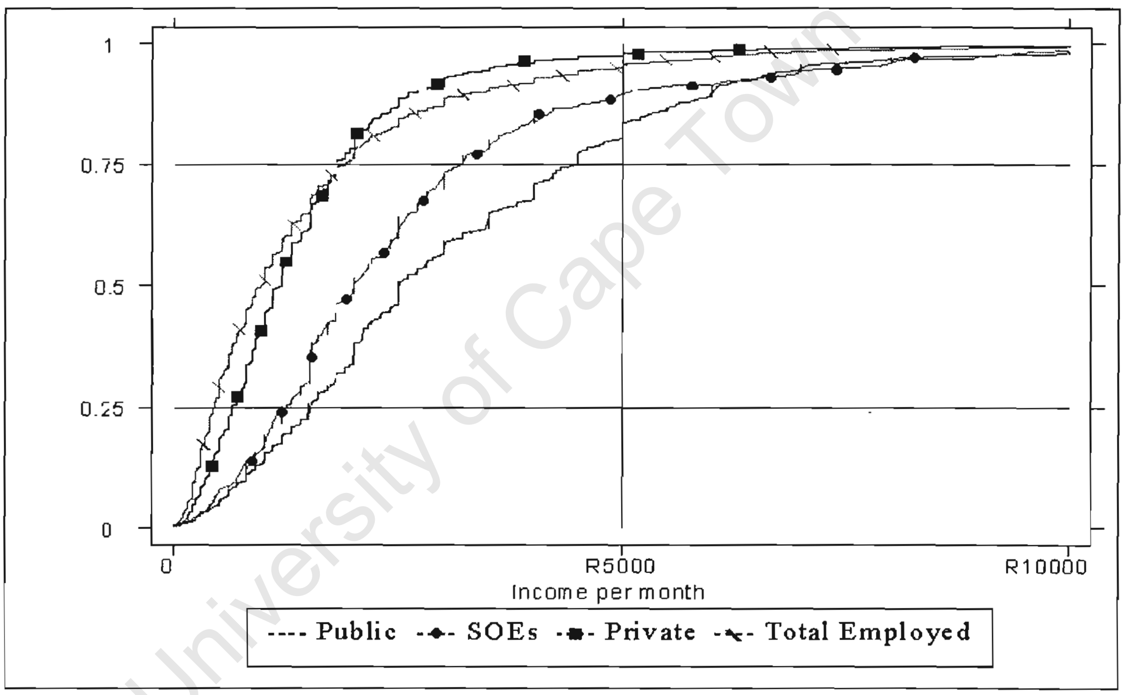

Figure 8: Cumulative Distribution of African Wages by Sector

What is interesting however, is that the disparity in distributions between SOE and public sector African employees is greater than when examining all workers. In other words, at every point in the distribution, African workers in the public sector are better off than those in SOEs. SOEs thus are poorer employers of African workers, in remuneration terms, than the public sector – but better than the private sector.

The c.d.fs for White employees (Figure 9) is in contrast to the African worker distribution functions. Visually, it is evident that there remains very little difference in the earnings of White workers in SOEs as opposed to the private sector, at higher points in the distribution. Interestingly, in the top-half of the distribution, it is the public sector that is the worst remunerator of the three. Conversely, for White workers earning at or below the median for example, the private sector is the worst remunerator. The median wage figures in the table above, although not expressed in this way, do confirm this result.

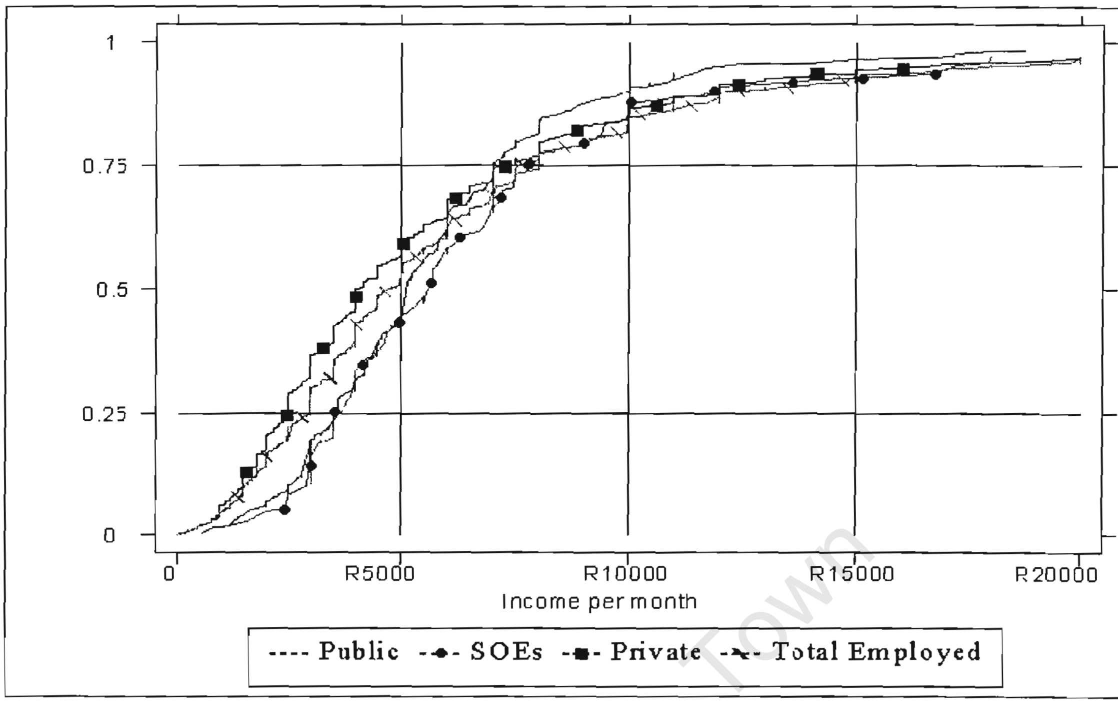

Figure 9: Cumulative Distribution of White Wages by Sectors

Hence, while the private sector is a poorer remunerator than the other two employer types at the bottom of the distribution, these differences disappear between SOEs and the private sector higher up in the wage distribution. This homogeneity in the White employee wage distributions at the high-end, provisionally suggests that higher wages paid to these workers within the SOEs, is more operative at the bottom rather than top-end of the distribution.

Another interesting issue, and it is one alluded to in the final two graphs above, is the differences in wages when controlling for occupation across the three employer types. Table 3 below provides evidence on the median wages of employees by the 9 main occupational categories and the employer types. The last two columns in the table are instructive in that they present the ratio (expressed as a percentage) of SOE median wages to the public sector and the private sector respectively.

Table 3: Median Wages by Occupation between Employer Types

Occupation	Public	SOE	Private	SOE: Public	SOE: Private
Managers	**8000**	7000	5350	87.50	130.8
Professionals	5500	**7800**	6500	141.82	120.0
Technicians	4100	**4843**	2800	118.12	173.0
Clerks	3000	**3500**	2000	116.67	175.0
Service	**3000**	2008	1100	66.93	182.5
Agriculture	**1400**	800	433	57.14	184.8
Crafts	2000	**2400**	1387	120.00	173.0
Operators	1950	**2500**	1600	128.21	156.3
Elementary	**1551**	1300	1000	83.82	130.0

In addition, the earnings in bold represent the highest earnings within an occupation comparing within the employer categories. We find that for all occupations, the highest medians are reported for the public sector or a SOE. What is perhaps more relevant here though, is the median occupational wage within a SOE relative to the public and the private sector. In the latter case, it is evident that for all occupations, SOE median wages are higher than those in the private sector. In particular, note that SOEs pay their unskilled workers 150% more than unskilled employees within the private sector. There is a significant premium accruing to an unskilled worker, should they be employed within one of the SOEs. In comparison with the public sector however, the results are mixed. In this case, SOEs in four of the occupations pay less than the public sector namely managers, service workers, clerks and elementary employees. The latter is particularly important as it suggests that despite the higher payment amongst SOEs relative to the private sector for unskilled workers, they are still paying workers at the bottom-end less than the public sector. The highest premium, this provisional evidence suggests, for elementary workers is to be found in the public sector. If one assumes that the private sector wage represents a proxy for an efficiency wage of sorts, then a case, albeit a tentative one at this stage, can be made that SOEs are in fact paying higher than an efficiency wage to all their occupations. If this is the case, then the factor cost reasoning for restructuring in the pursuit of higher efficiency levels, is a strong one. The problem with the above tabulation is that it essentially ignores a range of other variables that also affect wages paid by SOEs. These include race, gender, levels of education and so on. It is in trying to simultaneously account for all of these variables and their effect on individual earnings that we opt for a multivariate regression approach – something we turn to in detail in the next section.

Prior to the earnings functions estimates though, we present one final take on wages within SOEs. We try here to examine the level of wage inequality by occupation and race within SOEs. Table 4 below provides this overview[15]. In the first instance, it is clear that, on the basis of median wages, the lowest earners (elementary workers) receive a median wage that is about 17% of the maximum median wage – earned by professionals.

Table 4: Wage Differentials by Occupation in SOEs

SOEs	Black	Coloured	Indian	White	Total	% of Professionals (Total)	Black as % of White
Managers	7000	N/O	5500	9000	7000	89.74	77.8
Professionals	7800	4800	5000	9300	7800	100.00	83.9
Technicians	3500	6000	4900	7000	4843	62.09	50
Clerks	2500	3500	5200	4400	3500	44.87	56.8
Service	1500	3500	5000	3900	2008	25.74	38.5
Agriculture	800	1100	N/O	N/O	800	10.26	N/O
Crafts	1900	2500	N/O	6300	2400	30.77	30.2
Operators	2300	6000	4400	3800	2500	32.05	60.5
Elementary	1400	950	N/O	N/O	1300	16.67	N/O

*N/O – No Observation

[15] For a more comprehensive table that includes not only SOEs, but also the private and public sector, look at Table 13 in Appendix C1.

This suggests a fairly wide dispersion in wages that could be a function of both skills disparities, and a shortage of highly skilled workers that results in a considerable premium for these workers. Noticeably, wages within the same occupational category differ by race group. For example, while an African manager earns R7000 per month at the median, the figure for a White manager is R9000. At first glance this is hard to explain given that we are constricting our sample to a fairly small number of pre-defined enterprises. There would seem to be a number of possible reasons for this unusual outcome. Firstly, it is possible that the specific higher education degrees accumulated by Whites as opposed to Africans differs, and this results in different wages paid to ostensibly the same occupation. For example, should White managers predominantly have a post-graduate business qualification, while African managers do not possess this, then the differential is partly explained. Secondly, for historical reasons, White managers may have higher levels of experience in the specific job, and hence have moved higher up the wage hierarchy than African managers. Thirdly, there is the possibility that discrimination at the point of job entry, or within the job (in terms of promotion and so on) still exists within SOEs – so entrenching these differentials. The evidence garnered here is not sufficient to weight the importance of each of these factors, but it is clear that the three together would explain a very large part, if not all, of the intra-racial wage differential by occupational categories.

4.2 Relative Wage Bill

Taking a look at the relative wage bill[16] between production workers and non-production workers would allow one to ascertain the relative importance of these workers in their respective sectors. Table 5 below gives us the proportion that non-production and production wages contribute to the total wage bill in a firm.

Table 5: Proportional Contribution to Total Wage Bill

	Public	SOE	Private	Total Emp
Non-Production Workers	**53.5**	45.8	15.1	28.9
Production Workers	46.5	**54.2**	**84.9**	**71.1**
Total	100	100	100	100

We find that in both the public sector and SOEs, non-production and production workers contribute approximately equal amounts to the total wage bill. In the private sector however, we find a strong bias toward production workers: their wages form 85% of the total wage bill. In the economy as a whole, production workers also form a large proportion of the total wage bill, though the contributions are not quite as large as that in the private sector (71%). Two possible factors contribute to this. First the public sector and SOEs hire more non-production workers and second, they pay these workers more than in the private sector.

[16] The relative wage bill is calculated by multiplying the number of observations with the mean wage in each sector. Non-production workers consist of legislators, senior officials and managers, professionals, technicians and associate professionals. Production workers are clerks, service workers, skilled agricultural and fishery workers, craft and related trades workers, plant and machine operators and elementary occupations.

A methodological way of testing whether or not the public sector and SOEs really do pay a premium to their workers is to run the earnings regression. This section follows.

5. EARNINGS FUNCTION

As mentioned above, a more satisfactory method of estimating whether a premium exists for workers in an SOE relative to the private sector[17], is to try and simultaneously include all the relevant variables in our modelling of earnings in the labour market. We achieve this through the use of an earnings function regression. This earnings function formulates the relationship between the natural logarithm of monthly income and a set of employee characteristics, as well as indicator/dummy variables for working in the SOEs, public and private sectors.

The specification of the regression is as follows.[18]

$$\mathit{ln\ (Earnings)} = b_0 + b_1(\mathit{Employer}) + b_2(\mathit{Gender}) + b_3(\mathit{Race}) + b_4(\mathit{Exp}) + b_5(\mathit{Exp}^2) + b_6(\mathit{Edu}) + b_7(\mathit{Union}) + b_8(\mathit{Occupation}) + b_9(\mathit{Province}) + b_{10}(\mathit{Rural})$$

where:

- *Employer* is a dummy variable for the type of employer that an employee works in, i.e. SOE, public or private sector.
- *Gender* is a dummy variable.
- *Race* is a set of dummy variables constructed to reflect the four races in South Africa, i.e. Black, Coloured, Indian and White.
- *Exp* is an experience variable constructed through the standard methodology of taking the employee's age less years of schooling less six[19]. Exp is squared to form the quadratic equivalent Exp^2.
- *Edu* is included as a categorical education variable versus a continuous variable in order to isolate the effects of attaining a certain level of education. These categories are: (1) no schooling, (2) some primary, (3) completed primary, (4) some secondary, (5) completed secondary, (6) diploma and (7) degree.
- *Union* is a dummy variable for union membership.
- *Occupation* is a set of dummy variables for the different occupations defined broadly by Statistics South Africa, namely (1) managers, (2) professionals, (3) technicians, (4) clerks, (5) services (6) agriculture (7) crafts (8) operators and (9) elementary workers.

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[17] Note that in an attempt to make results between the sectors more comparable, the private sector dummy does not include domestic workers or people in the agricultural sector.

[18] Note that initially both the person's industry and occupation were included in the regression. However, there were possible problems of multi-collinearity. Furthermore, the industry variable added little to the SOE regression as most of the coefficients were insignificant.

[19] This method of constructing the experience variable has been criticized because individuals may not have "continuous work histories" after leaving school, particularly in South Africa where high levels of unemployment exists, however the proxy is used for lack of a better alternative (Woolard, 2002, p.10).

- *Province* is also a set of dummies for the nine provinces in South Africa. They are the Western, Eastern and Northern Cape, the Free State, KwaZulu- Natal, North-West Province, Gauteng, Mpumalanga and the Northern Province.

- And *Rural* is a dummy for whether the individual lives in an area that is classified as rural or urban.

The coefficients of the above-specified regression are presented in the first column (i.e. All) in Table 6 below. As alluded to above, note that all the relevant covariates are included in the regression, and in this way we are able to isolate the impact of any given variable on earnings levels in the sample. The figures in bold are significant at the 5% level, while the bracketed bold figures are significant at the 10% level. We have run four regressions here. Firstly, we try and model the determinants of earnings for all workers in the economy. We then run three separate regressions to understand earnings formation in the three employer type categories – SOEs, the public and finally the private sector.

Table 6: OLS Regression of ln(monthly income) in different Sectors

	All	Public	SOE	Private
Type of Employer: (Omitted: Private Sector)				
Public Sector	**0.231**			
SOE	**0.211**			
Gender (Omitted: Male)				
Female	**-0.309**	**-0.232**	**-0.272**	**-0.328**
Race: African (Omitted: African)				
Coloured	**0.311**	**0.256**	**0.289**	**0.332**
Indian	**0.356**	**0.169**	**0.608**	**0.395**
White	**0.671**	**0.422**	**0.503**	**0.757**
Experience				
Experience	**0.038**	**0.024**	**0.030**	**0.042**
Experience^2	**-0.0005**	-0.0002*	**-0.0003**	**-0.0006**
Education: (Omitted: No schooling)				
Some primary	**0.153**	**(0.191)**	0.164*	**0.131**
Completed primary	**0.296**	**0.370**	0.078*	**0.276**
Some secondary	**0.447**	**0.612**	0.227*	**0.409**
Completed secondary	**0.743**	**0.871**	**0.524**	**0.685**
Diploma	**1.034**	**1.128**	**0.647**	**0.980**
Degree	**1.281**	**1.266**	**1.001**	**1.331**
Union Membership				
Trade union member	**0.405**	**0.409**	**0.237**	**0.409**
Occupation (Omitted: Elementary)				
Manager	**0.820**	**0.780**	**1.143**	**0.776**
Professional	**0.606**	**0.495**	**0.866**	**0.779**
Technician	**0.488**	**0.436**	**0.660**	**0.472**
Clerk	**0.331**	**0.243**	**0.509**	**0.356**
Services	**0.096**	**0.261**	**(0.230)**	**(0.051)**
Agriculture	**-0.529**	-0.131*	-0.083*	**-0.586**
Crafts	**0.186**	**0.228**	**0.272**	**0.184**
Operator	**0.305**	**0.179**	**0.502**	**0.315**
Province (Omitted: Gauteng)				
Western Cape	**-0.085**	-0.089*	**-0.298**	**(-0.072)**
Eastern Cape	**-0.348**	**-0.156**	0.060*	**-0.460**
Northern Cape	**-0.293**	**-0.232**	-0.154*	**-0.299**
Free State	**-0.356**	**-0.171**	**-0.279**	**-0.418**
KZN	**-0.157**	**-0.183**	**-0.278**	**-0.135**
North-West	-0.039	-0.054*	-0.007*	**-0.041**
Mpumalanga	**-0.133**	**-0.157**	0.089*	**-0.130**
Northern Province	**-0.335**	-0.077*	**-0.326**	**-0.502**
Location (Omitted: Urban)				
Rural	**-0.163**	**-0.179**	**-0.287**	**-0.152**
Constant	**6.085**	**6.320**	**6.592**	**6.096**
Number of observations	12719	3124	515	9080
R-Squared	0.5457	0.4497	0.5721	0.5469

Source: author's own calculations using the LFS May 2000, Statistics South Africa

Notes:
Omitted/dropped categories are the private sector, African, male, no education, elementary worker, Gauteng and urban areas. Bold coefficients are significant at the 5% level, while those that are bold and in brackets are significant at the 10% level. An asterisk shows the variables that are insignificant in the equation

The results for the first regression are fairly standard, and have been replicated in numerous studies on the South African labour market[20]. Hence we find, for example, that being a female (and controlling for a matrix of other supply characteristics) reduces your earnings, relative to males by about 31% in the labour market. In addition, Coloured, Asian and White workers all earn more than Africans – with the differential greatest for Whites as the latter earn about 67% more than Africans. Similarly, higher education levels induce greater returns, as does living in an urban (as opposed to rural) area and being a union member. But perhaps the most interesting result is that for the employer type dummy variable. Here, the dummy variable referent is the private sector. The results suggest that when controlling for gender, race, occupation, education and so on, if an individual is in a public sector, they will earn about 23% more than a worker in the private sector. This represents the wage premium for working in the public sector. The wage premium for working in a SOE is 21%. In other words, it would appear on the basis of this evidence, that simply by being in a SOE, an individual is likely to earn a higher wage than an individual in the private sector, when controlling for a range of other covariates. The evidence therefore, of factor costs that may be present within a SOE (and public sector) – which are not due to pure labour market or market forces – is particularly strong on the basis of these results.

Having found that being employed by one of the three employer types does result in significantly different wages, the regression is run again without the sector dummy, but with a qualifier instead: we measure the determinants of earnings by the specific employer type. These results are also presented in Table 6. The SOE regression results show firstly that Asian workers actually earn more than White workers – relative to the referent category. Furthermore there appears to be a lower return to earnings by race, when moving from the private to a SOE and then to the public sector. Simply put, being White (and controlling for a range of other characteristics) results in a greater return relative to being African, when in the private as opposed to a SOE. The gender dummy suggests that the gender wage differential is greatest in the private sector and lowest in the public sector.

It would seem that workers with some primary education earn more than those with completed primary education within SOEs. However these coefficients are not significant enough for one to say so. For the education categories that are significant, we can see that having completed secondary education, a diploma or degree has lower returns in SOEs than in either of the other two employer types. Union members seem to have less bargaining power in SOEs as workers earn less there than those that work elsewhere. The SOE regression seems to be a weaker regression than the others with more insignificant variables, however this is largely due to the smaller sample size of 515 weighted observations. It is worth noting that while trying to isolate effects of being a Black or White worker in SOEs, there were too few observations to allow significance in most of the variables.

[20] For example Woolard (2002).

Ultimately then, the above regression results point to a number of key conclusions. Firstly, that being in an SOE in and of itself offers, a wage premium to a worker employed in that enterprise. A SOE employee will earn a premium of 21% relative to a private sector employee. This is very strongly suggestive (as is the public sector result) of non-market based factor cost structure within SOEs – and points to a confirmation of one of the key reasons often provided for the need for SOE restructuring. Secondly, while there are race and gender differentials within SOEs (and as the first section outlined a lopsided representation), the evidence suggests that these differentials when controlling for a number of other covariates are lower than in the private sector, but higher than those found in the public sector. Finally, union membership appears to be least influential amongst SOE employees than in the private or public sector.

6. LABOUR MARKET EVIDENCE OF SOE RESTRUCTURING: CASE STUDIES

The previous sections have yielded significant insight into the SOE labour market and the environment within which it operates. The results show that in general there has been an over-representation of Whites and under-representation of Africans in SOEs as a whole. This trend is also apparent by gender, with composition skewed toward males in SOEs. Historical reasons, un/availability of education and supply of skilled labour seem to be the reason or partly the reason for over-representation of Whites and males in SOEs (since SOEs have a higher percentage of skilled workers than the other two sectors), as well as the wage differential between racial groups. Regression analysis shows that public sector employees followed by SOE employees have a wage premium. In other words, by simply being employed within these two sectors, one would be paid significantly more than if a person was employed in the private sector, though this premium seems to be more prevalent in all the races except for Whites who experience this premium only below their median wage. Our results pre-empt questions such as the extent to which restructuring has on the distribution of employment, wages, equity and gender equality in the SOEs – questions unanswered due to lack of data. We attempt to answer these questions in this section by examining case studies of South African SOEs.

We focus particularly on Eskom, the South African supplier of electricity, as it was the only SOE that possesses extended data on their employees. Some of the other SOEs also provided a limited amount of data but they were available only in a format that made manipulation of data difficult. After this in depth examination of Eskom's data, we examine other case studies. Although the data is fairly fragmented the exercise is still useful in that one is able to identify clear trends.

6.1 Case Study: Eskom

Having looked at a snap shot of the SOE labour market, we now focus on a specific SOE, in particular Eskom and gain a deeper understanding of the effects that restructuring have had on Eskom as well as the potential effects that restructuring would have on other SOEs.

The data was provided by Eskom and is by far the most comprehensive data set that is available. Though data was provided for 1994 to 2001, there were inconsistencies in the 1994 data set and therefore this paper focuses on the period 1995 to 2001. Another data set, which contains the details of all the terminations over the years, was also provided and is used extensively to find the characteristics of terminated Eskom employees. The variables provided included gender, race, age, household size, marital status, qualifications, designations, union membership, termination dates and income. Also, by data manipulation, basic characteristics of entry-level employees were discernible allowing us to make inferences about the nature of employment patterns within the electricity regulator.

6.1.1 Employment Trends in Eskom

Below (Figure 10) is the graphic representation of changing employment levels in Eskom since 1995. It clearly shows a decline in employment numbers in Eskom, particularly in 1999 when Eskom lost 3429 workers in one year. From 1994 to 2001, Eskom lost approximately 8500 workers in total, which amounts to losses of 21.4% or more than a fifth of their workforce in 7 years.

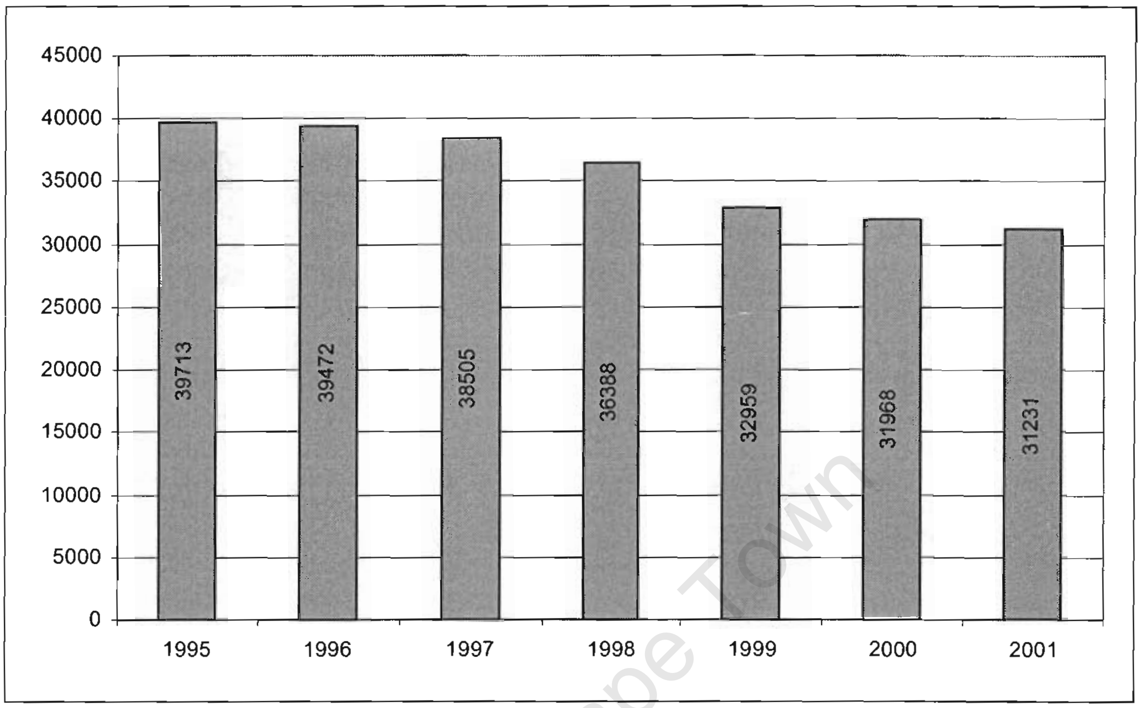

Figure 10: Employment Trends in Eskom 1995-2001

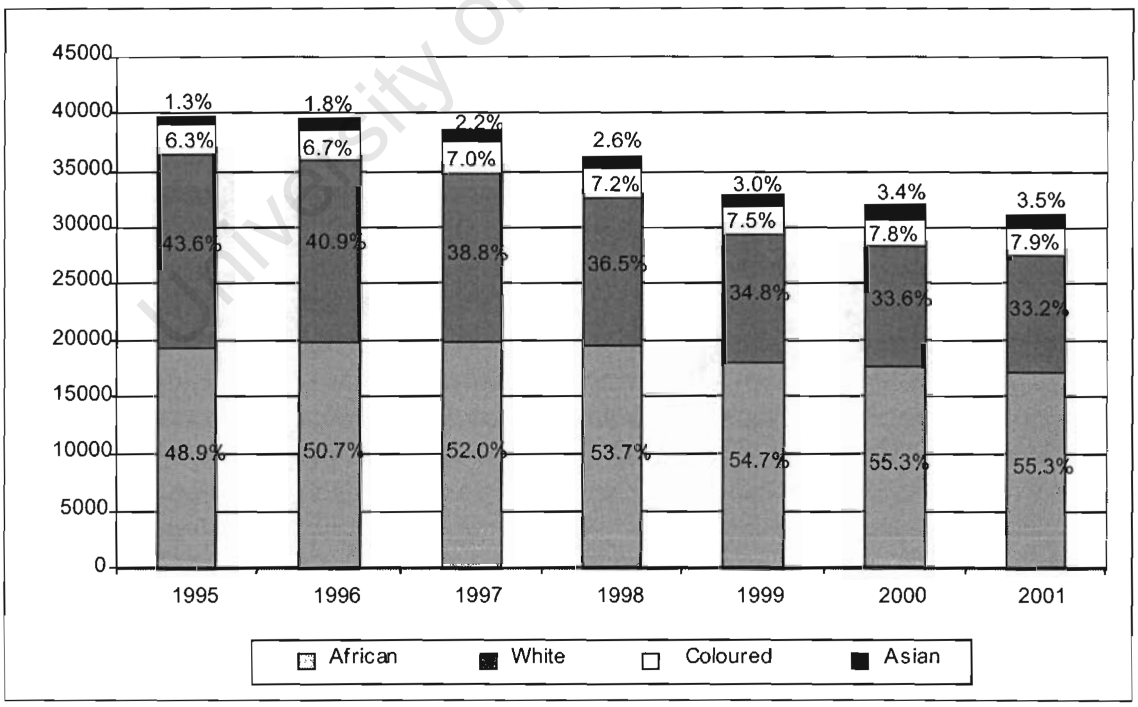

Figure 11: Racial Breakdown of Eskom Employees 1995-2001

Breaking down these employment figures into race, gender and skill we are able to look at the compositional changes of Eskom's workforce during this period.

Starting with Eskom's racial makeup, Figure 11 above reveals that over the years Eskom consists of mainly African and White workers. A move toward being more demographically representative may be seen with the predominant reduction of White (10.4% decrease over 6 years) and increase in Black (6.4% expansion over the same period) employment in Eskom's workforce. Increases in Asian and Coloured workers may also be observed.

This employment equity shift is also visible in Figure 12, where employment is broken down into male and female workers. Figure 12 clearly illustrates a movement toward the employment of more female workers and over seven years, Eskom managed to increase its female employees by 4.4%, however it is still largely dominated by males.

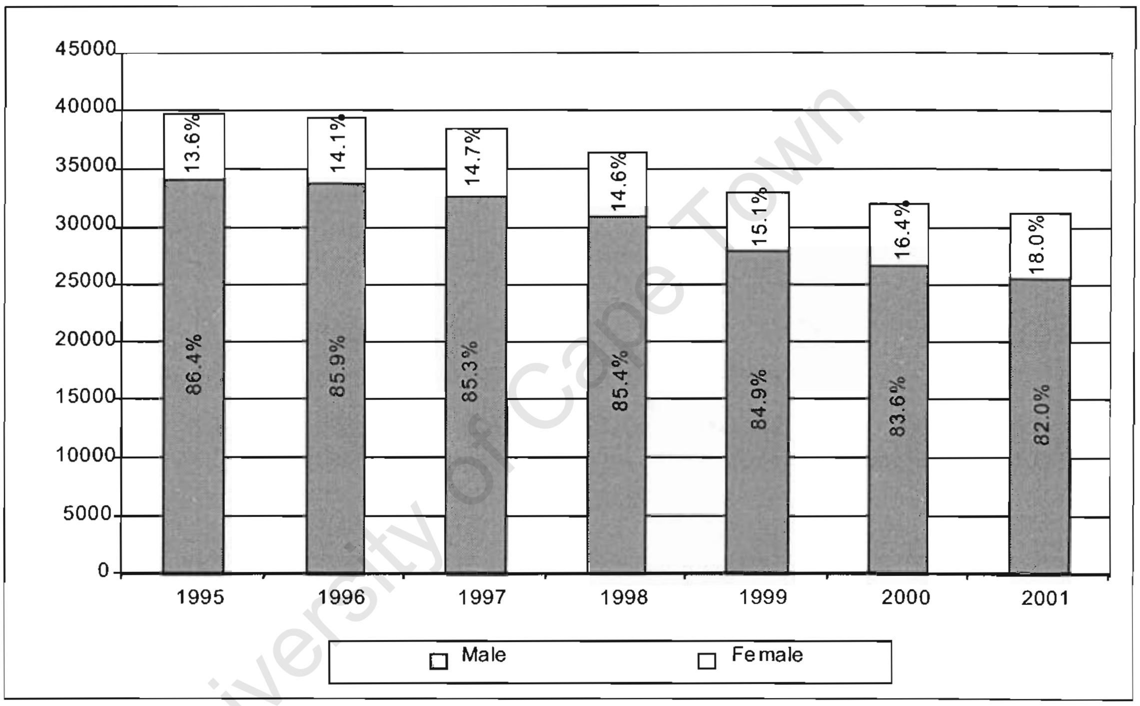

Figure 12: Gender Breakdown of Eskom Employees 1995-2001

In terms of skills, we find that the three main classes of skills that form the core of Eskom's personnel are semi-skilled/skilled, semi-professional and basic skilled respectively while the rest make up only about 10% of Eskom's workforce[21]. We find that semi-skilled/skilled workers have contributed slightly less (1.7%) to overall employment over the years. Basic skilled workers have also diminished, but this time by a hefty 22.8%. Similarly but not with quite the magnitude, we find that the share of semi-professional workers have increased by 11.2% over the past six years. Managers and senior professional have also formed a larger portion of Eskom employment over the period 1995 to 2001 (1.4% and 2.1% respectively).

In an effort to make the data more manageable and digestible, three broad skill categories were created. They are basic skilled, skilled and highly skilled. These were constructed by grouping semi-skilled/skilled and training into "skilled" workers; leaving basic skilled as it is and combining the other five categories in to "highly

[21] Note that the detailed graph for the composition of skills is included in Appendix D, Figure 46.

skilled" workers. Henceforth we refer to these skills categories however graphs with full skill categories are available in Appendix D, Figure 44 & 45.

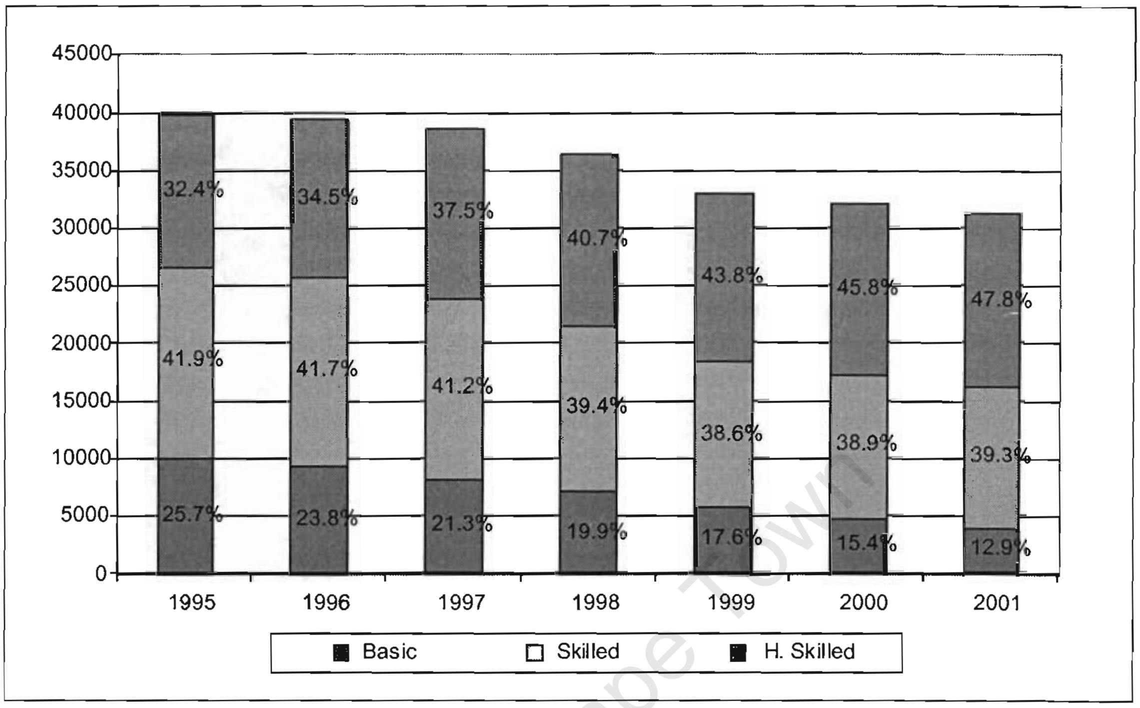

Figure 13: Basic, Skilled and Highly Skilled Breakdown of Eskom Employees

From the graph above, the decline in basic skilled workers is clear as well as the increase in the employment of highly skilled employees. This suggests a shift toward a more skilled workforce in Eskom.

We postulated above that the dominance of males and Whites in SOEs were due to the fact that Whites and males had the skills that SOEs required due to the past Apartheid regime. Taking into consideration the fact that the skilled are paid more than unskilled we expect Whites and males to command a higher wage level. We would also expect a visible wage differential to be present between the various categorical groups. With questions such as these in mind, we proceed with an examination of wage levels and differentials in Eskom.

6.1.2 Wage Levels and Differentials in Eskom

The employment dynamics and trends of Eskom are not only useful in providing insight into how it operates as a firm, but also instrumental in allowing one to form a deeper understanding of Eskom's wage structure. We start with a look at wage levels and differentials in this section by analyzing median wages of employees categorised by race, gender and skill and then carry on to consider the cumulative distribution functions (c.d.fs) of these groups.

Tabulated in Table 7 below are the median wages of employees broken down into the sub-categories. Before analysis is undertaken it should be noted that the "average median salary and package are averages of the median wage over the seven years. Note too that complete tables with yearly information are included in Appendix D, Table 14 to 16.

As expected, both salaries and packages increased progressively in Rand terms over the years for all race, gender and skill groups. Supporting the findings of the previous sections we find that on average Asians (instead of Whites) are the highest paid workers in terms of both salaries and the entire package although the differential between the two races are slight. Below in Table 7 we find that by comparing the average wage over the years, Asians are followed closely by Whites, with Coloureds and Africans coming in a weak third and fourth in terms of earnings (forming only 59% and 49% of Asian earnings respectively. It is very interesting to find that while Africans earn about a fifth of the median White earner in the national sample, in Eskom, Africans earn more than 50% of White earners. It would seem that there is a premium for African workers to work for Eskom. Doing the same for gender, we get an unanticipated finding. Females in fact earn more than males; however only marginally. Males earn 90% of the salaries that females earn and 96% of the total packages females receive.

Table 7: Average of Median Earnings & Percentage of Highest Earnings 1995-2001

	Average Salary	Ave. salary as % of Asians, Females or Specialists	Average Package	Ave. package as % of Asians, Females or Specialists
Race				
Asian	R87 868	100%	R120 507	100%
African	R42 513	48%	R58 556	49%
Coloured	R51 002	58%	R71 430	59%
White	R80 194	91%	R114 535	95%
Gender				
Female	R62 989	100%	R80 734	100%
Male	R56 584	90%	R77 463	96%
Skill				
Basic skilled	R34 059	18%	R46 829	15%
Semi-skilled/skilled	R48 664	25%	R66 454	22%
training	R54 983	28%	R69 712	23%
semi-professional	R85 714	44%	R115 266	38%
management	R148 521	77%	R245 123	81%
Professional	R104 432	54%	R170 566	56%
Snr professional	R134 899	70%	R238 877	79%
Specialist	R193 911	100%	R302 768	100%

Note that the "average" is calculated by taking the average of the median wage or package during the period 1995 to 2001. Also, the numbers represented in this table are nominal numbers. This however has no effect on the real numbers, as they would be deflated by the same inflation figures, i.e. we are essentially looking at ratios divided by the same denominator.

As expected specialists command the highest salary and packages. In terms of packages, management follows with 81%, which is in turn followed by senior professionals. This pattern also emerges when one takes a look at net salaries, however the differential between the packages and salaries for management, senior professionals and specialists are all round about R100 000, showing that they all receive similar packages. These packages are also well endowed compared to the other skills categories. Workers involved with training obviously do not receive good remuneration packages and this is also expected, however they still earn more or marginally more than semi-skilled/skilled and basic skilled workers.

The racial wage gap that is prominent in the whole of South African is apparent in Eskom as well. The racial wage gap is due to the fact that most of the African workers occupy the lesser skilled positions and are paid accordingly.

So far we've looked at median wages, though it is useful in allowing one to take a brief snapshot of wages and compare them between groups, we are essentially looking at only one wage observation and not the entire distribution of wages. Using cumulative distribution functions (c.d.fs) as seen in the first section and graphing them, the entire distribution of wages is observable and inferences drawn on them are more reliable and accurate.

Examining Figure 14 below we find that though on average median wages over the seven years show that Asians are the highest earners (and this is in line with earlier findings in the entire SOE labour market), in Eskom highest earners along the entire distribution are actually Whites, followed by Asians then Coloureds then Africans. Another interesting pattern is observable and that is the distribution of White and Asian employees are fairly close together as is that of Africans and Coloureds, i.e. there seems to be a wage gap between the two groups. Remembering that the gradient of the graphs shows the level of intra-group wage inequality, we find that the White and Asian employees have a more evenly distributed income while Africans and Coloureds do not. Using the same analysis for gender[22], we find that until just slightly above the median, females earn more than males, however beyond that point males earn more. Note that on the x-axis, the median is situated at 0.5 and that is why in earlier analysis it was found that females earned more than males however this is untrue for the other 45% of females who actually earn less than males. In terms of wage equality in the male and females groups, males seem to command a more evenly distributed income. The entire c.d.f for males and females shifts to the right retaining their original shape and pattern year after year. This is as expected as nominal wages increases as prices increase over time. We find the same for the cumulative distribution of race.

[22] Note that the graph for gender is included in Appendix D1, Figure 47.

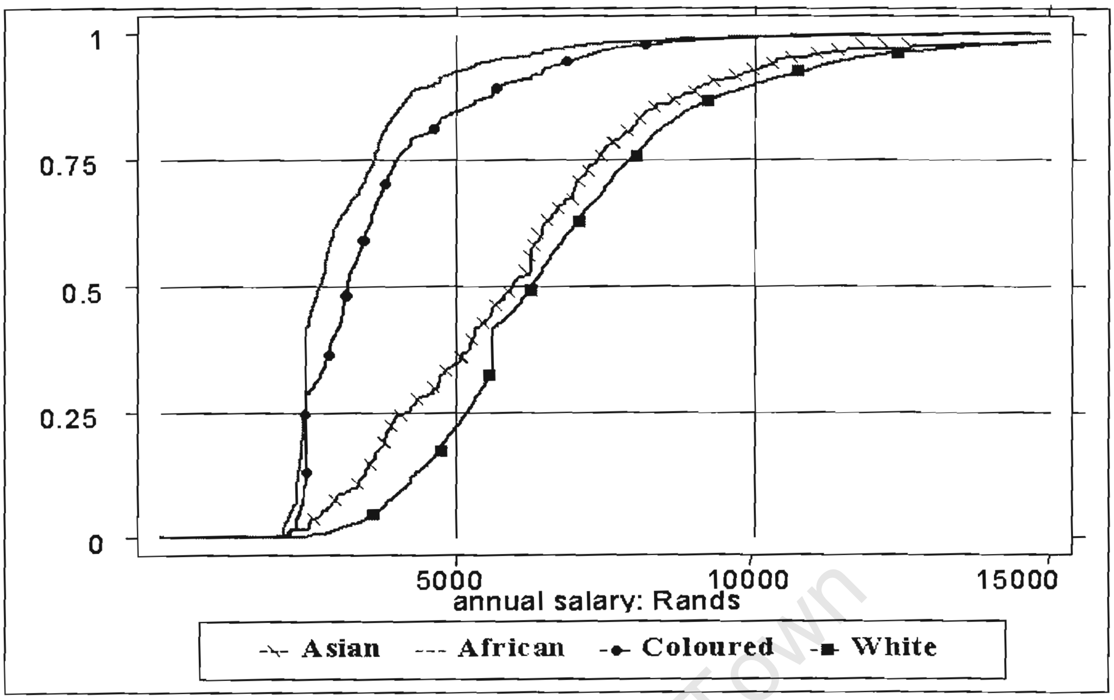

Figure 14: Cumulative Distribution of Salaries by Race - Eskom 1995

The c.d.fs of the different skill groups are also examined[23], however in order to make the graphs easier to read and more comprehensive, the different skill categories were again grouped to form three skill groups, basic, skilled and highly skilled. It is worth noting that the income of higher skilled employees is more evenly distributed than employees with less skill. Otherwise the graphs show us nothing out of the ordinary with higher skilled personnel obviously earning much more than those with less skills. This same trend occurs over the years but with higher salaries is due to the same inflationary effects.

What is interesting from looking at wage differentials and c.d.fs of Eskom employees is that the wage and employment ratio between highly skilled and unskilled employees has not remained constant over the years. This usually means that there this either a movement along Eskom's labour demand curve or an exogenous shock has occurred causing a shift in the entire labour demand curve. This idea is explored in detail in a later section as it could answer the question of whether the changes in employment were due to restructuring or rather normal market processes.

6.1.3 Terminations due to Restructuring, Employment Equity and Business Processes

So far, we've been able to see how Eskom's workforce have changed over the years, however in terms of finding the impact that restructuring may have on employment, one would need to analyse the terminations of Eskom in detail for this information to become truly illuminating.

Figure 15 is a graphical representative of total termination numbers in Eskom. From this graph, there is a visible and steady increase in terminations from 1995 (2425

[23] This graph is also included in Appendix D1, Figure 48.

workers) to 1998 (3384 workers); there is then a sharp increase when almost 5000 workers were terminated in 1999. After 1999 though, the terminations have slowed down to their previous levels of around 2500 every year. It would appear that the most intensive period of reorganisation within Eskom took place in the 1995 to 1999 period, where after terminations declined substantially.

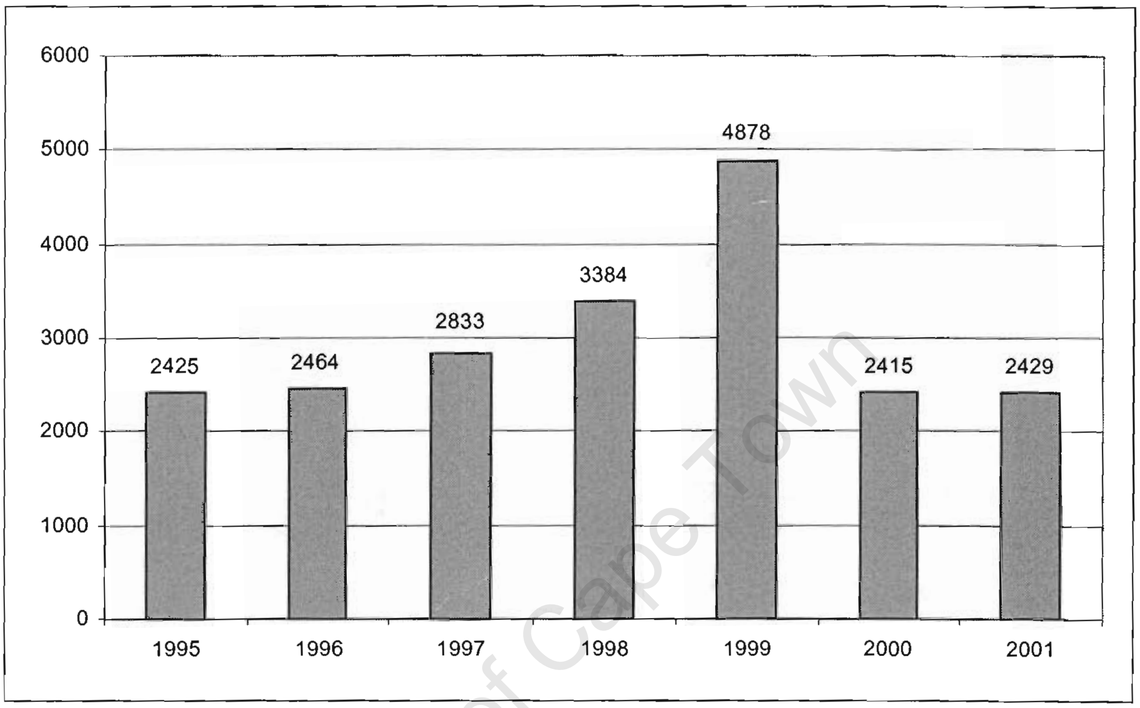

Figure 15: Employment losses in Eskom 1995-2001

What is interesting but not immediately apparent from Figure 10 and Figure 15 is that though total terminations were 20828 strong, the Eskom workforce only decreased by 8482 over the seven years. This means that although terminations were experienced, job creation was taking place at the same time. 12346 positions were created or filled somewhere along the line. Unfortunately there is a misalignment problem in the data that disallows any real analysis in terms of the termination reasons[24]. However simply looking at the termination reason variable on its own without any inter-variable comparisons and analysis, there is evidence that the reasons within which a person may be classified a "termination" include transfers and promotions. This means that while 20828 workers left their current posts, they may have been transferred to different posts or new posts and/or new jobs have been created. Of course natural attrition is also a deciding factor.

This is an important observation since it would be easy to attribute all terminations to restructuring whilst forgetting that those terminations portray simply the termination of an existing contract of post and may have very little impact on the worker (i.e. the worker may have been transferred or dismisses for legitimate reasons such as misconduct). In other words, in this database, one should take care not to immediately assume that all terminations are the result of restructuring. Keeping this in mind we probe further into the termination profile and how it has changed over time.

[24] For a detailed report on the data problem encountered, refer to Appendix D2.

Looking at general employment trends in earlier sections, we've seen a general upward movement of African employment and a downward movement of White employment. There seems to be a switch "out of" White employment into African employment. This suggests that employment equity is in play, i.e. an internal labour market transformation is evident in Eskom. A question that arises from this is how the share of employment by race-skill has changed over the years.

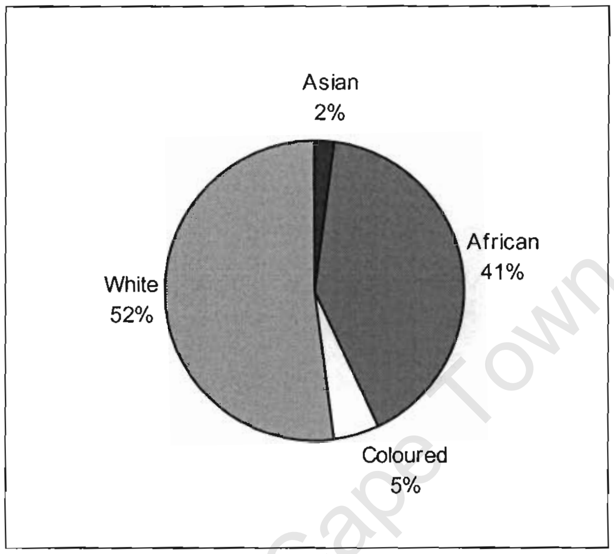

Figure 16: Total Terminations categorised by Race 1995-2001

The pie chart above gives a nice representation of the termination profile of Eskom over the period 1995 to 2001. We find that total terminations were mostly Whites (52%) and Africans (41%), together forming 93% of terminations. It is interesting that the categories impacted the most are composed mainly of White employees and this is a contributing factor to the decline in White employment in Eskom. This is a favourable result as the earlier fears that the reorganisation in Eskom would exacerbate the already unusually high representation of White employees is dismissed as there is a clear movement towards a more equitable distribution of employment.

These net figures are important but what is worth noting is that the termination profile has changed over the years. In the beginning terminations were largely White (71% of all terminations were White and 24% were African), but over time; African (60.6% of all terminations were African and 28% were White) workers were the main targets.[25]

It is important to keep in mind that these are percentages of *total* terminations and that these terminations numbers vary over the years. This means that one should consider the total employment and racial impact of terminations when looking at these percentage numbers. Considering this, we find that although terminations in 1995 were 71% White, these terminations form 10% of total White employees in Eskom. On the other hand, while Asians formed only 1.4% of total terminations, these terminations formed 7.1% of total Asians. Thus from Figure 17 below we find that though White terminations had decreased to 43.9% of total terminations in 1999, at

[25] A graphical representation of this may be seen in Appendix D1, Figure 43.

that point they formed a substantial 18.7% of Whites. What is also striking is that fact that though Asians formed a small part of terminations, those terminations form approximately 7 or 8 percent each year. After 1999, a decrease in the terminations of Whites as well as an increase in the termination of African workers is apparent.

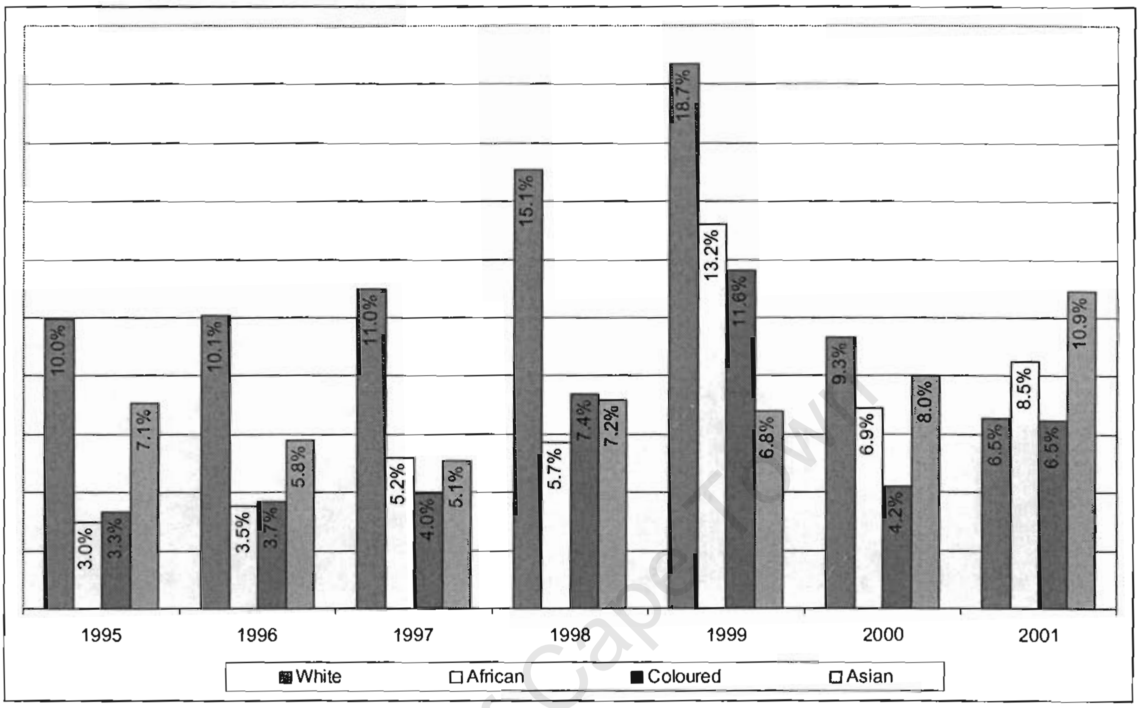

Figure 17: Termination by Race as a Percentage of Total Race - Eskom 1995-2001

Moving onto an even more detailed analysis of gender, race and skill, the two graphs below show Eskom's employment trends broken down by gender and skill levels for Africans and Whites. In the first graph depicting African employment: African females and males are broken down into three general skill levels, namely basic skilled (1), skilled (2) and highly skilled (3). The graph below that in turn may be interpreted in the same way and is only different in that it applies to White employees. Anything above or below the zero line represents actual numbers of employment and actual termination numbers respectively.

Three key employment trends are immediately apparent from the graph. Firstly the actual number of females affected by reorganization is significantly less than males, however this is due to the existence of relatively fewer females being employed in Eskom, particularly in the basic skilled jobs. We find that though this is true of both African and White females, White female skilled workers have lost employment over the years. In terms of changes in gender profile, we find that the majority (in fact 85%) of total terminations over the period 1995 to 2001 were male with female terminations forming the other 15 %.

Second, there is a "substitution" of highly skilled White workers by African highly skilled workers. This movement is clear in the two graphs below (A) and is indicative of labour transformations toward a more equitable workforce in Eskom.

Third, despite the fact that these White employment losses extend to the skilled category; there is still significant employment attrition amongst the unskilled African workforce (B). There seems to be a general shift toward skilled labour in Eskom and Africans are affected greatly as they formed the bulk of basic skilled labour to start with. Considering the wage premia existing in the public sector, this could possibly be the price employees are paying for receiving that wage premium.

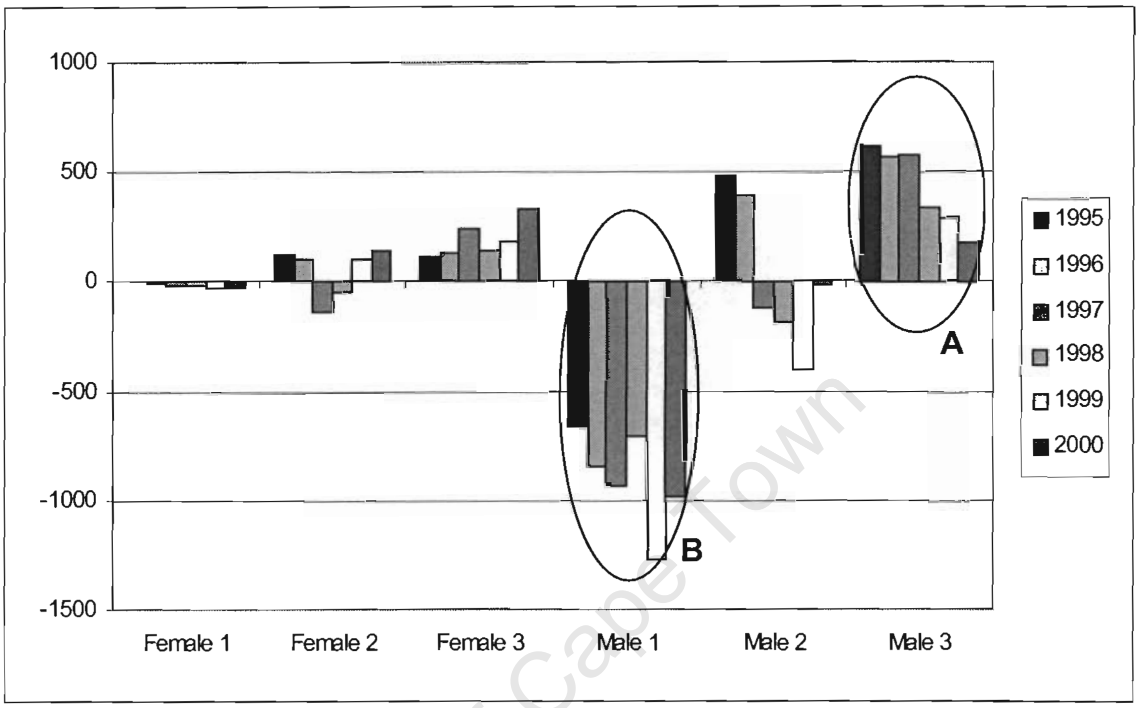

Figure 18: Eskom Employment Trends - African Employees

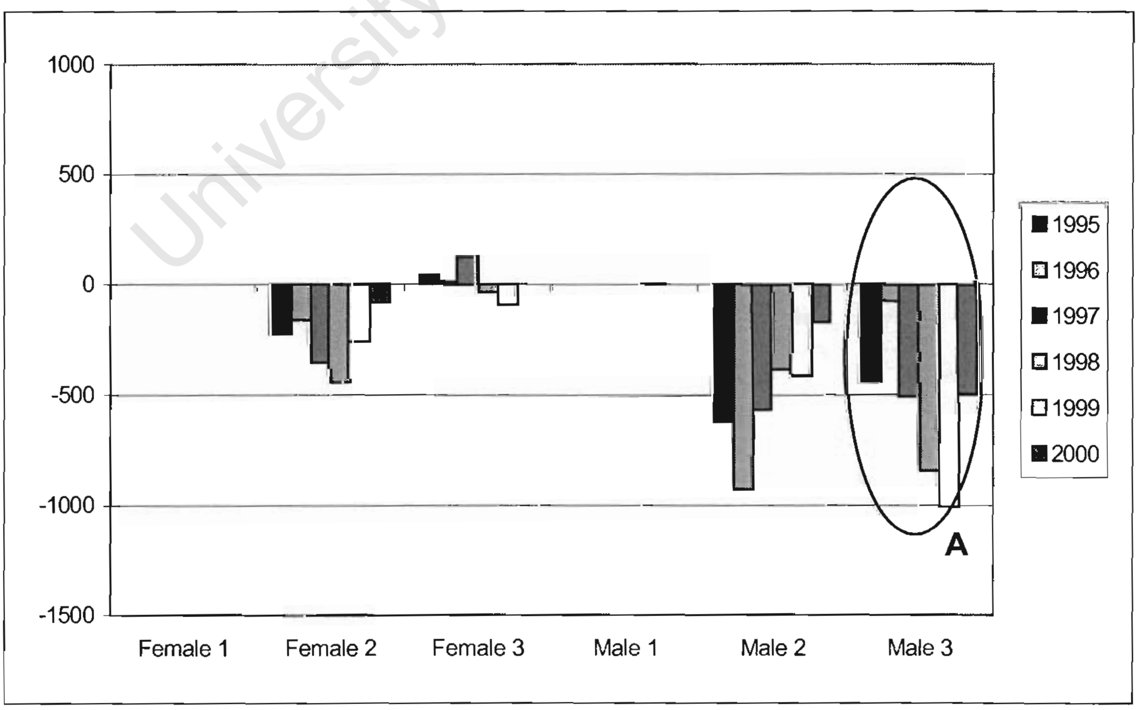

Figure 19: Eskom Employment Trends - White Employees

Figure 20 and Figure 21 provides a more general look at skill for Africans and Whites, i.e. incorporating male and female employees give a clearer indication of the movement toward employment equity schemes and employment of skilled labour.

Notably there were a large number of terminations throughout the seven years for basic skilled African personnel while this is not present for Whites, but this is because there were little or no White employees in that category initially (B). What is striking is that in net terms there has been no employment of Whites in any of the skills categories; they have only seen a loss in employment. Though terminations have diminished since 1996 for skilled workers, for highly skilled workers terminations have only diminished after 1999. In contrast African highly skilled workers have seen an increase in employment over the entire period. One may certainly say that a substitution of race within highly skilled workers was in effect (A).

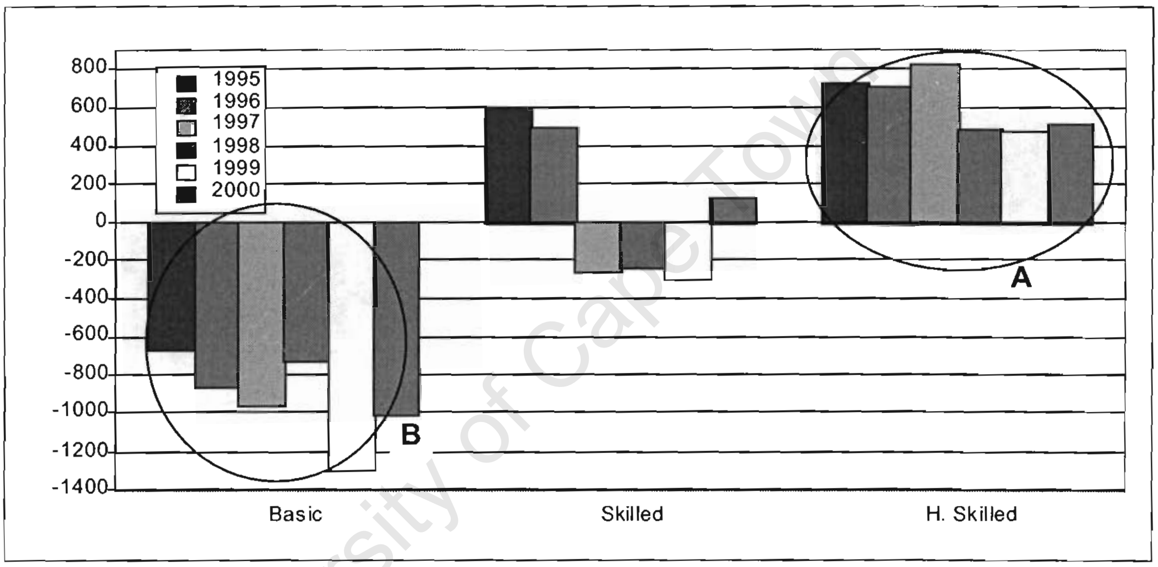

Figure 20: Eskom Employment Trends by Skill - African Workers

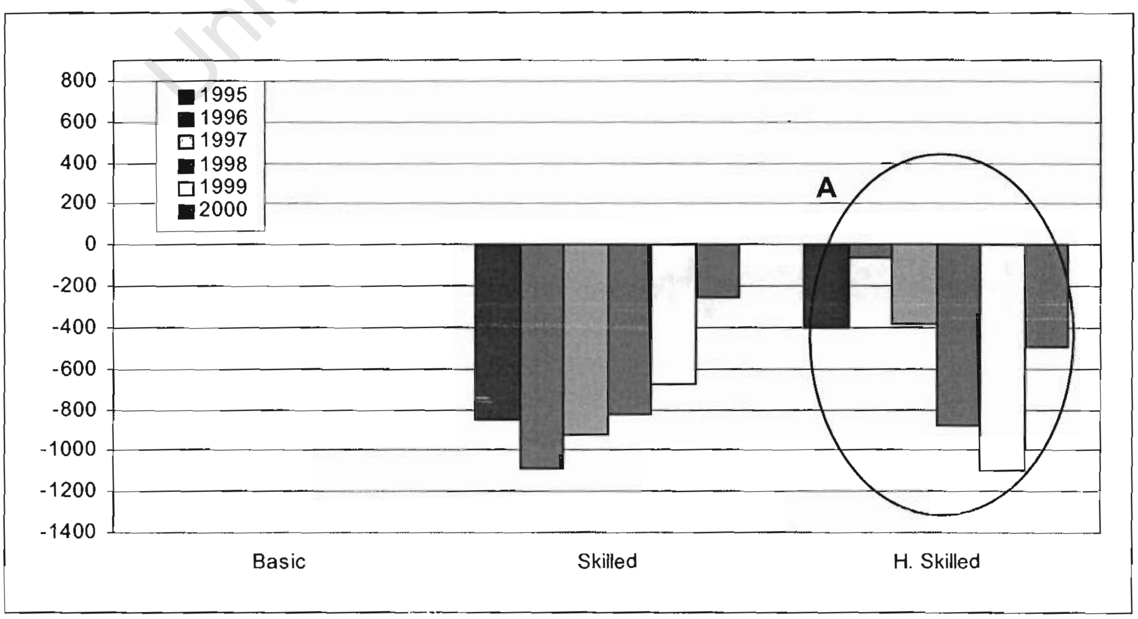

Figure 21: Eskom Employment Trend by Skill - White Workers

In total the majority of terminations occurred within the highly skilled work group. In 1995, 49.2%% of all terminations fell under this category though this number has fallen over the years, it remains high at 42.6% in 2001. The other 50% of terminations are made up of skilled and basic skilled personnel with skilled termination remaining fairly stagnant at around 33%.

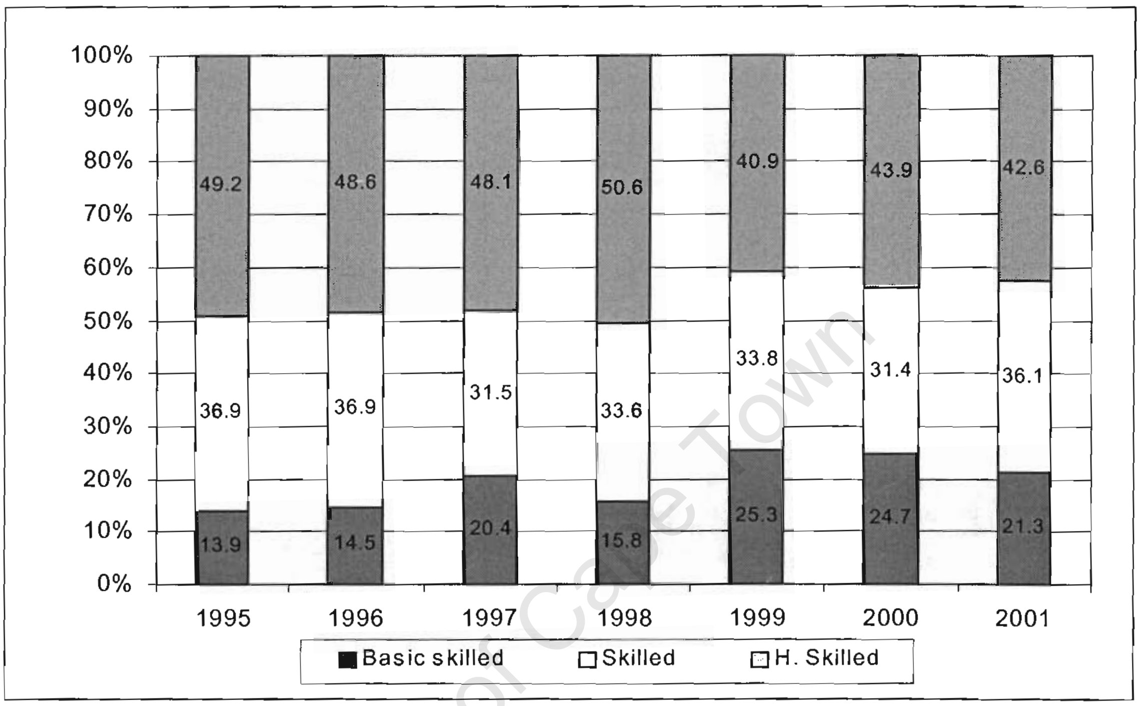

Figure 22: Skill Breakdown of Eskom Terminations 1995-2001

It is worth noting that the categories impacted the most are composed mainly of White employees and this is a contributing factor to the decline in White employment in Eskom. This is a favourable result as the earlier fears that reorganising would exacerbate the already unusually high representation of White employees are dismissed as there is a clear movement towards a more equitable distribution of employment.

Examining the decomposition of terminations is enlightening, however it is very important to consider the impact the termination has on a particular skill group, i.e. terminations as a proportion of each skill category. In Figure 23 below, it is clear that highly skilled workers were cut by approximately 9 - 13%, while skilled workers did not lose a large percentage of their colleagues. Basic skilled workers lost a large 20.1% of total basic skilled workers in 1999 and this is a clear indication of some form of reorganisation occurring in Eskom.

The crucial points that are present in the data are that there is a movement toward skilled and highly skilled employment resulting in the employment loss of many basic workers. Due to the predominance of African workers in the basic skilled, we find a large number of African terminations. Besides the movement towards skilled labour, there is also a movement toward more equitable labour, found by the substitution of White for African and female for male workers. One needs to be aware of these two separate movements and in doing so understand that terminations were not only African basic workers but also skilled and highly skilled Whites.

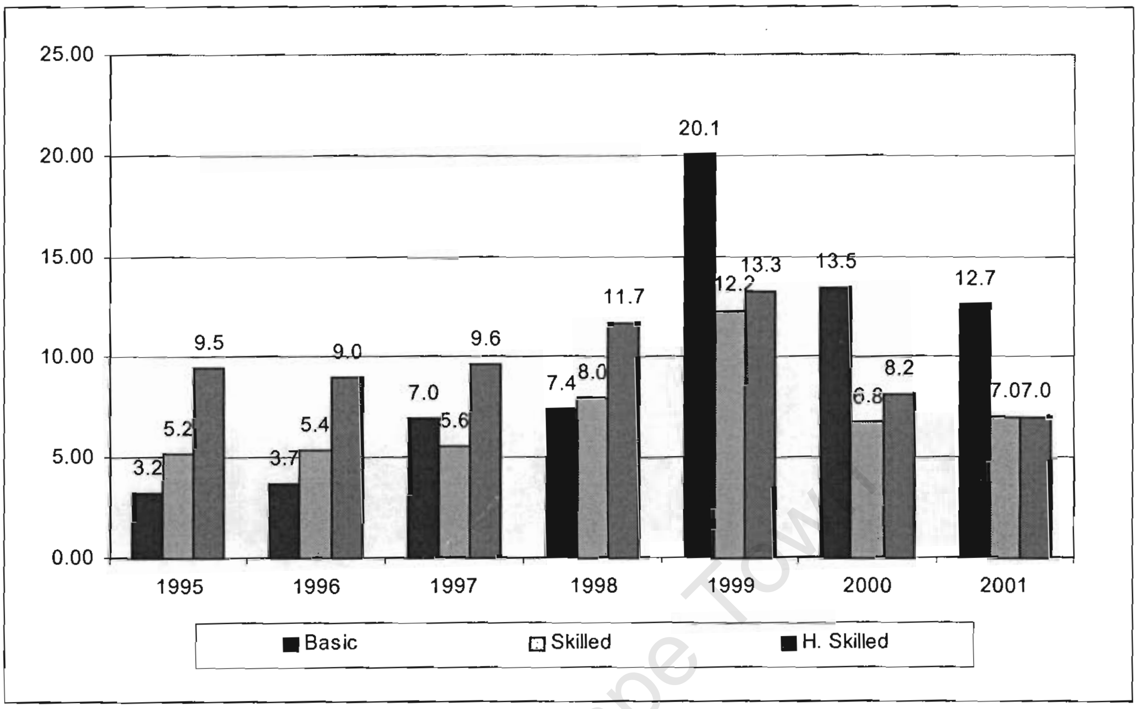

Figure 23: Terminations by Skill as a Percentage of Various Skills Categories

Taking a closer look at the original skill categories (find the relevant graph in Appendix D, Figure 44), the skill categories that decreased in size the most were professionals, senior professionals, management and specialists. Basic skilled workers were cut by 20.1% in 1999, forming the largest decrease in all skill categories over the six years. This along with its next two cuts of 13.5% and 12.7% respectively largely resulted in the heavy reductions in basic skilled workers – from 25.7% to 12.9% of the workforce. The skill breakdown of total terminations from 1995 to 2001 is depicted in the pie chart below and clearly indicates that highly skilled workers bears the brunt of terminations (46%) followed by skilled workers (34%) and basic skilled workers (20%).

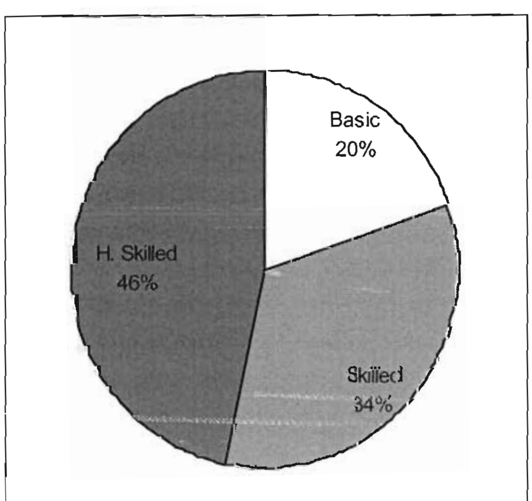

Figure 24: Total Terminations 1995-2001

It is however crucial at this point to remind the reader that this depicts only terminations and is not the profile of Eskom's total employment, since many people are employed during the same period that terminations have occurred.

Having established the skill categories that are hardest hit by terminations; we now look at the racial breakdown of those skill categories in the table below.

Table 8: Termination Breakdown by Skill and Race - Eskom 1995-2001

	Basic Skilled	Semi-skilled/ skilled	Training	Semi-prof	Mgt	Prof.	Snr Prof	Specialist
Asian	0	69	42	215	64	49	62	2
African	**4335**	3413	117	1054	269	124	142	13
Coloured	330	504	14	230	40	20	33	2
White	0	**3770**	**169**	**5781**	**1012**	**492**	**862**	**134**
Total	4665	7756	342	7280	1385	685	1099	151

From Table 8 and Figure 16 above, we see that Eskom terminations were 52% White and 41% African, but Table 8 not only gives a racial breakdown but relates the terminations to skills as well. Note that the numbers in bold show the biggest contributor to terminations in terms of race. Comparing Africans and Whites only, we find that in terms of lower skilled positions, i.e. basic skilled and semi-skilled/skilled work, Africans terminations already formed 33% of total terminations. Among the same categories but with Whites we find that these lesser skilled personnel only formed 16% of total terminations. In fact most White terminations were the more skilled workers and they were the ones who contributes disproportionally to the 52% White termination rate.

Given the above it is useful to see the reasons for termination. The reasons for termination is categorized into those that have (1) absconded i.e. when someone leaves suddenly, (2) deceased, (3) resigned, (4) retired, (5) retrenched and (6) dismissed. The terminations that can definitely *not* be attributed to the restructuring of SOEs would be those that have absconded, deceased retrenched or dismissed. Note that "dismissal" is characterised by law into three types, misconduct, incapacity or operational requirements. Dismissals that are attributed to the employee's characteristics or actions are usually distinguished from dismissals that are purely on an operational level. Thus, retrenchments are dismissals due to operational requirement. Terminations categorised as 'resignation' would also not be affected by restructuring since a person faced with restructuring would be certain to accept a retrenchment package rather than forfeit any benefits and resign anyway. These four (excluding retrenchments) groups already form 45% of total terminations.

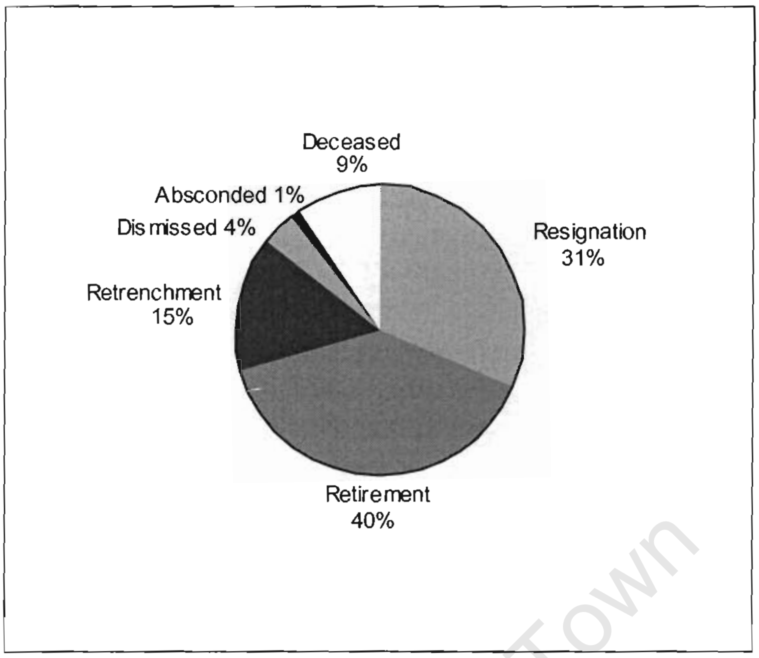

Figure 25: Terminations broken down by Reason

The effect of restructuring is thus encompassed within the "retirement" and "retrenchment" category. It is common practice to offer early retirement and voluntary retrenchment packages during the process of restructuring, thus the task now is to distinguish between persons who have retired at the retirement age and those who have retired early. Retirement age in Eskom is 65 years for both male and female. From this we find that 36% are early retirees[26] and together with legitimate retirees (4%) make up the total 40% of the "retirement" category. Keep in mind that these retirements, be they conventional or not are voluntary and employees are compensated. This means that only involuntary terminations fall under "retrenchment" which is earlier defined as dismissals due to the misalignment of operational requirements, i.e. they were due to changes in normal business processes.

As mentioned earlier, there are misalignment problems in the data that disallows one from breaking down the termination reasons further[27]. Adopting a prudent estimation/measure we assume that none of the voluntary retrenchments were due to conventional reasons such as financial stability or illness etc, and none of these terminations were transfers or career moves that results the employee in staying in the firm. As mentioned earlier "retrenchments" are dismissals due to operational requirements. This is usually considered a business process, however one may never be sure that this is so in this case. Once again to be prudent, all "retrenchments" are considered part of the restructuring process.

Thus this implies that restructuring could result/affect a maximum of 51% (10 500) of terminated employees and a lower bound of 36% (7 411) in Eskom over the period 1995 to 2000.

[26] Note that these early retirees include not only those offered retrenchment packages and early retirement packages but also persons who retired out of their own choice due to circumstances such as illness or simply because they can afford to retire.

[27] Once again, look in Appendix D2 for a detailed discussion of the misalignment problem in the data.

6.1.4 Unions and Hick's Bargaining Model

A discussion that involves compensation to terminated employees should include unions and the role they play in the labour market. Represented below in Figure 26 is Hicks' (1966) bargaining model. It is a graphical representation of the behaviour of unions and employers in a bargaining situation. The percentage of wage increases or the wage rate is shown on the vertical axis and the expected length of strike is on the horizontal axis. Note that the y-axis does not necessarily have to be wages; it could be anything that the two parties are bargaining for e.g. compensation, severance packages etc. For ease, we continue to call it wages.

Employer behaviour is mapped by the "employer's concession curve" and union behaviour by the "union resistance curve. The premise is that unions start off with relatively high demands (W_1) and as time progresses would lower these demands if negotiations drag on since this would result in loss of income to their members (Ehrenberg & Smith, 2000). Conversely the employer begins by offering small wage (W_2) increases and slowly raising their offers as the expected strike period rises causing profits to fall[28]. This bargaining process continues until the two curves meet, resulting in a wage increase of W_0 and an expected strike period of S_0.

Applying this model to the relationship dynamics between unions and the benevolent state instead, one would expect the "employer's concession curve" to shift up. Simply put this means government would offer more wages or compensation for all expected strike levels since a benevolent state acts in the interests of its citizens. It is also commonly known that the governing party (the African National Congress or ANC), the South African Communist Party (SACP) and Congress of South African Trade Unions (COSATU) are part of a tripartite alliance. This means that COSATU's "union resistance curve" would also shift upward, since the alliance results in more leverage power when bargaining.

Slightly more than 50% of the terminated workers belonged to a union. Of those that were unionised, 52% belonged to the National Union of Mineworkers (NUM) and National Union of Metal workers of South Africa (NUMSA), both of which are COSATU affiliates. Even though Eskom's workforce is not totally unionised by COSATU or its affiliates, there are enough members to command bargaining power. Thus COSATU is able to bring higher wages or compensation to not only their members but to all employees affected. In other words, just by simply being a dominant union in Eskom, COSATU would shift up the total union resistance curves.

[28] Note that depending on situations presented, the shape of the two curves may differ but they would always retain their negative relationship.

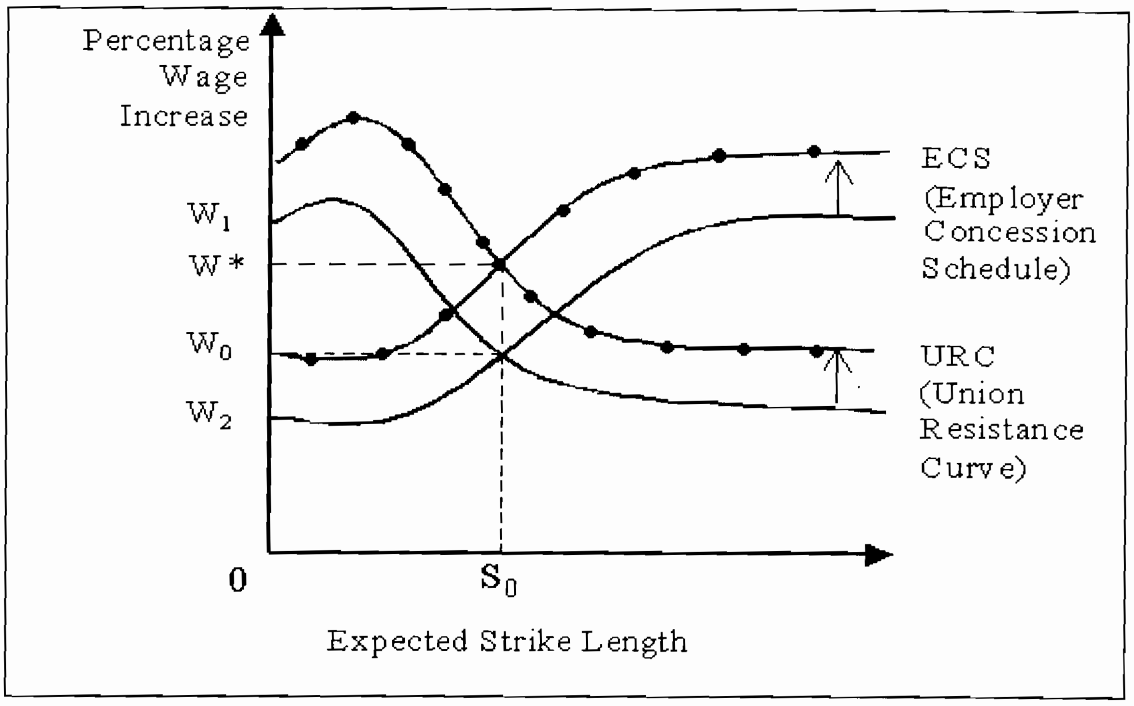

Figure 26: Bargaining Model

Portraying this logic on a Hick's (1966) bargaining model graph, the initial equilibrium wage a union and employer would agree on is W_0, given by the intersection of the two smooth curves. In the case of South Africa, we find that for the same expected strike length, the state and unions would agree on a wage W* (intersection of the two knobbed graphs) which is higher than normally required.

The behaviour of these two parties gives rise to two observations. First, workers are likely to earn higher wages in an SOE environment. This has been verified on numerous occasions in this study pertaining to SOEs in general as well as Eskom as a case study. Second, that in the case of a dispute or in this case restructuring, the compensation or severance packages are better endowed in SOEs. Workers seem to be better off being employed by SOEs as well as being terminated by SOEs. In other words, the results from restructuring by a benevolent state are more equitable and socially desirable than restructuring by a profit driven firm.

The above two sections on employment wages and terminations have shown that during the years 1995 to 2001, Eskom has reduced its work force by slightly more than 21%, with a steady stream of terminations over the years barring 1999 where a sudden surge of terminations may be observed. However though Eskom lost 8482 over the years, total terminations over the same period amounted to 20828 workers. This means that there had to be job creation at the same time. With data manipulation, the basic characteristics of both terminated and newly appointed employees were ascertained and Eskoms employment trends thus became observable. We find that Eskom's workforce composed mainly of Whites and Africans. Also with each progressive year the total terminations moved from mainly Whites to mainly Africans. Although this is the case, the White terminations each year formed a large proportion of total Whites employed in Eskom and this is the driving force behind a reduction from a White composite of 43.6% in 1995 to 33.2% in 2001. Overall 52% of terminations were White, 41% African, 5% Coloured and 2% were

Indian. In the previous sections we suggested that there may be a movement toward a more representative workforce in all the SOEs. We find this same trend in Eskom, though the percentage of Whites/Africans is still too high to be representative, it is clear that there has been a concerted and conscious effort toward employment equity transformation. This is also apparent when employment and terminations by gender are analysed. Eskom started with 86.4% males and 13.6% females in 1995, and though Eskom is still composed predominantly of Males in 2001, there is a significant increase of females (to 18%). 85% of the terminations over the seven years have been male with only 15% female which seems to suggest that Eskom is hoping for a demographically representative workforce in the long run.

Looking at the general breakdown of skills in Eskom, it is observed that terminations occurred in higher skilled categories, categories that are mainly composed of White personnel. A clear movement from White highly skilled and skilled workers to African highly skilled and skilled workers may be observed. This suggests that this reorganisation is rather an employment equity impetus rather than pure government restructuring. However, at the same time, a large number of basic skilled positions were also terminated. These terminations were largely if not in all totality African but one should remember that the composition of this skill category was predominantly African to start with.

A more detailed look in the various skills classifications reveals that the majority (approximately 90% through out the seven years) of the workforce comprised mainly three skill groups (1) semi-skilled/skilled, (2) semi-professional and (3) basic skilled workers. Semi-skilled/skilled workers remained fairly constant while semi-professionals grew and replaced basic skilled workers in terms of the percentage they contributed total Eskom employees. Not surprisingly 80% of total terminations were also formed by these three skill categories, which suggests a surplus of less skilled personnel. However due to the fact that there were so many less skilled workers, even an 80% termination rate resulted in a proportional reduction of less than 10% (i.e. those terminations only formed 10% of the less skilled workers). Contrast this with almost 20% termination of all professionals in the year 1999 and we find that the skills that are losing the most proportionally are higher skilled workers. It is also interesting that the terminations in these higher skilled categories are the ones that push White terminations past African terminations (which were largely less skilled workers) in absolute terms even though higher skilled groups formed only about 10% of Eskom's employees.

Looking at terminations broken down by termination reason, we find that 49% of total terminations were definitely not due to restructuring. The other 51% of total terminations were possibly due to restructuring (this number does include persons who have legitimate early retirement reasons as well as persons who may have been terminated for purely market process reasons). These terminations involved employees receiving early retirement or voluntary retrenchment packages. Investigating this further and using Hick's bargaining model, it is found that the South Africa's political economy supports an environment in which both the union and benevolent state are more inclined to demand and offer better wages or compensation. This leads us to suggest that the results of restructuring by government are more equitable and socially desirable than in the case of private restructuring. This combined with the presence of a wage premium puts SOE workers in a better position in both employment and termination scenarios.

Previously, this paper showed that restructuring was not a significant contributor to total terminations. But perhaps the most important finding in this section is that there is great difficulty in separating restructuring and business process changes for both encompasses each other.

Having looked extensively at Eskom, we now turn to other SOE's in South Africa. It should be noted that the data provided by the various SOE's were incomplete and difficult to compare except on the most basic levels – the reason why this section has a bigger focus on qualitative data (i.e. based on interviews) rather than quantitative data.

6.2 Case Studies: Other SOEs in South Africa

This section tackles the difficult task of analysing and comparing other SOEs (Telkom, and Denel in particular). The task is difficult in that the data collected from these enterprises are firstly incomplete and second very difficult to compare. Telkom, Denel, Portnet/National Port Authority (NPA)[29] and Metrorail were able to submit helpful data. In addition to the data, interviews were conducted allowing one to have a more rounded view of how things operate in SOEs and the different impacts that restructuring programs have had on these firms. As mentioned earlier, data from the Telkom and Denel were not aligned exactly. For example occupation is categorised differently between the two firms making inter-firm comparisons difficult and one should exercise caution in comparing the firms directly for the obvious reason that the nature of their businesses are quite different. It is unfortunate that Transnet as a whole was not able to submit data even though some of its constituencies (Portnet, NPA and Metrorail) did, as this causes fragmentation in the data. To avoid confusion, this section will house predominantly Telkom and Denel graphs. Other relevant graphs are included in Appendix E.

As previously mentioned, Telkom is involved in the telecommunications industry, Transnet is in the transport industry and Denel the defence industry. Taking a general look at their employment over time (unfortunately there are different time frames in the data available), we do find similar trends in employment. In Figure 27 and Figure 28, both firms are seen to have experienced a sharp decline in the number of workers hired. Telkom for example gained 4,600 workers moving from 1997 to 1999 but then proceeded to lose almost 21,700 workers over the next three years (36%). During the same period, i.e. from 1997 to 2001, Denel lost almost 4000 workers as well, however in 2002 Denel increased their employment by 1000 workers. Spoornet's workforce also decreased by about 2,800 workers during the period of one year (from December 2000 to December 2001) and Portnet (before the unbundling into NPA and SAPO) 1,360 from 1999 to 2000[30]. Metrorail lost in total slightly more than 800 employees from 1999 to 2002. It should be worth noting that these absolute terminations form a very small percentage (ranging from 7% to 10%) of their workforce as well as the fact

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[29] Portnet is a sub-division of Transnet. It unbundled in 2001 to form the National Port Authority (NPA) and SA Port Operations (SAPO). Thus 1999 and 2000 data pertains to Portnet in its entirety while the 2001 and 2002 data concerns only the NPA.

[30] Look in Appendix E: Figures 49 -51 for total employment graphs of these firms.

that these terminations do include natural attrition such as death and normal retirement.

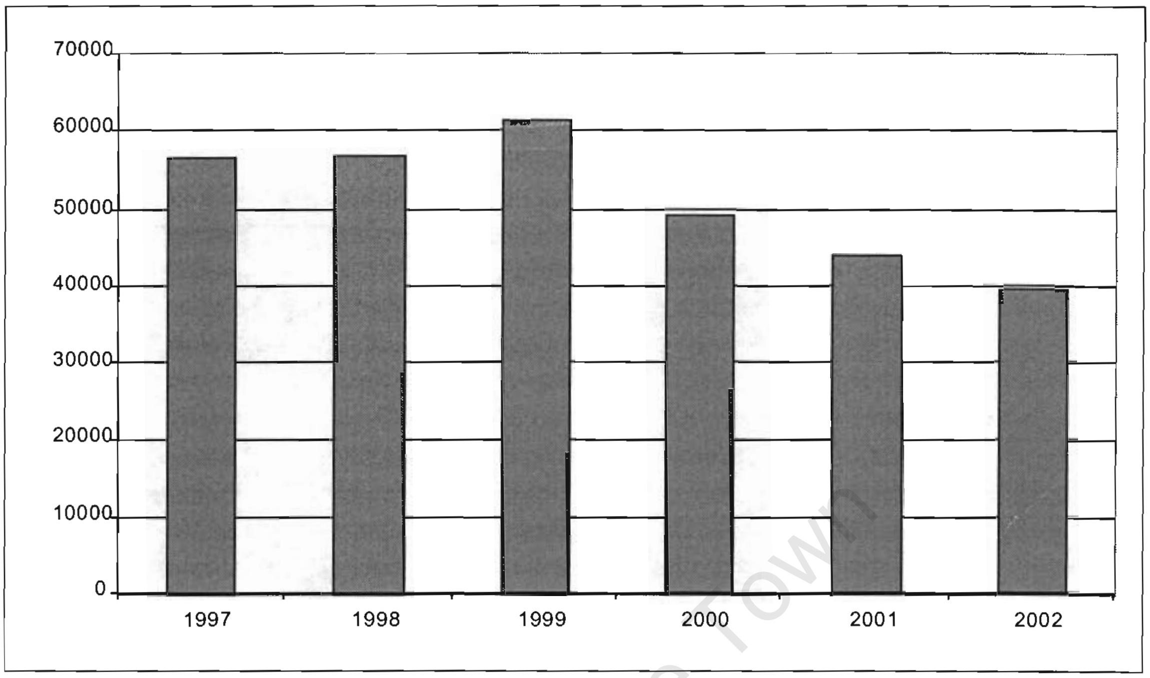

Figure 27: Total Employment - Telkom

Disregarding absolute numbers for a moment for Telkom and Denel, we see that the proportion that terminations form part of total employment is slightly higher in Telkom. What is important to note though is the difference in reasons for these terminations. While Denel faced a global reduction in demand for defence items (Interviewee, Denel, 2002) and responded accordingly by cutting costs, Telkom on the other hand experienced a technological change in their industry which required less labour intensive work.

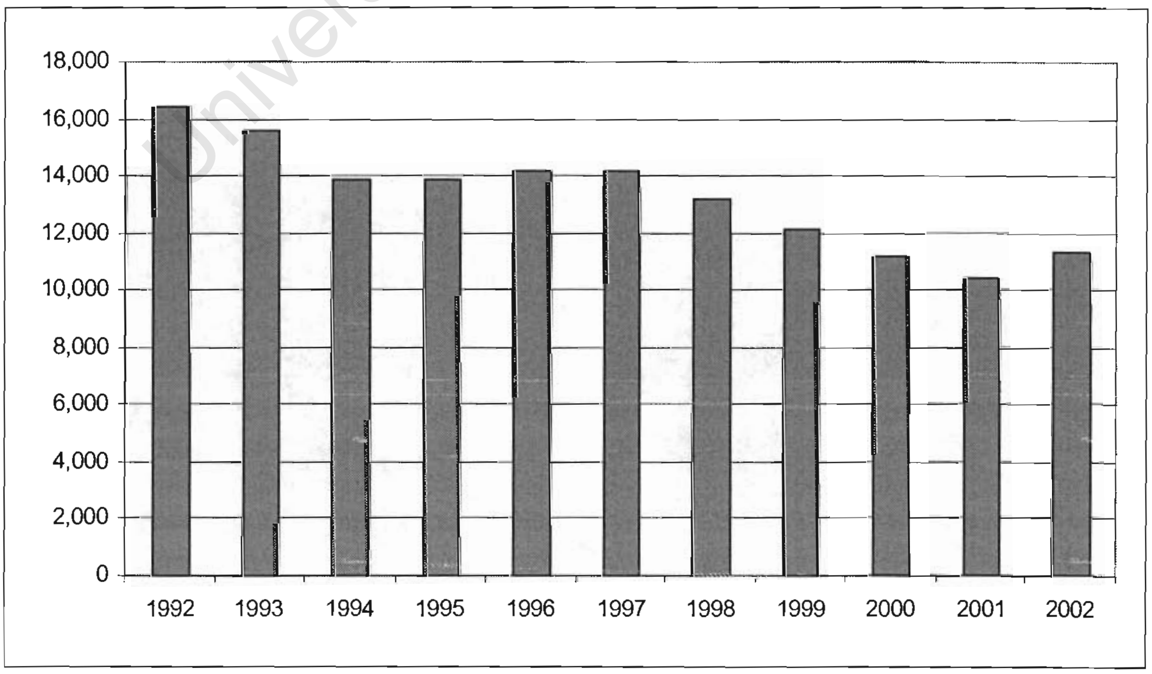

Figure 28: Total Employment - Denel

Over the past few years, the Telkom[31] has experienced, automation, modernisation and digitalisation (99.6% of the network was digitalised) of their telecommunications networks resulting in less demand for labour intensive work. The use of optic fibre cables is a prime example of how technology has changed the labour requirements of the industry. In the past, copper wires were used, and they required thirty people with specialised trucks to dig the trenches and lay out the lengths of wire. With optic fibre cables, an instrument may be used to shoot the cable into the ground wherefore it comes out at a calculated area further down. This process requires only two persons who are sometimes outsourced (for example electricity cable layers may also lay these wires and they are outsourced to do so if they are working in a suitable area. In addition to less labourers required for the actual laying down of cables, less workers are needed to look after the line exchanges. In the past, approximately 30 people would look after the 10,000 lines that copper wires provided. With optic fibre cables, 100,000 line exchanges became available and requiring only 5 people to monitor instead of 300. These technological changes are the predominant reasons for the reduction in Telkom's workforce in 1999 and 2000. New and changed processes also contributed to increased terminations. Services such as the activation of phones, repairs and phone billings were all re-engineered to become more efficient.

The movement away from labour intensive work is clear from Figure 29 below. There is a clear reduction of the number of basic skilled workers[32], particularly during the year 2000. Although the absolute number of skilled workers has remained fairly stagnant, the proportion that they form of Telkom's workforce has grown tremendously over the years. The proportion of highly skilled workers has also increased, even surpassing the number of basic skilled employees.

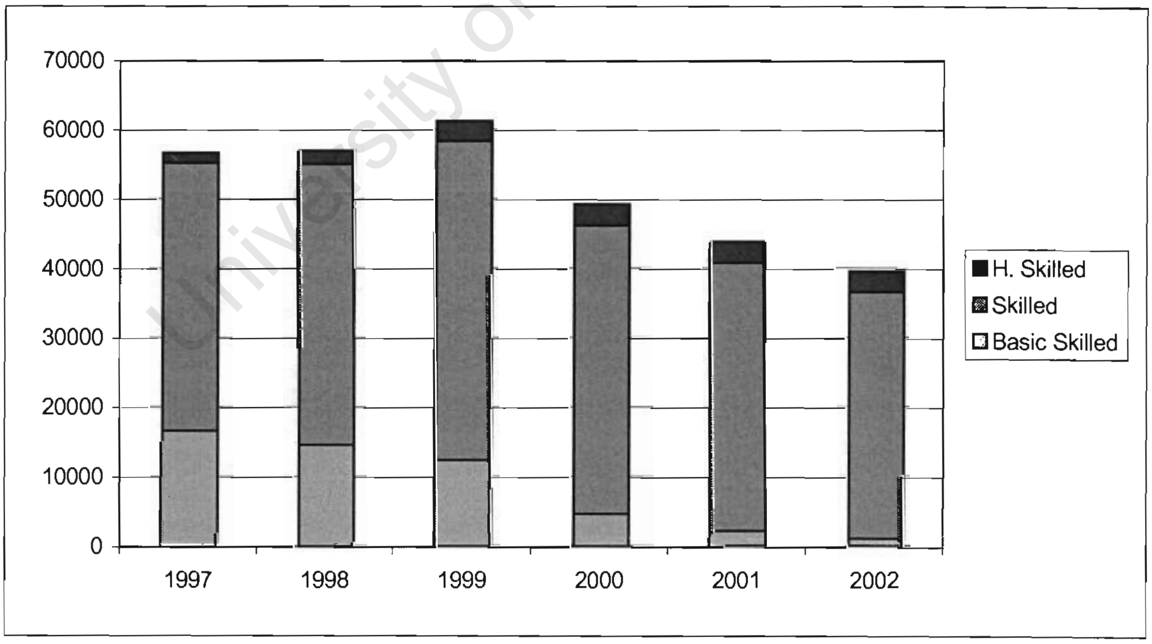

Figure 29: Skill Breakdown of Telkom Employees

[31] An interview with a Telkom technician of eighteen years who later moved into human resources for another nine years proved to be highly informative and comments in this paper are based on his knowledge.

[32] Basic skilled workers consist of support workers and training engineers. Skilled workers are those that are categorized as supervisory workers and operational workers. Highly skilled workers are members of management.

There are however also growth areas in Telkom. Consumer service grew by 3 to 4,000 employees. This included an international call centre, service centres etc. With the opening of the market, Telkom did not have monopoly power any longer, requiring new strategies to retain and gain new customers. As a result their marketing division grew. Losing monopoly power also meant that new products and services were required to be able to compete with other firms. This resulted in another growth area, i.e. the Information Technology (IT) sector involving developing new software and technologies. New business plans included setting targets that were linked to an incentive scheme for employees encouraging efficiency. However perhaps it should be mentioned that unfortunately the IT and Marketing form a very small part of Telkom's workforce. Technical/engineering employments on the other hand forms the core of Telkom's business and have increased proportionally over the years.

Though the functional breakdown of skills in Denel differs from those of Telkom, one is still able to see the large decline in less skilled workers, i.e. the "labour/operators". Administrators, financiers, technologists, draughtsmen and computer specialists have all decreased substantially over the years. In fact the only group that has grown in numbers are the artisans (Figure 30).

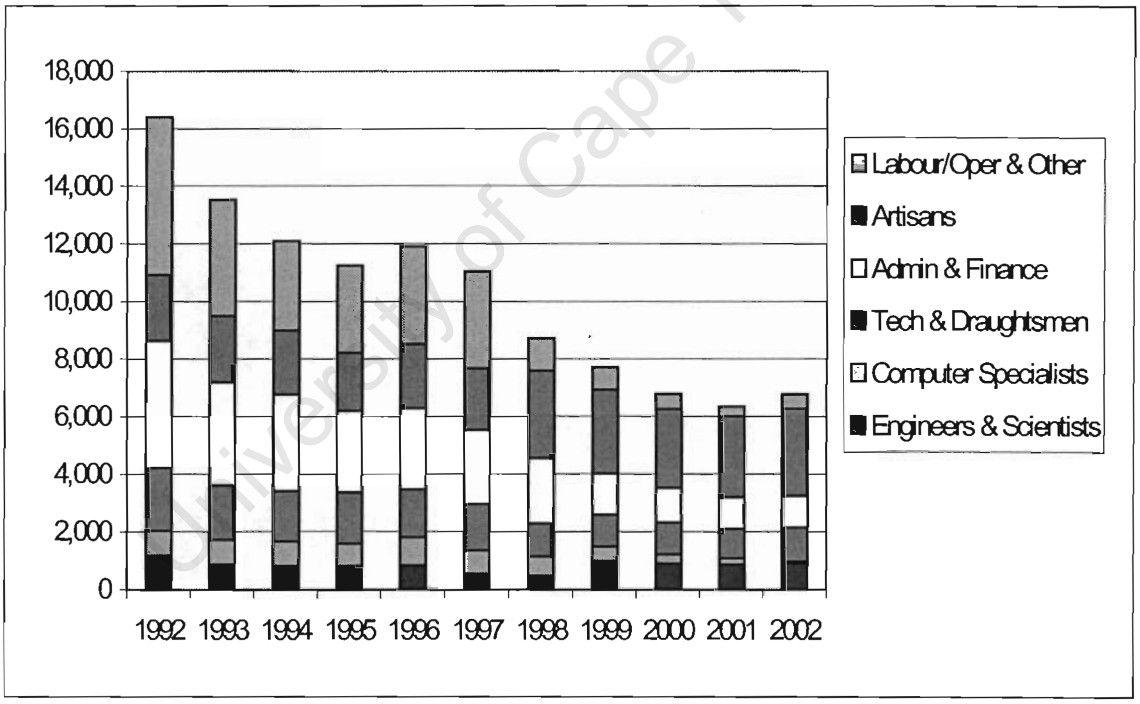

Figure 30: Functional Breakdown of Denel

The reasons for the general loss of employment in Denel are twofold. First, the fact that Denel is no longer subsidised by government meant that they had to scale down, face business realities and become more profitable by being more efficient. Second, the demand for war and weapons depend highly on exports: usually long term contracts, planes, and maintenance etc, which has declined in recent years. For example Datam operations, which involve the servicing of Boeings had to be shut down due to bad business and small guns have also seen a reduction in their demand. The combination of these two factors has resulted in the contraction of Denel's workforce in recent years.

In terms of race, though Denel's workforce is by no means proportionally representative of national race figures, it has moved great bounds toward being a more equitable employer. From Figure 31, there is a clear downward trend in the employment of Whites, and a slow but increasing number of non-White members of their workforce. Interviews revealed that although provisions such as moulding young African students with potential in school by providing bursaries etc. were made to change the racial composition, the technical skill base is still lacking amongst non-Whites. The young candidates are performing well however they require time in order to be qualified enough. Unfortunately the Denel data set did not have functional occupations broken down by race, otherwise one would be able to see that while engineers are 90% White and 10% non-White, the trainees are 30% White and 70% non-White (Interviewee, Denel, 2002). Spoornet has seen relatively stable race components in 2001 and 2002 except for White employees who have decreased by 10 % while Portnet has seen a decrease of 1% for Whites, Coloured and Asian workers from 1999 to 2000 with Africans staying constant.

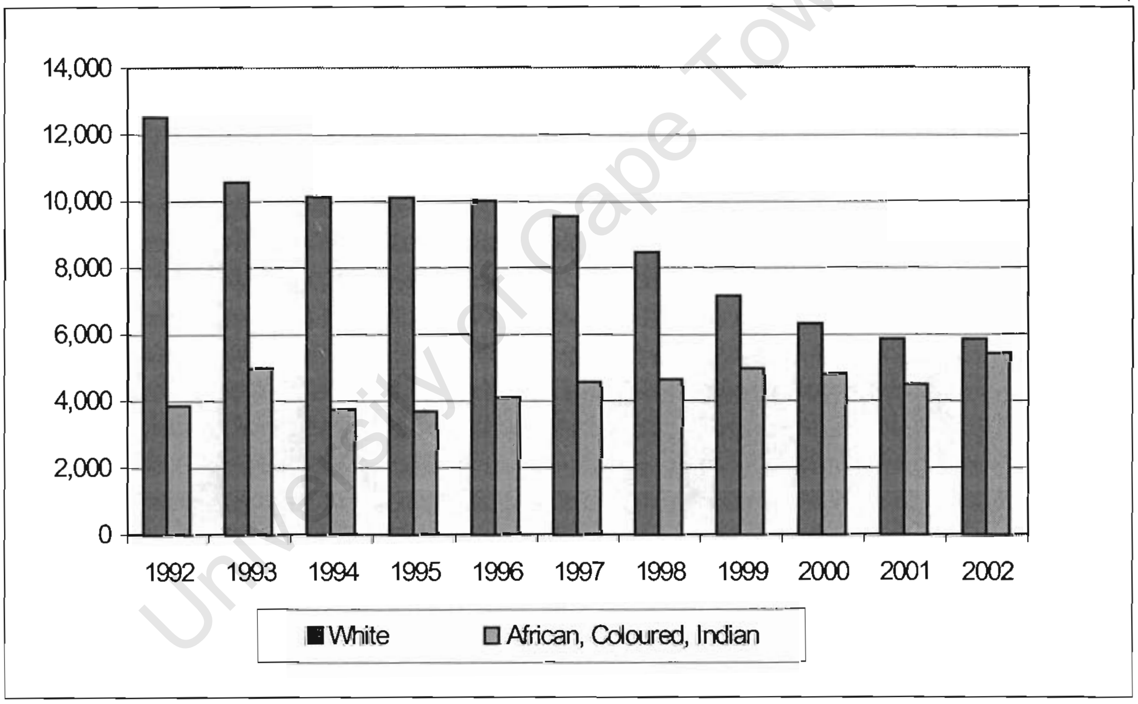

Figure 31: Racial Breakdown of Denel

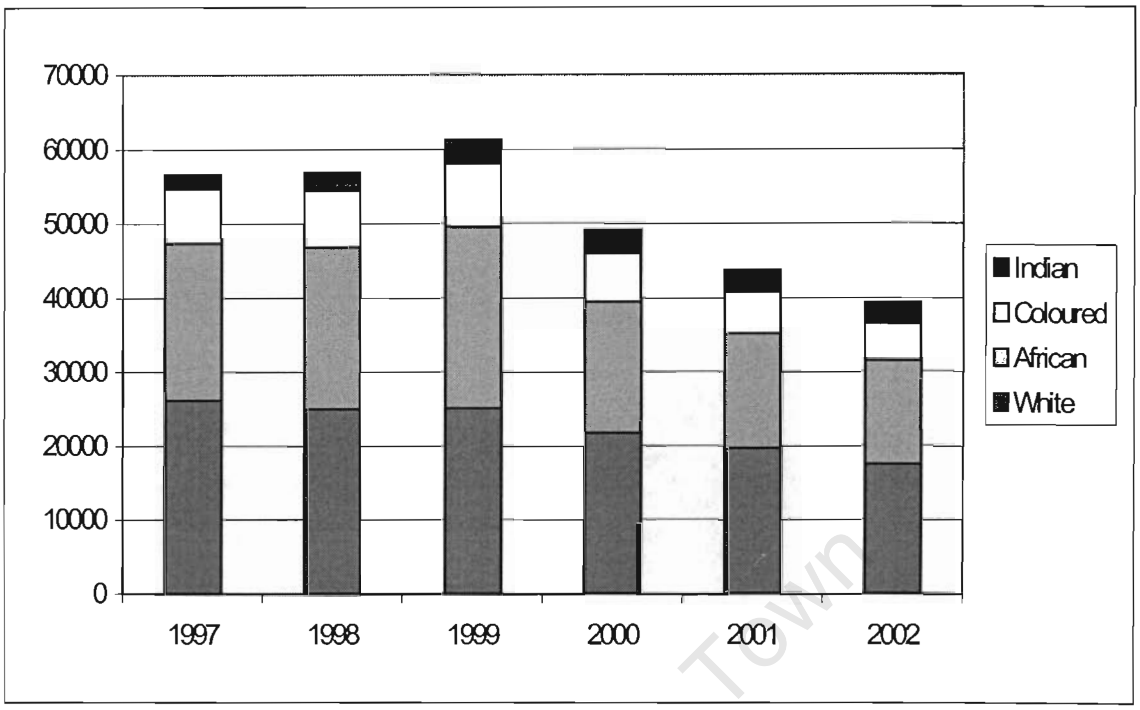

Figure 32: Racial Breakdown of Telkom

Telkom has had a fairly consistent 50/50 constituent of White and non-White employees over the years (Figure 32). Non-Whites did form a larger part pre-1999, however with the decline in the need for labour intensive work, non-Whites have also seen a fall in the share of employment since skilled work was less accessible to them during Apartheid. This is presented by (A) in Figure 33. By comparing the net employment of White and African employees by skill one is also able to identify the movement away from White toward more equitable employment (B) in Figure 34. Note that though net employment for both Africans and Whites are largely negative (except skilled workers in 1998), White terminations are greater than African terminations both in skilled and highly skilled labour.

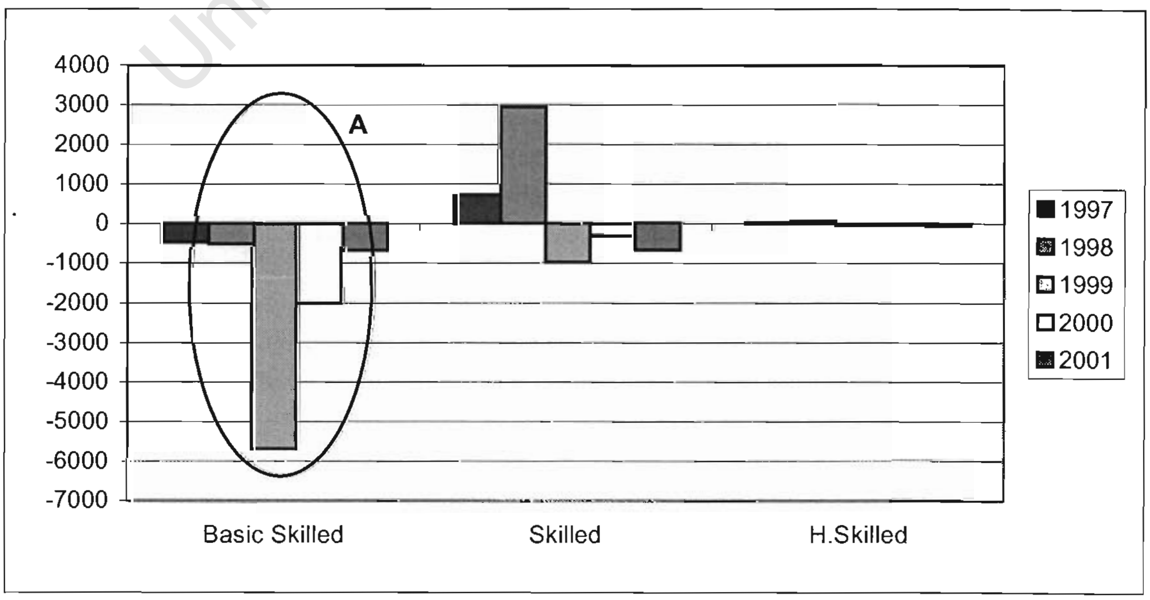

Figure 33: Net Employment in Telkom - African

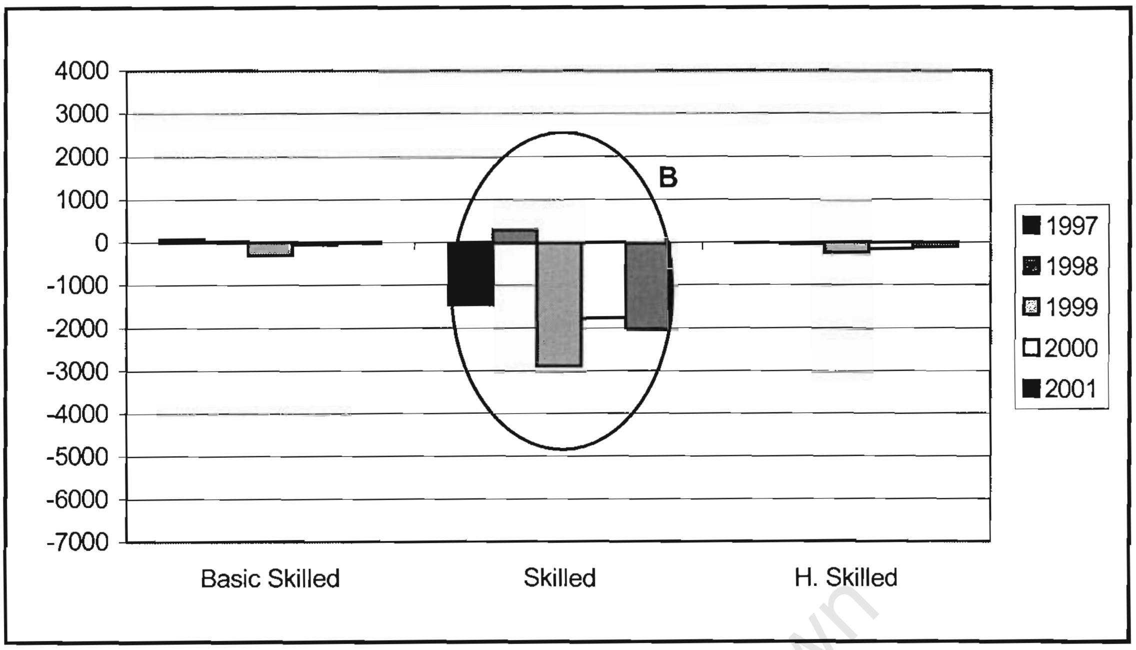

Figure 34: Net Employment in Telkom – White

Unfortunately Metrorail's database included gender but not race. In terms of gender, females form a very small part of SOEs in general. In Portnet females formed only 9.5% of total employees in 1999 and increased by only 1% in 2000. Similarly Spoornet increased by 3% to 10% in 2002 in a year whilst Metrorail grew 5% progressively over a four-year period to 13% in 2002. Both Denel and Telkom possess a much greater share of female personnel compared with Transnet constituencies. Telkom had 21% females in 1997 and this number has grown to 27% in 2002. Denel had 23%, which increased to 27% in 1999 but few back to 24% in 2002. Regardless of the numbers, it is clear that SOEs are making a concerted effort to become more demographically representative, both in terms of gender and race.

Focusing on terminations in Figure 35 and Figure 36, we find that company initiated terminations in Telkom was particularly great in 1999 (approximately 11,000 workers). In the next two years, this number abated to an average of about 3600 each year. Breaking these figures down further into termination types: outsourcing, resignation and retirement shows a once off outsourcing that formed almost 2,000 of losses in employment in 1999. Forced resignation and retirement was highest in 1999, then slowing down in the following two years. In total company initiated losses amounted to about 18,300 jobs. Voluntary severance packages were offered as well as early retirement packages. The National Ports Authority (NPA) also offered voluntary separation packages to their workers. Over three years, there were about 78 separation packages, most of them White males (60), followed by White females (11). Due to insufficient data, more in depth analysis of the NPA is not possible and thus we turn our focus back onto Telkom.

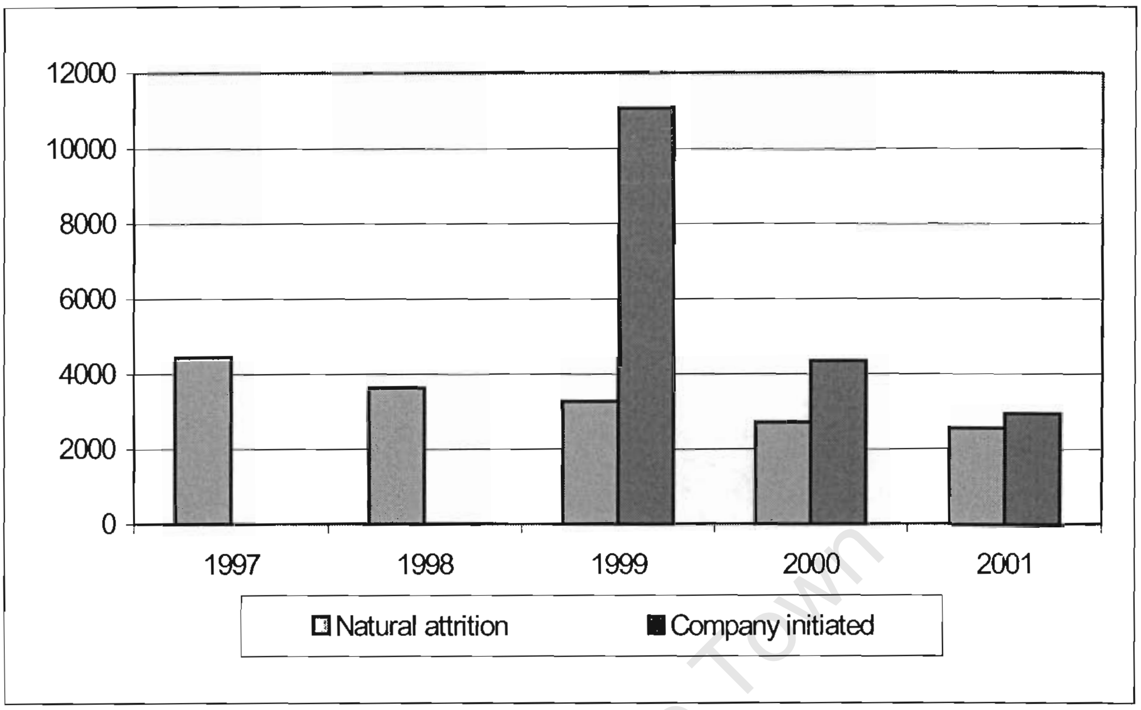

Figure 35: Termination Breakdown of Telkom

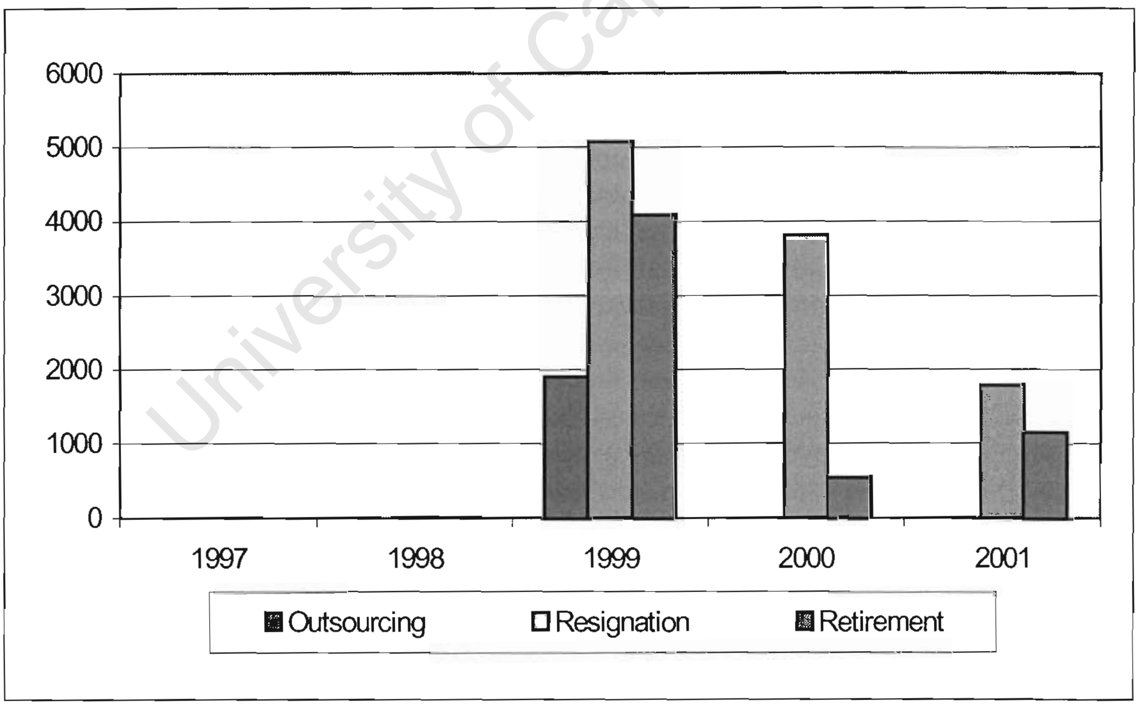

Figure 36: Telkom Initiated Terminations broken down by Reason

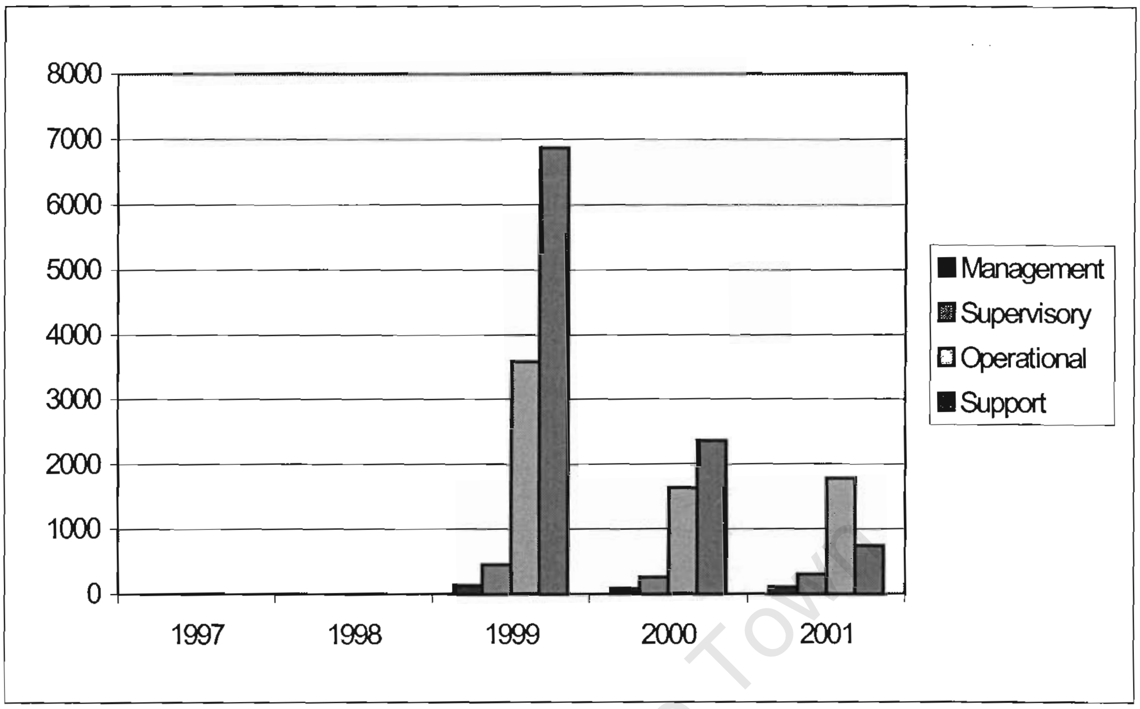

Figure 37: Telkom Initiated Terminations by Skill

During the interview with the Telkom representative as well as represented in Figure 37, it is clear that support staff were the most adversely effected followed by operational staff. The interview also revealed that security companies, cleaning and catering staff were the ones to be outsourced. Tendering firms for the provision of Telkom's catering, cleaning and security services were favoured if they could show that ex-Telkom employees would be employed or given a trial period. Telkom also developed a social plan that taught workers how to tender for an outsourcing job as well as provide the relevant training. A Black empowerment program was also set up and it involved providing start-up capital of R10600 to ex-Telkom workers who wanted to begin their own businesses.

Looking at Denel, it is interesting to see that the number of contract workers (contract work is essentially the same as outsourcing) have increased over the years while permanent staff have decreased (Figure 28). There seems to be a substitution away permanent staff toward more flexible contracting staff. If one were to exclude them from the real workforce of Denel, we find that the contraction of employment is substantially greater, particularly from 1998 onwards.

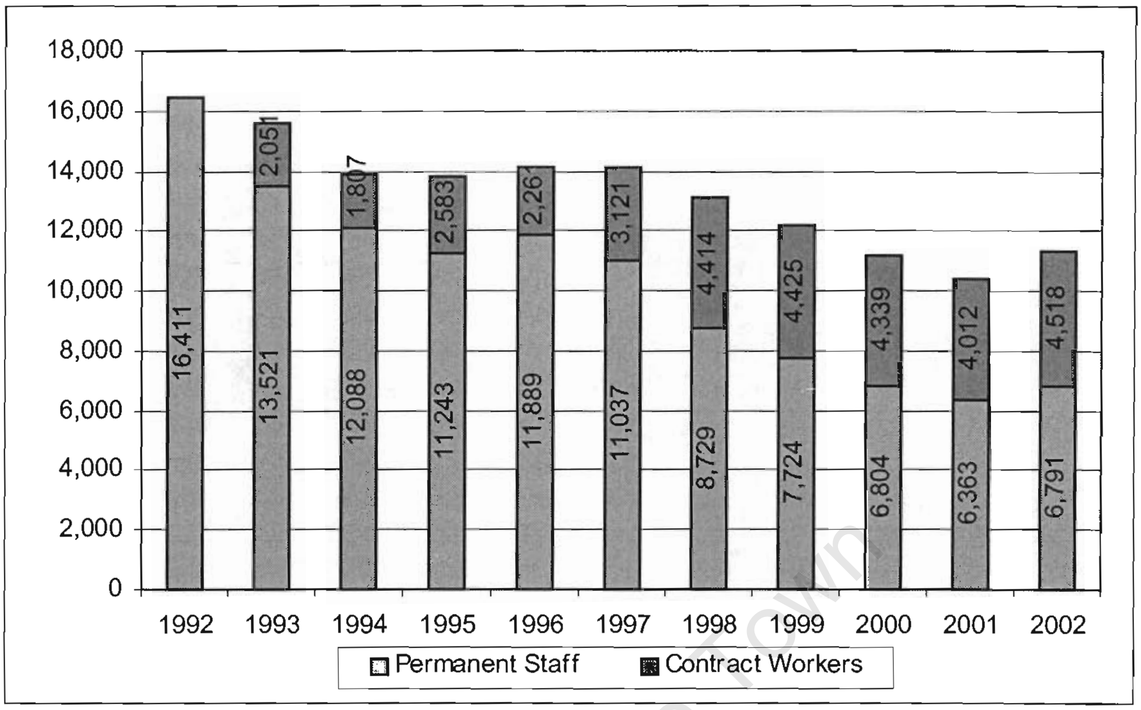

Figure 38: Contract Workers in Denel

Having looked at the available data from the Telkom, Denel and some of the constituents of Transnet, we find the same basic trends as those in Eskom. All SOEs have seen large terminations over the past few years and restructuring is a major player in contributing toward those terminations. However interviews have revealed that technological change (in Telkom) and changes in demand for the SOE products (Denel) have also added to the need for either a less labour intensive workforce or a slimmer, more efficient workforce; both market driven movements. Even though the data for Transnet members was fragmented due to the unbundling of Portnet and the time period too short for in depth analysis of employment loss, there is a clear movement toward a demographically representative workforce. Telkom and Denel also showed these trends and though none of the SOEs are close to the real representation of national race compositions, there is a clear movement toward it. Hence not only are SOEs responding to market forces, they are also trying to become more equitable at the same time. Restructuring was still inevitable since firms strived to not only survive but to make a profit since the opening of markets and the resulting competition requires this of them. Non-core operations were outsourced or contracted out which means that even though employees are removed from the organisation's pay roll and classified as terminated, they still have a job.

This highlights an important point. It is easy to make the assumption when terminations are caused - either due to restructuring or business process changes - that the story ends with the worker being without a job. However looking at the flow chart below (Figure 39) we find that given such changes in a firm, an employee is faced with two scenarios, either job loss or no job loss. At this point it is easy to make the wrong assumption that this is the end of the story. On the contrary, after job loss, an employee is faced with four possible scenarios.

First, the employee may be outsourced, i.e. the employee continues to work but on a contractual basis. Second, the employee may re-enter into the market but to another sector, i.e. worker mobility such as an Eskom engineer going to work as an engineer in the mining industry. Third, the worker may re-enter back into the same sector due to dynamic effects, e.g. the ex-Telkom worker going to work for Vodacom.

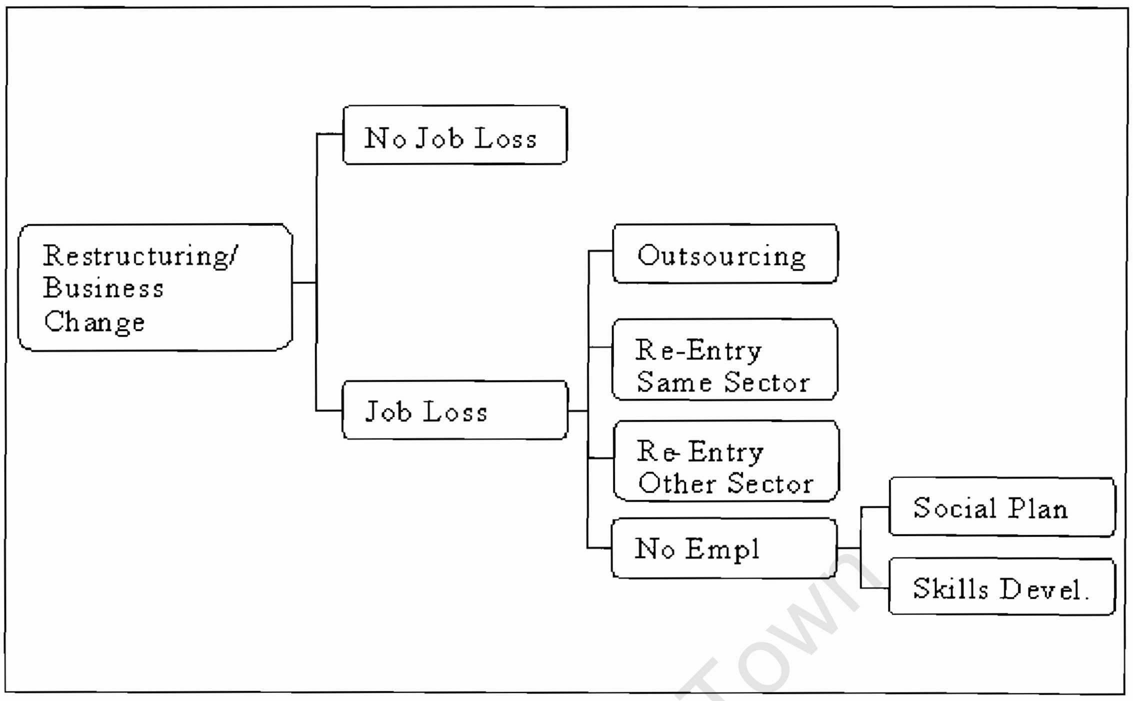

Figure 39: Employee Job Scenarios

However lastly, the employee may be faced with no employment. When this occurs, there should be a social net for these persons in terms of a social plan and skills development. It is with this in mind that we briefly explore the choices that a worker is offered by the establishment of the Skills Development Act, 1998.

7. SOCIAL PLAN

Policy makers have had an ongoing struggle with the tough task of finding the most effective labour market policies that would create sustainable reduction in the unemployment in South Africa. There are two types of labour market policies, one that involves active national expenditure and another that uses passive national expenditure. Passive expenditure is classified into expenditure on income maintenance such as unemployment compensation and early retirement, while active expenditure involves employment services that include training, direct job creation in the public and private sector and support for unemployed who are interesting in starting up their own business (Schomann, 1995). Active spending requires the cooperation and contribution of all parties involved. It is also more effective in terms of empowering the unemployed to become self-sustainable without returning to the ranks of the unemployed, thus not just alleviating poverty but also creating growth in work and skills. In fact the report by Schomann (1995, p.25) have gone so far as to suggest that the balance of active and passive expenditure should be shifted more in favour of truly active measure.

The Employment and Skills Development Services (ESDS) Programme resulted in the implementation of the Skills Development Act, 1998 and the Skills Development Levies Act, 1999 (Dept. of Labour, 2001). The aim of these two Acts is to improve the working skills of South Africans and create a better standard of living by creating an active labour market policy. The Skills Development Act created new structures for training, created new funding incentives to encourage more training, proposed ways of assisting employment and created new forms of learning programmes (Dept. of Labour, 2001, p.25).

A particular area of interest is the development of Sector Education and Training Authorities (SETAs). The idea is that employers, workers and government departments who are working in a particular sector should converge and register with a SETA and together make changes. SETAs thus become the key promoters of training by creating a sector skills plan, which identifies the strengths, weaknesses, and opportunities in the sector, sees where learnerships are required, acts as a regulator of standards as well as to disburse money from the National Skills Development Levy.

In a sense, the Skills Development Levies Act pays for all of the above. Employers who pay more than R250 000 or more in monthly wages and salaries or who pay income tax pay a levy of 1% of the payroll. 80% of this levy is then divided between the SETAs according to the amount they contributed and the other 20% is put into the National Skills Fund.

The SETAs then use up to 10% of this money for administrative purposes and running cost. The rest are used to pay levy grants and discretionary grants to employers and are generally used to encourage the training of their staff. Levy grants are given to employers that pay the levy. When that employer meets certain criteria, the SETA will pay back a certain percentage of the levy back in the form of a grant. Discretionary grants on the other hand are not linked to the amount of levy that the employer has paid. They are given rather to meet priorities that the SETA may have set for their sector, such as learnerships, skills programmes etc.

The 20% of the Skills Development Levies that is placed into the National Skills Fund, along with donor money and government contributions (straight from taxes) is used for new skills areas and development projects, focusing on training unemployed people.

In terms of the restructuring of SOEs and the impact this has on employees, there have been and will still be retrenchments. As contributors of the Skills Development Levy, SOE employers are able to claim levy grants, the first of which comprises 15% of the levy paid. A second grant is also available to them should they reach the targets sets in their workplace skills plans (50% of levy, which drops to 45% in 2002/2). SOEs should use the claim to set up a social plan that suits their needs. This could include training employees and equipping them with skills that may be transferred to either other sectors or elsewhere in their existing sectors. The social plan that Telkom followed is a good example of how training cushions the impact of job loss for their employees. Telkom provided support and training as well as start up capital to those employees who needed or wanted it. The issue remains though of what happens to the retrenched employee after separation has occurred between the employer and employer since SETAs generally do not provide for persons who are not employees of the particular sector. One thus turns to the National Skills Fund as they deal predominantly with the training of unemployed persons in the hope that they would become self-sufficient (e.g. set up their own businesses) or become more employable. A possible solution to ensuring that ex-SOE workers benefit from the National Skills Fund would be to allocate a certain percentage of the Fund toward workers previously employed in SOEs. This would then ensure that these workers are able to make a complete and successful transition into the private sector as well as other industries.

It is however frequently argued that there is no acceptable basis for privileging certain workers or recently unemployed workers over and above millions of already unemployed workers (Dept. of Labour, 1996). This argument strengthens when applied to SOE workers for three reasons, SOE workers: (1) receive a wage premia of approximately 23% over workers in the public sector[33] due to the presence of a benevolent state and the tripartite alliance between it and COSATU (the most prominent union in South Africa), (2) have had relatively higher job security simply due to the way SOEs have operated over the years and the fact that SOEs did not need to consider much the matters of inefficiencies (3) would have received a severance package in the process and (4) that severance package would be larger than a similar package in the private sector, once again due to the Hick's bargaining model and how the state interacts with the unions. The counter argument is to prevent the erosion of skills by lengthy periods of unemployment (Dept. of Labour), i.e. to maintain the existing skills base. The idea is that the returns to re-training someone with existing skills is likely to be higher than one who has little or no skills whatsoever as the likelihood of the unskilled to fall back into unemployment is great. One should not forget though that there might be other unemployed persons with skills. Should preference be given to ex-SOE employees with the same skills as that person, particularly when that person could have been jobless for a year and have received none of the benefits that SOE workers have? Erosion of a non-SOE person's skills

[33] Read Section 4: Earnings Function Results to see how we reached this conclusion.

would have reached a further point than those who have just been retrenched. Perhaps a preferential waiting list of a year would be appropriate allowing ex-SOE workers a chance to be resourceful with what they have learned when they were still employed and part of the SETA levy grants. This would certainly be viable particularly if the first step of applying for grants occurs while employees are still employed by SOEs. One should also consider the claim that workers who are threatened by restructuring are those that are older and less mobile with a shorter working life remaining (Dept. of Labour, 1996, p.100) versus social returns to investment in younger, relatively more mobile albeit currently unemployed with little skills.

90% of the National Skills Fund has already been allocated, mostly for survivalist purposes. A "Queue Management" system will be put in place and preference given would depend on social accords. Taking this into consideration, it would be unlikely that an ex-SOE employee would qualify for a position in the front of the queue.

Given this, it would seem that the onus would fall on the SOE to provide a social plan to the ex-employees by setting up their own fund, however instead of having to finance this entirely on their own, it would make more sense for the social plan to take place before the actual retrenchment occurs since the SETA's would be able to contribute to the training.

8. CONCLUSION

The LFS data reveals that SOE employment constitutes only 3% (or 340 000 workers) of total employment in the society. Considering that there are 11.7 million individuals employed in either the formal or the informal sector and approximately 6.6 million workers that are jobless, the possible impact that restructuring of SOEs may have on unemployment in small and is statistically not likely to engender significant effects on national unemployment levels.

There is evidence that shows that workers in the public sector and SOEs command a wage premium by simply working in these sectors, particularly those that are unskilled. Assuming that private sector wages may be used as a proxy for an efficiency wage, it may be said that SOEs are paying a higher than efficiency wage to their employees. This means that the factor cost reasoning for restructuring in the pursuit of higher efficiency levels, is a strong one.

Focusing on Eskom as a prime example of and SOE, we find that although terminations were 20828 strong, the workforce decreased by only 8482 over the period 1995 to 2001, a sign of reorganisation in the firm, i.e. both hiring and firing occurred.

We find that a combination of forces drives this reorganisation, namely employment equity, restructuring as well as normal business processes. Employment equity is represented by the high rate of terminations amongst White employees and the substitution of these numbers by African employees, particularly amid highly skilled and skilled jobs. A maximum of 51% or terminations and minimum of 36% (i.e. between about 10 500 and 7 400 individuals) may be attributed to restructuring simply by looking at terminations broken down by reasons.

Applying Hick's industrial dispute model to the specific relationship dynamics between unions and the benevolent state, (keeping in mind the tripartite alliance between the African National Congress, the South African Communist Party and the Congress of South African Trade Unions), we find that the benevolent state would offer either better wages or severance packages than employees in the private sector. The mere presence of COSATU as a majority union in Eskom means that they are able to secure higher wages of not just their members but for all workers in Eskom. The combination of a benevolent state and good trade union relations means that those retrenched are at an advantage compared to the same situation in the private sector.

Though SOEs relative impacts on aggregate unemployment levels are small, this does not minimise the importance of welfare consequences to SOE restructuring. What is clear is that there is great difficulty in separating restructuring and business process changes since they both encompass one another. Given these changes in a firm, an employee is faced with two scenarios, either job loss or no job loss. After job loss, there are another four scenarios: outsourcing, re-employment into the same sector, re-employment across sectors and finally job loss. The social netting for those who become unemployed would require SOEs to claim against the Skills Development Levy (that they contribute to) in order to make workers better skilled, more marketable and self-sufficient in the event of job loss. This is simply because an ex-

SOE employee would find it hard to qualify for a position in the front of the National Skills Funds queue which allocates preference depending on social needs. In other words it would make more sense for the social plan to take place before the actual retrenchment occurs since the Sector Education and Training Authorities (SETAs) would be able to contribute to the training.

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APPENDIX A

A.1 Information on the 4 Major SOEs

The table below gives a brief look at the to 21 public sector firms. Note that the numbers for Transnet may be slightly misleading since the Financial Mail includes Transnet and its subsidiaries as separate firms (DPE, 2000).

Table 9: Top State-Owned Enterprises in South Africa

Firm	Total assets (Rm)	Turnover (Rm)	Net income (Rm)	Employees
Denel (1997)	4 253	3 013	82	14 200
Telkom	27 107	20 160	2 427	57 496
Eskom	69 975	21 071	2 750	37 311
Transnet	42 779	21 680	2 165	100 592
Total	144 114	65 924	7 424	209 599
IDC	17 049	3 567	765	502
DBSA	12 002	925	423	465
Land Bank	5 775	2 377	371	98
Impofin	3 297	220	9	-
Rand Water	3 212	1 900	258	4 000
Findevco	2 770	485	21	-
Konoil	2 337	82	180	-
Post Office	1 793	2 469	-272	29 195
Airport Co.	1 695	710	228	1 718
SABC	1 617	2 474	105	3 217
Foskor	1 323	1 297	135	2 163
Safcol	808	569	9	5 362
Atlantis	683	907	80	2 275
Sapekoe	201	119	0	11 000
Alexkor	200	175	-23	1 078
Abakor	115	290	-55	2 200
Aventura	111	146	-8	1 610
Total	174 102	84 636	9 650	274 482

From the table, the four most important SOEs are Denel, Telkom, Eskom and Transnet. Together they comprise approximately 83% of estimated total assets, provide 78% of turnover, 77% of net income and employ 76% of all employees in the top 21 SOEs. Thus these four companies will have the greatest impact in meeting the government objectives on restructuring (DPE, 2000). In terms of employment effects, other than the four large SOEs, the Post Office and Sapekoe will affect a larger number of employees. Otherwise, the restructuring of SOEs is unlikely to have a major impact on overall employment trends (DPE, 2000).

What follows is a brief section on the four different SOEs to allow the reader more insight to the subject.

A.2 Denel Overview[34]

Denel (Pty) Ltd was established on 1 April 1992 as a private company with the State as the sole shareholder. It is a major player in South Africa's defence sector, making up 50% of the industry's turnover (DPE, 2002) and dominating the four major areas of the domestic defence market, namely aerospace, ammunition, weapon systems and military vehicles.

The Denel Group consists of a holding group and four divisions namely Denel Aerospace, Denel Ordnance, Denel Commercial and Other businesses, each containing subsidiary companies. Aerospace is made up of Denel Aviation Military Aircraft, Denel Aviation Airmotive, Astro Park, Datam, DPS, Eloptro, Kentron and OTB. The Ordnance Group consists of LIW, La Forge, Mechem, Naschem, PMP, Somchem, Swartklip Products and Vector. On the commercial side, Irenco (Pty) Limited, Dendustri, SPP, Bonaero Park (Pty) Limited, Denel Properties (Pty) Limited and Aero Properties (Pty) Limited are the subsidiary companies. Finally Densecure (Pty) Limited is the captive insurance company of the Denel Group.

The decline in South African defence spending has made Denel reliant on the international market; however there has also been a recent decline in that market too. The government suggests breaking Denel up and selling off less than 100% of shares in each cluster (e.g. aerospace, heavy ordnance etc.) or divisions as separate entities (DPE, 2000); focussing on clusters or divisions that are easy to privatise or attractive to investors. Also processes of finding suitable strategic equity partners for Denel Ordnance and Denel Aerospace is being undertaken, as well as investigations into the consolidation of the South African aerospace industry (DPE, 2002).

A.3 Telkom Overview[35]

In 1991, the Department of Posts and Telecommunications was separated into the South Afican Post Office and Telkom. Telkom is an oligopoly (currently a duopoly) with 70% owned by the South African Government. The other 30% was sold to US-based SBC communications Inc and Telekom Malaysia Berhad (together comprising the consortium Thintana Communications) in May 1997.

Telkom is the incumbent fixed line operator in South Africa and held the exclusive licence to provide public switched telecommunication services until May 2002.The group has been transformed and restructured to effectively compete in a more liberalised market. Telkom's 50% shareholding in the Vodacom Group makes it Africa's leading provider of mobile services. (DPE, 2003).

Vodacom also has a 31.5% equity shareholder - Vodafone plc. Ucingo Investments, which is a broad-based investment company also has a 3% shareholding in Telkom SA Limited (DPE, 2002).

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[34] Denel (2002): www.denel.co.za

[35] Telkom (2002): www.telkom.co.za

A.4 Eskom Overview[36]

Eskom is South Africa's dominant electricity utility and is ranked in the top five in the world in terms of capacity and sales (DPE, 2002). It is reputed to be one of the lowest-cost producers of electricity in the world and also sells electricity to neighbouring countries such as Lesotho, Swaziland, Botswana, Mozambique, Namibia and Zimbabwe (DPE, 2002).

In addition, Eskom has a number of subsidiary companies. Eskom enterprises (Pty) Ltd was formed as a holding company to develop the non-regulated activities of Eskom, i.e. Eskom Enterprises (Pty) Ltd is a subsidiary company or Eskom and in turn consists of various subsidiary companies.

The subsidiaries are Airborne Laser Solutions, Amazing Amanzi Systems, Arvia.kom, Bonesa Electricity (Pty) Ltd, EE_Kom, Eon Solutions, Electricity Africa, Pebble Bed Modular Reactor, PTM, Rotek Industries, Sapphire Executive air, Technology Services International, and Trans Africa Projects (Eskom Enterprises, 2003).

The restructuring of Eskom should be looked in terms of generation, transmission and distribution activities. At the moment, there is a generation oligopoly, a transmission monopoly and distribution is fragmented (DPE, 2000). The first step involves corporatising Eskom with all three activities becoming separate corporate entities (DPE, 2000). The introduction of competition in to the generation market was agreed as necessary in achieving greater market efficiencies (DPE, 2000). Transmission is a natural monopoly and will likely remain state owned and in terms of distribution, a number of regional electricity distributors will be created (DPE, 2000). The Department of Public Enterprises is still currently evaluating the different models for restructuring Eskom (DPE, 2000).

A.5 Transnet Overview[37]

The government department South African Transport Services was transformed into a public company (of which the South African Government is the sole shareholder) in 1989, and became Transnet Limited on 1 April 1990. Transnet is a holding company and consists of nine divisions that are involved in transportation or related services with over 100 000 employees (DPE, 2000). They are Spoornet, Port Authority, Port Operations, freightdynamics, Petronet, Metrorail, Propnet, Transtel, Transwerk Promat, as well as the South African Airways.

As South Africa's largest transport operator, Transnet dominates the transport sector and contributes 3.2% to the South African GDP. Spoornet is the largest division of Transnet, but facing increasing competition, the general freight business has had a large negative cash flow. Portnet and Petronet are on the other hand, both highly profitable and they cross-subsidise the other divisions of Transnet (DPE, 2000).

The restructuring of Transnet is hindered by the pension fund debt that is owed to the South African Transport Services (SATS) pensioners (DPE, 2000). Government

[36] Eskom (2002): www.eskom.co.za and Eskom Enterprises (2003): www.eskomenterprises.co.za
[37] Transnet (2002): www.tnet.co.za

believes that it has the resolution to the debt problem; for example it received R1.4 billion from the sale of 20% of SAA to Swissair. The restructuring of Spoornet focuses on maximising the value of current shareholders but requires transformations prior to restructuring such as the corporatisation of various divisions (DPE, 2000). A policy process is underway for the restructuring of the ports sector as well.

APPENDIX B

B.1 The Data

B.1.1 Data Set

The Labour Force Survey (LFS) is a bi-annual rotating panel household survey designed specifically for the purpose of analysing employment and unemployment in South Africa (Statistics South Africa, 2001). Conducting a rotating panel sample involves visiting the same dwellings on a number of different occasions and replacing a proportion of these dwelling units each time (20% in this case); allowing one to track the change of individual members as well as change in the overall employment situation (Stats SA, 2001). The data set used in this analysis is the LFS September 2000, six months after the pilot round of February 2000, and of which 40% of the households were revisited. The September 2000 survey provides detailed information on 65 499 adults of working age i.e. between the ages of 15 and 65.

Using probability weightings which involves taking the inverse of the probability of selection, it is then possible to weight up the 65 499 adults to a 26.9 million population that is demographically representative of the South African population[38].

The official/strict definition of the unemployed incorporates those within the economically active population who: (a) did not work seven days prior to the interview (b) want to work and are available to start work within a week of the interview and (c) have taken active steps to look for work or to start some form of self-employment in the four weeks prior to the interview (Stats SA, 2001). The expanded definition excludes criterion (c).

The expanded definition of unemployment is used in this report even though most countries use the official/strict definition of unemployment. The strict definition is appropriate only when labour markets are efficient, whereas the expanded definition is appropriate when people no longer search for jobs because the believe that non are available (Moll as cited in Nattrass, 2000). In South Africa, a country where transport costs are high, low incomes and low probability of finding a job, it is expected that a high level of discouraged work seekers exists (Nattrass, 2000). In order to take these discouraged job seekers into consideration, this paper uses the expanded definition of unemployment in its analysis.

B.1.2 Methodology and Variables Created[39]

The LFS September 2000 data set contains much information, including information on people who are not of working age. The first and perhaps most important step is to make sure the data set included only those between the age of 15 and 65. Thus all information on unsuitable persons is disregarded.

[38] For a more detailed look at the weighting methodology, look at the LFS September 2000 Metadata.
[39] A statistical software application called Stata7 is used to look at and analyse the data.

The weighting system is based on probability weightings and it is important that this be taken into account. This is done by using 'svy' commands[40] or by rounding the weights to the nearest one and treating them as frequency weights.

The LFS does not have a variable that captures the actual monthly income of all the persons in the data set. It is problematic as it has actual incomes but varies from weekly to monthly to annually. Multiplying weekly incomes by 13/3[41] and dividing annual incomes by 12 creates a new monthly income variable.

Another new variable was created using the LFS' education variable. This is done by grouping the original variable in to persons with no schooling, primary schooling, high school education without matriculating, matriculants, technical colleges, technikons and university degrees/ postgraduate diplomas. This allows one to make better inferences with respect to education obtained particularly when running regressions. For example, matriculants are coded as 13 while NTCI obtainers are coded as 14, however this does not necessarily mean that NTCI obtainers have more years of education. Running a regression on this could easily become hazardous.

Dummy variables were created for SOE's, private and public sectors. This is based on the "business type" question and allows for between sector comparisons.

[40] For more information on Stata7 and 'svy' commands, refer to Stata7's reference and user guides.
[41] It is multiplied by 52/12, which is the same as 13/3. For example, someone who is getting paid R100 a week is not getting paid the same as someone who is getting paid R400 a month, R100*52 = R5200 pa, while R400*12 is only R4800 pa.

APPENDIX C

C.1 Labour Force Survey

Table 10: Complete Table of Median Wages for all Sectors and Occupational Categories

Public	African	Coloured	Indian	White	Total	% of Managers (Total)	Black as % of White
Managers	8000	6565	5900	8000	8000	100	100
Professionals	5000	6000	5900	6000	5500	68.8	83.3
Technicians	4000	5000	4000	5167	4100	51.3	77.4
Clerks	2600	2500	2000	4058	3000	37.5	64.1
Service	2500	3700	4800	5000	3000	37.5	50
Agriculture	1300	1160	2900	3600	1400	17.5	36.1
Crafts	1800	3056	6400	5400	2000	25	33.3
Operators	1700	2631	7000	4500	1950	24.4	37.8
Elementary	1500	2000	2000	2800	1551	19.4	53.6
SOEs	**African**	**Coloured**	**Indian**	**White**	**Total**	**% of Managers (Total)**	**Black as % of White**
Managers	7000	N/O	5500	9000	7000	100	77.8
Professionals	7800	4800	5000	9300	7800	111	83.9
Technicians	3500	6000	4900	7000	4843	69.2	50
Clerks	2500	3500	5200	4400	3500	50	56.8
Service	1500	3500	5000	3900	2008	28.7	38.5
Agriculture	800	1100	N/O	N/O	800	11.4	N/O
Crafts	1900	2500	N/O	6300	2400	34.3	30.2
Operators	2300	6000	4400	3800	2500	35.7	60.5
Elementary	1400	950	N/O	N/O	1300	18.6	N/O
Private	**African**	**Coloured**	**Indian**	**White**	**Total**	**% of Managers (Total)**	**Black as % of White**
Managers	3000	5000	5000	8000	6500	100	37.5
Professionals	3500	5500	5617	8333	7000	107.7	42
Technicians	1700	2800	3033	5400	3333	51.3	31.5
Clerks	1500	2400	2500	3000	2300	35.4	50
Service	1000	1450	1500	2184	1200	18.5	45.8
Agriculture	400	650	1010	3250	433	6.7	12.3
Crafts	1200	1625	3000	4800	1400	21.5	25
Operators	1400	1668	1950	3146	1500	23.1	44.5
Elementary	500	650	1517	1700	520	8	29.4
Total Employed	**African**	**Coloured**	**Indian**	**White**	**Total**	**% of Managers (Total)**	**Black as % of White**
Managers	3467	6200	5000	8000	6000	100	43.3
Professionals	5000	6000	5617	7000	6000	100	71.4
Technicians	3000	3700	3300	5500	3667	61.1	54.5
Clerks	1900	2413	3500	3500	2500	41.7	54.3
Service	1083	1650	1600	3000	1300	21.7	36.1

Agriculture	433	780	1500	4067	500	8.3	10.6
Crafts	1083	1733	3000	5000	1300	21.7	21.7
Operators	1500	1712	2000	4000	1517	25.3	37.5
Elementary	520	672	1950	2500	600	10	20.8

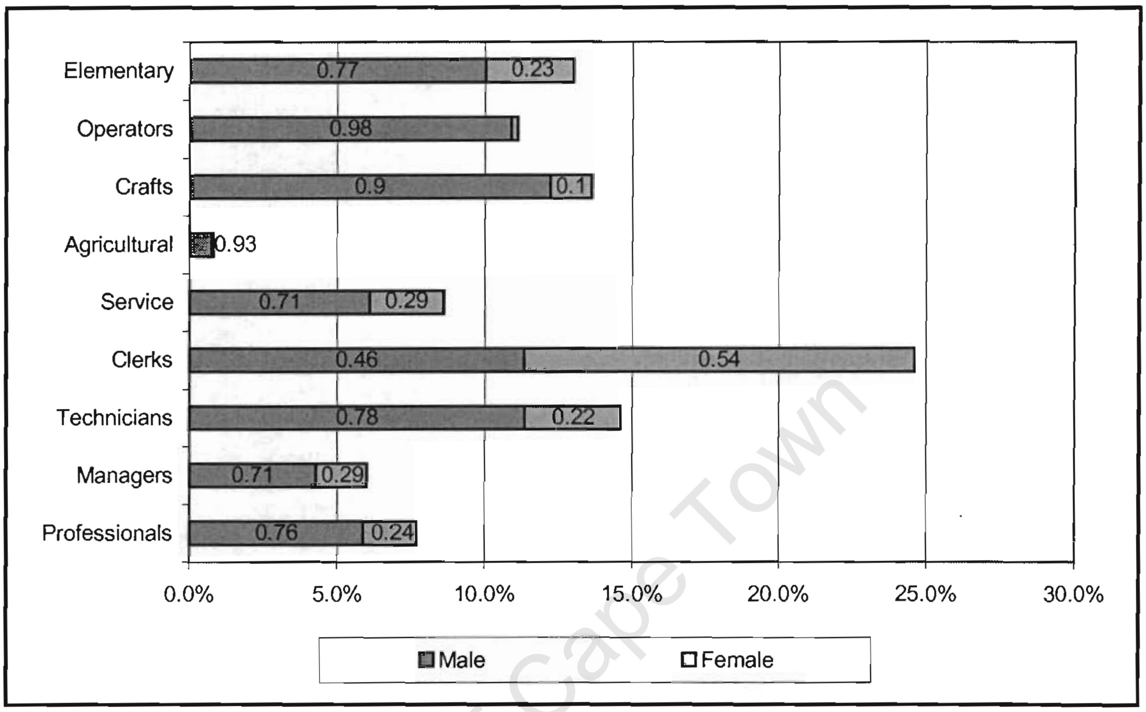

Figure 40: Gender Breakdown of Occupation in SOEs

APPENDIX D

D.1 Miscellaneous Eskom Graphs and Tables

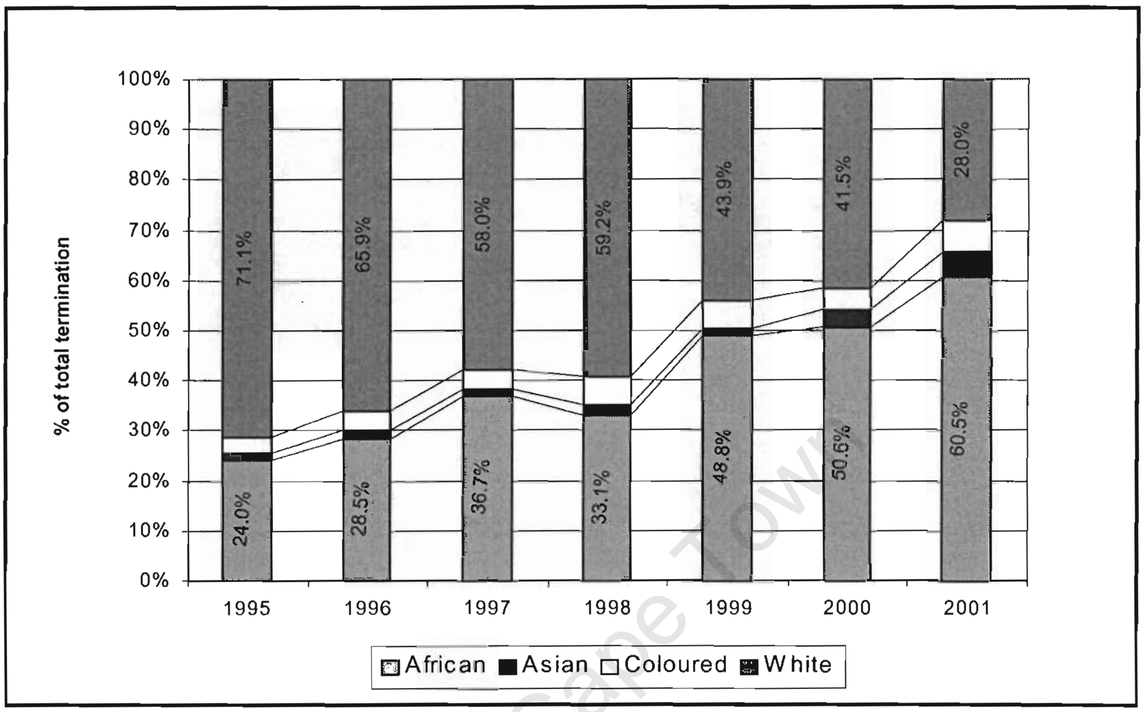

Figure 41: Termination Profile - Race

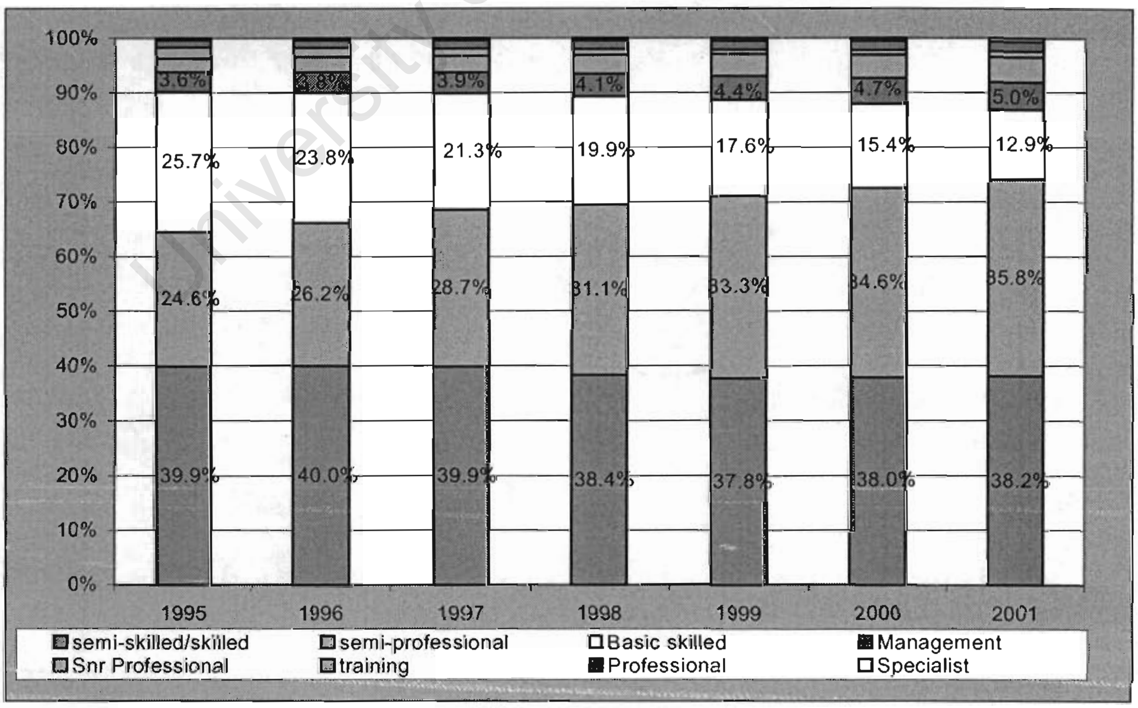

Figure 42: Skill Breakdown of Eskom Employees 1995 - 2001

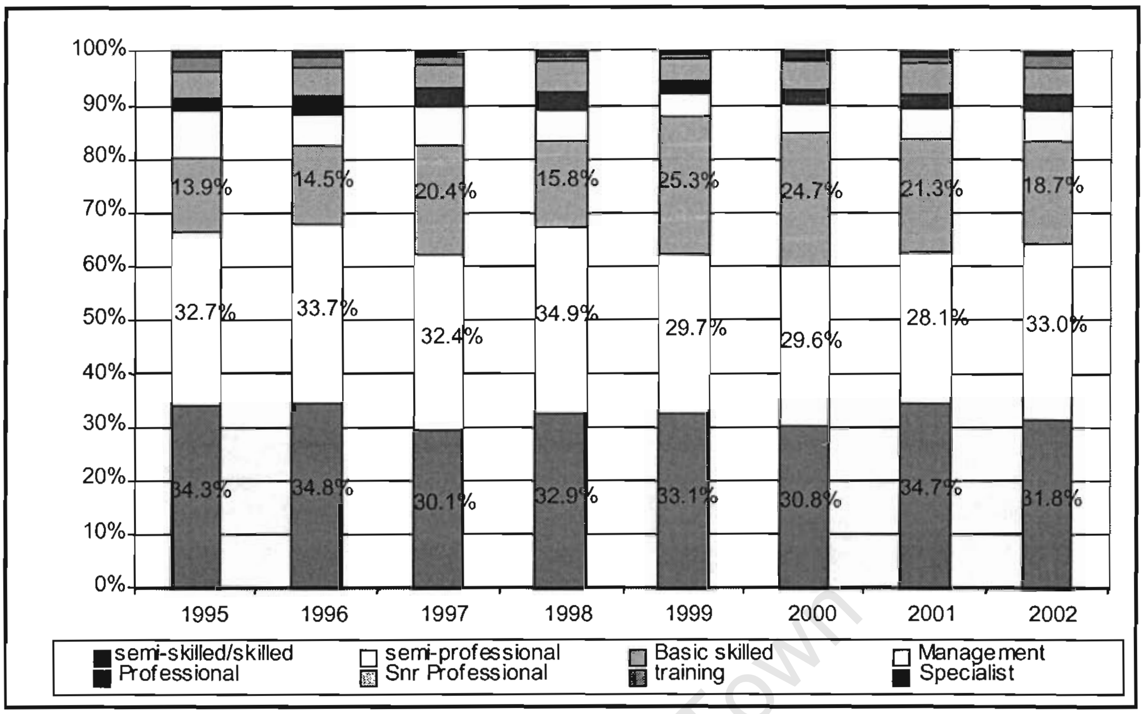

Figure 433: Occupational Terminations as a percentage of Total Terminations

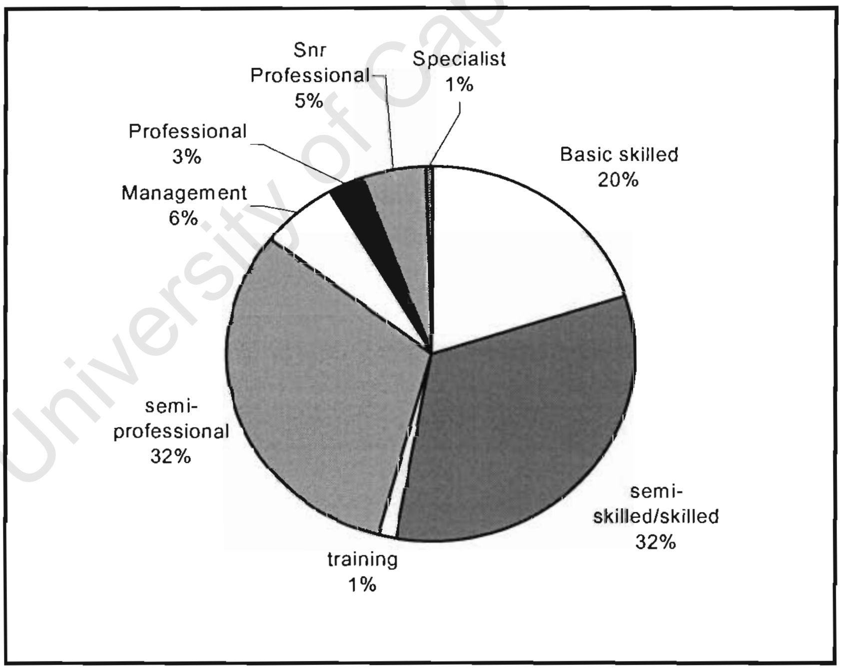

Figure 44: Total Terminations Categorised by Skill

Table 11: Median Salaries and Packages by Race

Salary	1995	1996	1997	1998	1999	2000	2001	Ave.
Asian	59505	69720	79710	88800	97440	105015	114885	87868
African	27120	30840	36150	41430	49580	53400	59070	42513
Coloured	31860	37020	43065	49680	56520	64650	74220	51002
White	62670	39090	77190	84630	91200	99150	107430	80194
Package	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**Ave.**
Asian	74209	88456	103122	124029	136742	148915	168075	120507
African	37986	43539	51458	59447	60231	74414	82814	58556
Coloured	46859	54226	62459	72089	79063	88116	97200	71430
White	85742	94354	104165	117963	121641	133770	144110	114535

Table 12: Median Salaries and Packages by Gender

Salary	1995	1996	1997	1998	1999	2000	2001	Ave.
Female	44550	49200	55050	62550	68700	76380	84495	62989
Male	38190	42870	48660	53670	64200	70440	78060	56584
Package	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**Ave.**
Female	56380	62938	70820	82139	87281	97948	107632	80734
Male	53422	60108	68263	77586	81192	95615	106052	77463

Table 13: Median Salaries and Packages by Skill

Salary	1995	1996	1997	1998	1999	2000	2001	Ave.
Basic skilled	24870	27180	31590	34590	37110	40020	43050	34059
Semi-skilled/skilled	38130	41160	45000	48210	51780	56100	60270	48664
Training	29160	31428	34554	47580	64950	76980	100230	54983
semi-professional	67950	72990	79680	85260	90600	97800	105720	85714
management	113850	124920	136470	147480	159270	172110	185550	148521
Professional	82410	88980	96930	104415	110820	118770	128700	104432
Snr professional	102945	112410	124290	135585	144090	156975	168000	134899
Specialist	144375	159870	180375	195120	211710	225750	240180	193911
Package	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**Ave.**
Basic skilled	33230	37089	43674	48891	46571	57067	61279	46829
Semi-skilled/skilled	51826	56407	61451	67821	66681	77633	83360	66454
Training	37212	40508	49681	65820	79491	95571	119702	69712
semi-professional	92562	99389	107323	117765	119024	130710	140086	115266
management	186126	204912	224155	249756	262227	283963	304725	245123
Professional	132816	143938	156879	173695	179718	195896	211021	170566
Snr professional	169102	186518	206913	230173	239806	261288	378338	238877
Specialist	223189	245264	275779	308002	326771	362028	378342	302768

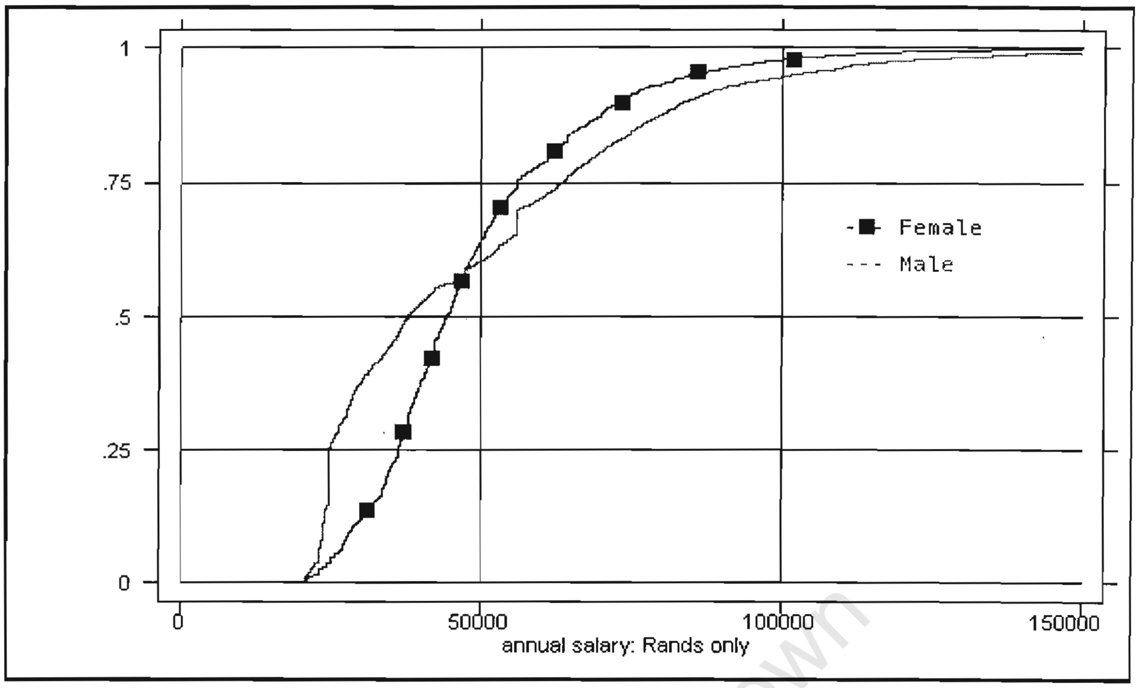

Figure 45: Cumulative Distribution of Salary by Gender - 1995

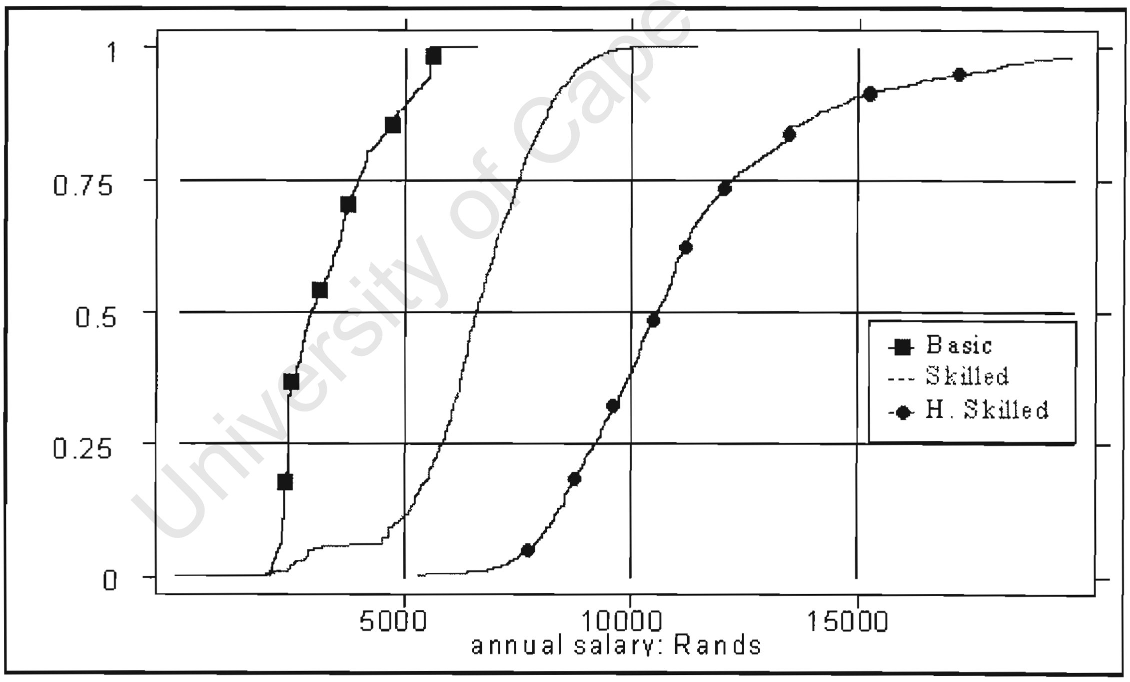

Figure 46: Cumulative Distribution of Salary by Skill - 1995

D.2 Misalignment problem in Eskom data.

Two variables in the Eskom data called termination reason and termination type has a misalignment problem. Termination type categorises the terminations into six broad categories, resignation, retirement, retrenchment, absconded, dismissed and deceased. This variable is used in the analysis as per normal. The other variable called termination reason breaks down the categories even further, for example, transfer, promotion, dismissed, normal retirement, early retirement etc. Under normal circumstances this would be ideal data, which has the potential to reveal the exact people who are effected by restructuring, business processes or employment equity plans etc, however the misalignment problem occurs when one tries to cross tabulate the two variables. A simple way of illustrating this would be to show the reader an example.

In the table below is the termination type "deceased" broken down into termination reason. The problem may be seen immediately. One would expect that the reason a person is categorised as deceased is death. It is rather surprising to find that the reasons range from career path interest to marriage. Though the majority (94%) of terminations attributed to death is categorised correctly, it would be irresponsible to use the data regardless of the problems it encompasses.

Table 14: Termination Type - Deceased

Termination reason	Freq.	Percent	Cum.
Transfer ER same grade	3	0.14	0.14
Transfer EKR same grade	2	0.09	0.23
Transfer	10	0.46	0.69
Employee asked to resign	1	0.05	0.74
Dismissed w/appeal	1	0.05	0.78
Contract cancelled	1	0.05	0.83
Organisation structure	2	0.09	0.92
Formal training opportunity	1	0.05	0.97
Career path interest	6	0.28	1.24
Challenge	11	0.51	1.75
Contrary to agreement	2	0.09	1.84
Personal relations	6	0.28	2.12
w/colleagues	4	0.18	2.3
w/supervisor/manager	1	0.05	2.35
Locality/Area	5	0.23	2.58
Normal retirement	1	0.05	2.62
Early retirement (63)	4	0.18	2.81
Early retire (w/poten. serv)	3	0.14	2.95
Retrenchment (redundancy)	8	0.37	3.31
Death	2048	94.29	97.61
Pregnancy	1	0.05	97.65
Marriage	3	0.14	97.79
Transfer of husband	3	0.14	97.93
Personal circumstances	20	0.92	98.85
Reasons outstanding	25	1.15	**100**
Total	**2172**	**100**	

Even though there is a misalignment problem, one may still make use of the data, though to a lesser extent. For example it gives tells us that when a person is categorised as "terminated" this does not necessarily mean that they leave the firm. A person who is transferred to another post is considered terminated at the previous post. One should therefore be very careful when looking at termination numbers and jumping to the conclusion that they have all left the firm.

APPENDIX E

E.1 Miscellaneous graphs for "Other" SOE's

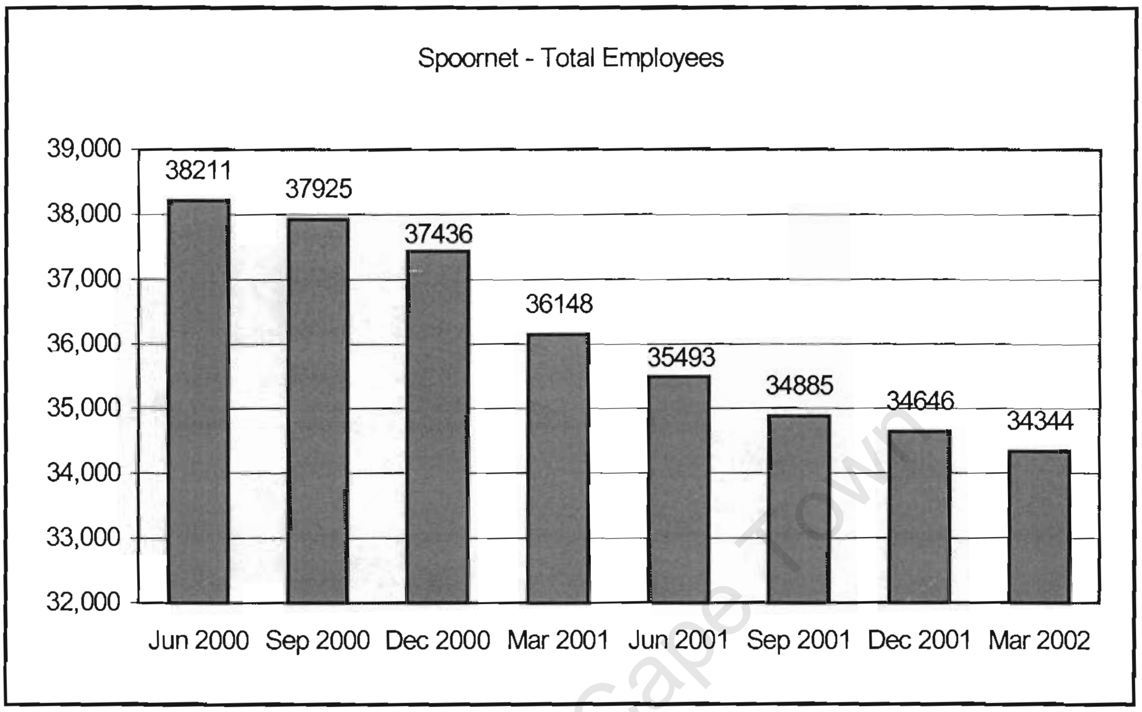

Figure 47: Total Employment Trends in Spoornet

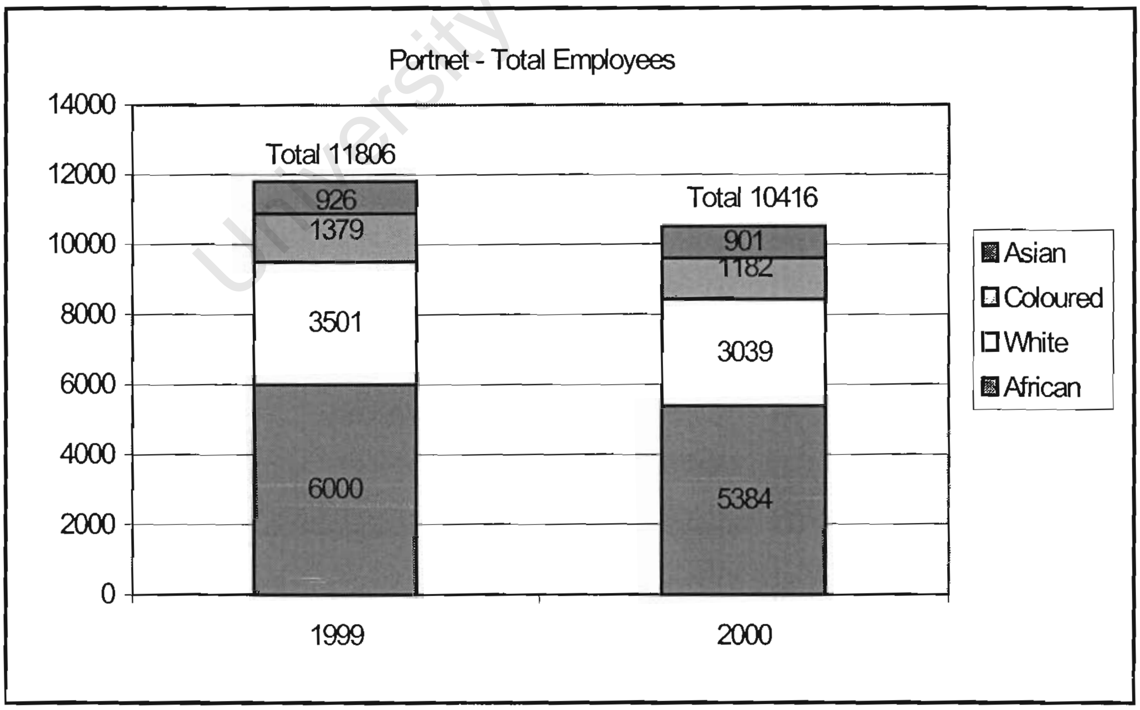

Figure 48: Total Employment in Portnet - 1999 to 2000

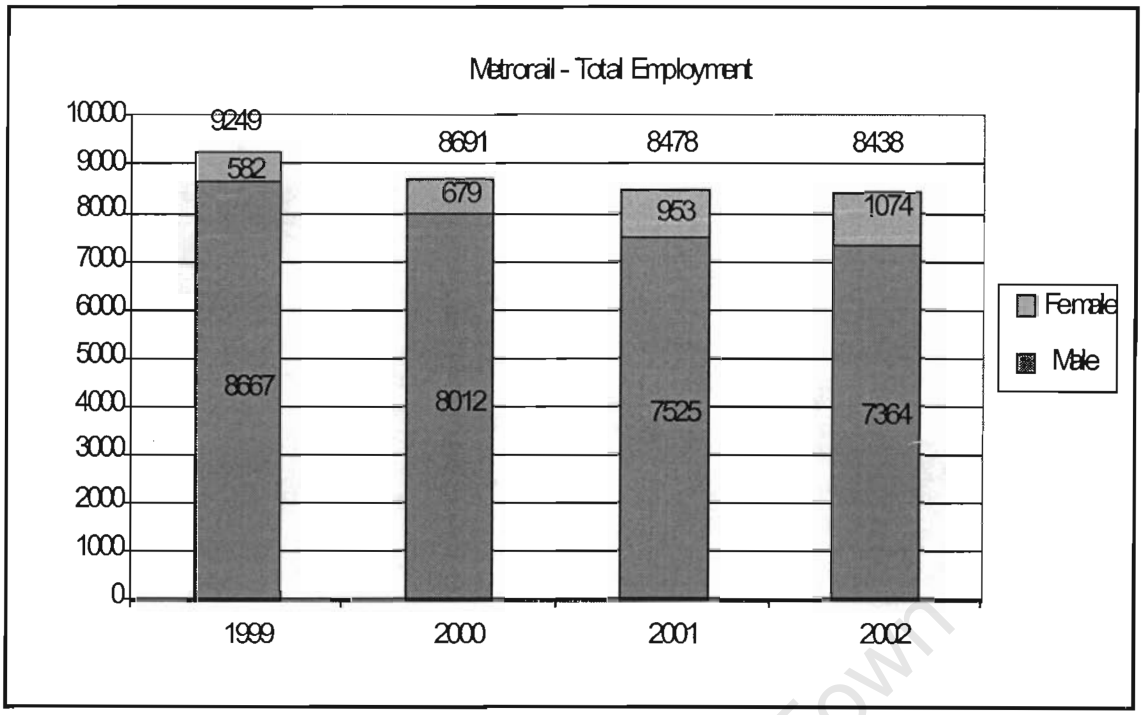

Figure 49: Total Employment in Metrorail - 1999-2002

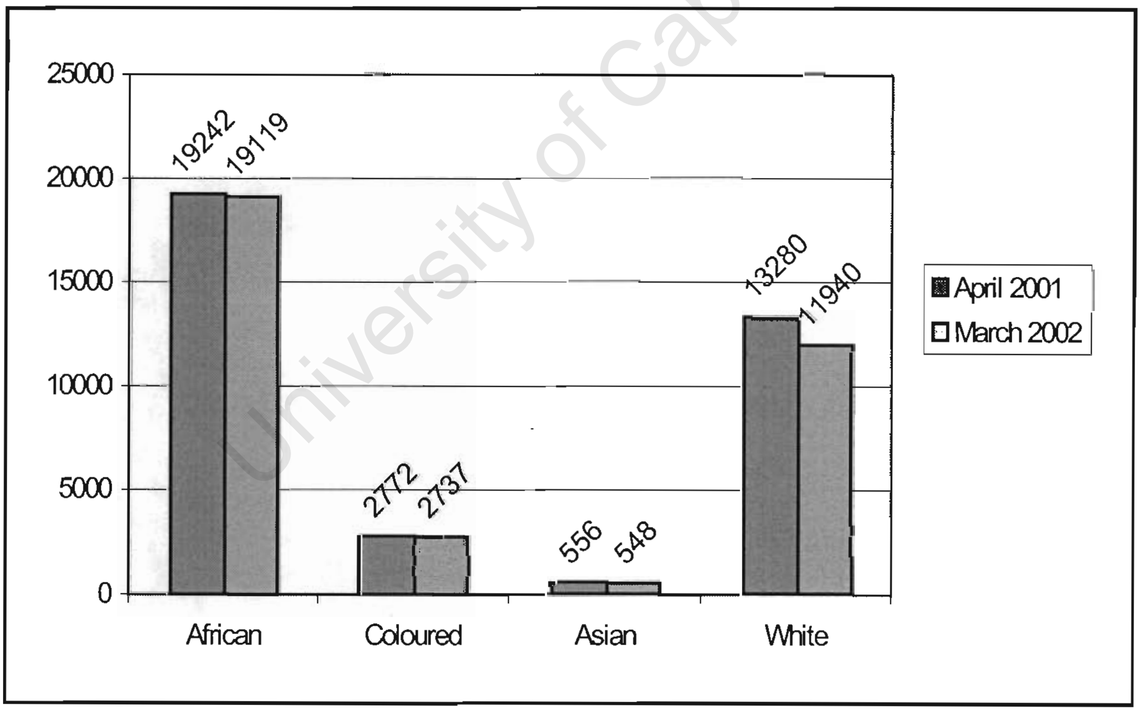

Figure 50: Employment Trends in terms of Race - Metrorail